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The Relationship between Reading and Mathematics Achievement of Students with Disabilities and Least Restrictive Environment Practices in Kentucky

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THE RELATIONSHIP BETWEEN READING AND MATHEMATICS
ACHIEVEMENT OF STUDENTS WITH DISABILITIES AND LEAST
RESTRICTIVE ENVIRONMENT PRACTICES IN KENTUCKY

A Dissertation
Presented to
The Faculty of the Educational Leadership Doctoral Program
Western Kentucky University
Bowling Green, Kentucky


In Partial Fulfillment
Of the Requirements for the Degree
Doctor of Education


By
Rhonda Kelly Simpson

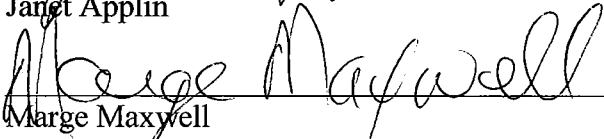
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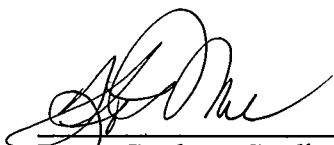
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Date Recommended 11/12/12


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11/19/12
Date

I dedicate this dissertation to my family: Jonathan, Ryan and Jarrett Simpson.

Jonathan supported me throughout the completion of this dissertation, and I am eternally grateful for the sacrifices he endured in order for me to achieve this goal. My family provided unwavering encouragement while I attended countless hours in class, research and writing. I hope my children, Ryan (age 16) and Jarrett (age 12), pursue their aspirations and embrace the endless educational opportunities.

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The purpose of this study was to investigate the relationship between Kentucky least restrictive environment (LRE) practices and KCCT assessment annual measureable objectives (AMO) in reading and mathematics for students with disabilities. This research was designed to determine whether districts achieved AMO targets for reading, mathematics and LRE. Also, it examined whether a relationship exists between special education students' placement and assessment scores attained for the with disability subpopulation AYP category.

This quantitative, correlation study utilized data from the Kentucky Department of Education Open House, 2011 No Child Left Behind Adequate Yearly Progress Reports for each school district, and KCCT Combined Reading and Mathematics Goal to Gap Comparison Report. Additionally, the 2011 KDE Expanded Data file and LRE district target data for students ages six through 21 were analyzed to investigate the questions.

Results from this investigation indicated that one district achieved the scale score for reading achievement, and seven districts achieved the scale score for mathematics. Nine districts achieved reading and mathematics AMO targets due to safe harbor, while nine districts achieved reading AMO and fourteen districts achieved mathematics AMO due to confidence interval. LRE results indicated that 158 districts achieved LRE target for removal from regular education less than 21% of the school day, 157 achieved LRE

target for removal from regular class greater than 60% of the day, and 146 achieved the LRE target for placement outside the regular school.

The Pearson Correlation results indicated a weak, yet positive, relationship exists between the removal of students from the regular classroom less than 21% of the school day and reading achievement and a weak, but negative, correlation relationship between removal from regular education greater than 60% of the school day and reading achievement. Similar to the reading achievement, statistical analysis revealed a weak, but positive, relationship between students removed from regular education less than 21% of the school day and mathematics achievement. The strength of the relationship between removal from regular class greater than 60% of the school day and mathematics achievement revealed a negative degree of association between the two variables.

CHAPTER I: INTRODUCTION

*If a child can't learn the way we teach,
maybe we should teach the way they learn.*

~ [Ignacio Estrada](#)

Achievement and accountability in America's public schools have been at the forefront of educational reform for the last three decades. Before the movement was effectively in motion, a number of landmark cases altered the landscape of ethical and equal opportunities for all citizens. *Brown v. Board of Education* (1954) in Topeka, Kansas was the most famous landmark case affording African-American children the ability to attend school with Caucasian youth (Kozleski & Smith, 2005). Shortly thereafter, *Equality of Educational Opportunity*, better known as the *Coleman Report*, further assessed segregated institutions for disparity. Within years a landmark report intensified the reform movement. The National Commission on Excellence in Education (1983) reported that America's students were at risk of falling behind the youth of other industrialized nations, which endangered national security and future prosperity (Lips, 2008).

A Nation at Risk: The Imperative for Educational Reform propelled the United States government into a long overdue educational movement to advance achievement and productivity of the youth in its borders. The National Commission on Excellence in Education (1983) concluded:

The people of the United States need to know that individuals in our society who do not possess the levels of skill, literacy, and training essential to this new era will be disenfranchised, not simply from the rewards that accompany competent performance, but also from the chance to participate fully in our national life. (p. 10)

This report cited disturbing inadequacies in the educational performance of America's youth. The committee described the nation's secondary curriculum as a "cafeteria style plan in which appetizers and desserts can easily be mistaken for the main courses" (National Commission on Excellence in Education, 1983, p. 18). Students were afforded choices, which led to 25% of high school graduate credits being in physical education, health, and training courses (National Commission on Excellence in Education). The determination was made that expectations were menial at best, with little emphasis on advanced diploma requirements and time spent on meaningful instruction. Teacher quality was found to be distressing since the majority of educators were recruited from the "bottom quarter of students" (Borek, 2008, p. 573). The committee suggested that the federal government had a responsibility to provide fiscal support in order to address the needs of all students.

Significance of the Problem

A Nation Still at Risk

Twenty-five years after *A Nation at Risk*, the U.S. Department of Education once again requested a review of current education practices. Similar to the 1983 report, the 2008 analysis included curriculum content, standards and expectations, time, teacher quality, leadership, and financial support of education (U.S. Department of Education, 2008). High school coursework requirements were found to be dramatically advanced since the 1983 report. By 2005, close to 65% of students were taking English, math, science, and social studies (U.S. Department of Education, 2008). However, a majority of students still were not required to take rigorous coursework. According to the National

Center for Education Statistics (2008), the reading scores of 17-year-old students were the same in 2000 as in 1983.

Subsequent to *A Nation at Risk*, the standards and expectations movement gained significant renewal with the enactment of *Goals 2000: Educate America Act*. According to John Hunt (2008), this act primarily focused on demonstrated student competency in English, mathematics, science, foreign languages, civics, economics, history, and geography. Tremendous funding was attached to this act, leaving district and school administrators the responsibility to seek federal assistance through Goals 2000 grants. The standards and expectations movement was once again at the forefront when “President George W. Bush called for significant reforms at the federal level which led to the enactment of the *No Child Left Behind Act of 2001*” (U.S. Department of Education, 2008, p. 5).

In 1983 *A Nation at Risk* addressed concerns of teacher quality, as did *No Child Left Behind* (NCLB) legislation in 2001. NCLB included a provision that all educators must be highly qualified. Each year administrators are required to validate that all teachers and paraprofessionals employed in their respective buildings are compliant with this mandate. Unfortunately, no evidence exists leading to a conclusion that teacher knowledge of subject matter increased with this legislation (U.S. Department of Education, 2008).

As a result of *A Nation at Risk*, educational reforms such as NCLB redefined building administration. Curriculum content, standards and expectations, time, and teacher quality requirements forced districts to re-evaluate leadership practices. In addition, public accountability required by NCLB changed the landscape of

administration (Lashey, 2007). Principals are no longer building managers; they are now instructional leaders. Administrators must become “lifelong learners in order to survive” (Hunt, 2008, p. 584) in a system with ever increasing demands.

According to the U.S. Department of Education (2008), spending has increased dramatically since *A Nation at Risk* and the enactment of NCLB. Unfortunately, student achievement has not maintained at the same rigor. The state of dropout and graduation rates, accompanied by low educational attainment, demonstrate that federal intervention has been trivial compared to the dramatic increase in funding (Lips, 2008).

Unfortunately, NCLB and *Individuals with Disabilities Education Act* (IDEA) are among many federal educational mandates that have been only partially funded (Borek, 2008).

As the reform movement materialized for the general population, legislation restructuring special education further expanded opportunities for students with disabilities in the *Individuals with Disabilities Act of 1990*. Essentially, districts were required to locate students ages 3-21 with potential disabilities through child find procedures, evaluate, consider eligibility, review placement, and develop an individual education plan (IEP), if eligible. According to Jarrow (1999), schools are required to provide a free, appropriate, public education (FAPE) to students with disabilities in the least restrictive environment (LRE). Since the implementation of the *Education for All Handicapped Children Act of 1975*, LRE placements have shifted from mainstreaming to inclusion. This service delivery method provides students with disabilities the opportunity to be educated in the regular education classroom with non-disabled peers.

In 1997 IDEA was reauthorized to further ensure students with disabilities access to the general curriculum (Harriott & Wolfe, 1998). This legislation altered the

landscape of special education by modifying the individual education plan (IEP) to address measurable goals and objectives, include students in district and state assessments with accommodations, and prioritize placement in the general education classroom. According to the National Center on Education Outcomes (2004), IDEA 1997 emphasized that “all students with disabilities have access to the same general curriculum as their non-disabled peers and their academic progress be measured by district and state accountability assessments as all other students” (p. 1). The amendment also required that students with significant disabilities be included in testing practices by completing an alternate assessment (Harriott & Wolfe, 1998).

In the 2004 Individuals with Disabilities Education Improvement Act (IDEIA), legislators attempted to align reauthorization provisions with NCLB requirements. According to Katsiyannis, Shriner, and Yell (2006), IDEIA’s goal was to improve outcomes for students with disabilities through a number of approaches, specifically, adequate yearly progress and highly qualified teachers previously addressed in NCLB. Additionally, both mandates emphasized increasing outcomes for students with disabilities through instructional practices in the regular education classroom (Handler, 2006). Once again, achievement and accountability practices, along with placement, were at the forefront of educational advancement.

Problem Statement

Based on the results of *A Nation Still Accountable: Twenty-five Years Since A Nation at Risk*, America’s system of education is still in jeopardy. As mediocrity declines due to new accountability practices, student achievement continues to fall behind for students with disabilities. IDEA, Goals 2000, and NCLB set the framework for

differentiation, funding initiatives, and accountability. The mandates highlighted the need to address students with disabilities, race, ethnicity, instruction, and diversification for all students. Unfortunately, the population with disabilities still continues to fall behind those in the mainstream with regard to achievement, dropout, and graduation rates.

Appearance of Achievement Gaps

With legislation addressing subpopulation accountability, achievement gaps soon accompanied the implementation of the federal mandate. According to the Center on Education Policy (2009a), the goal of NCLB was to close the achievement gaps for diverse groups of students, while improving assessment results for all students. An analysis of data sets from 2008 concluded that the percentages for students with disabilities at three grade levels were significantly below their non-disabled peers (Center on Education Policy, 2009b). For reading, the median percentage for grade 4 students with disabilities scoring at the proficient level or above was 41%, compared to their non-peers with disabilities with a median of 79%. Middle school students with disabilities scoring at the proficient level or above had a median percentage of 34%, while the students without disabilities were at 78%; and high school students with disabilities scoring at the proficient level or above were at 31%, compared to those without disabilities with a median of 77% (Center on Education Policy, 2009b).

Reading achievement gaps are likewise apparent in mathematics. The Center for Education Policy (2009b) determined mathematic median proficiency or above for grade 4 students were slightly better than reading, which was at 49%. However, a gap continues to exist with non-disabled scores remaining at 79%. The middle and high school median scores revealed that a larger gap exists, between the two populations. The middle school

proficiency or above median score for students with disabilities was 28%, compared to students without disabilities whose median score was 74%. The high school median scores were very similar to middle school scores. Mathematics median proficiency or above scores for students without disabilities were 22%, while non-disabled peers were 69% (Center for Education Policy, 2009b). With significant disparities between the two populations, the conclusion can be made that schools need to analyze current service delivery practices, such as placement, in order to reduce the gaps among the groups.

Achieving Adequate Yearly Progress

According to the National Governors Association (2010), NCLB also required schools to meet adequate yearly progress for reading and mathematics, along with one additional non-academic component. States across the nation selected graduation rate as that indicator. The U.S. Department of Education required all states to create a uniform definition of high school graduation rates for consistency and accountability purposes (Schifter, 2011). The rate calculates the percentage of students who enter school in 9th grade and graduate in four years. Using a uniform definition and calculation method, graduation rates are being disaggregated for students with disabilities. The National Center for Education Statistics (2010) reported that the 2009 completion rate of students with disabilities in 2009 was 80%, which was lower than their non-disabled peers at 90.1%.

As graduation rates continue to lead educational reform, dropout rates lead as well. Students with disabilities ages 16-24 dropped out at a significantly greater rate (15.5%) than their non-disabled peers (7.8%) (National Center for Education Statistics, 2010). According to the U.S. Department of Education (2010), IDEA data reported

90,766 students dropped out of high school during the 2007-2008 school year, which is a significant decrease from previous years. Even with respect to the decline in dropouts, educators and legislators struggle with the overwhelming number of students with disabilities still exiting America's public high schools without a diploma.

The staggering achievement gaps and other disproportionate data have generated a great deal of debate on placement for students with disabilities. Research suggests that inclusive models of service delivery can be instrumental in improving the success of students with disabilities when a shared commitment to making it work exists (Schwarz, 2007). Teachers and administrators agree that students with disabilities benefit socially from the regular education placement; however, academic success is questionable (Beirne-Smith & Daam, 2001). Even with the legislation and accountability practices accorded in IDEA and NCLB, record numbers of students with disabilities are physically integrated into inclusive classrooms alongside non-disabled peers (Tapasak & Walter-Thomas, 1999).

Purpose of the Study and Research Questions

The purpose of this study was to investigate the relationship between Kentucky least restrictive environment practices and KCCT assessment annual yearly objectives (AMO) in reading and mathematics for students with disabilities. This research was designed to determine whether a correlation exists between special education students' placement and assessment scores attained for the with disability subpopulation AYP category. Corresponding inclusion and student performance outcomes can provide the foundation for student-based release and admission committees (SBARC) to make the best placement decisions for children with disabilities. With an urgency to address

student achievement, the following questions were addressed:

1. What percentage of Kentucky school districts are achieving the annual measurable objectives to determine annual yearly progress in reading for students with disabilities?
2. What percentage of Kentucky school districts are achieving the annual measurable objectives to determine annual yearly progress in mathematics for students with disabilities?
3. What percentage of Kentucky school districts are achieving the least restrictive environment targets for students with disabilities in terms of placement in the regular classroom, placement in the special education classroom, and placement outside the regular school?
4. Is there a relationship between placement and annual measurable objective performance in reading for students with disabilities?
5. Is there a relationship between placement and annual measurable objective performance in mathematics for students with disabilities?

The Kentucky Department of Education maintains and publicly reports adequate yearly progress by year for all Kentucky districts and schools. This data were used to identify district AYP reading and mathematics annual measurable objective status for students with disabilities for the 2010-2011 school year. AYP data are converted into Kentucky Continuous Monitoring Program (KCMP) Indicator #3 for analysis by districts. All Kentucky districts are included in this process. This information was used to calculate the results for Questions #1 and #2.

The Kentucky Department of Education maintains and publicly reports least restrictive environment (LRE) data by year for all Kentucky districts. This information was used to identify district LRE target status for students with disabilities for the 2010-2011 school year. LRE data are collected as a part of the December Child Count Report and converted into KCMP Indicator #5 for district analysis. All districts in Kentucky are included in this process. This information was used to address Question #3.

AYP data were correlated with LRE practices to determine whether a relationship exists between district achieving AYP annual measurable objectives in reading and mathematics for students with disabilities and LRE practices. AYP data likewise were correlated with LRE practices between districts that did not achieve annual yearly objectives in reading and mathematics for students with disabilities and LRE practices. Data generated was analyzed to determine whether placement affects AYP results. This information was used for Questions #4 and #5.

Support for the Study

The Kentucky Department of Education requires the submission of LRE data as part of the December 1 Child Count Report. LRE and AYP reading and mathematics performance data for students with disabilities are included in the Kentucky Continuous Monitoring Process (KCMP). No correlation study has been conducted to determine whether a relationship exists. The Kentucky Department of Education Diverse Learning Services provided guidance in locating data sets to be used in this research. Additionally, Caveland Educational Cooperative Services (CECS), in collaboration with KDE, collected district data and compiled that information in an excel format. LRE data sets were provided by CECS for this study.

Operational Definitions

- *Accountability* -- A system in which individuals take responsibility for student performance on state mandated achievement assessments and other non-academic outcomes (Albus et al., 2008).
- *Adequate Yearly Progress (AYP)* -- An NCLB provision that all public schools make progress toward reaching 100% proficiency for all students (Katsiyannas et al., 2006). Four populations are included in the AYP subgroups: economically disadvantaged, limited English proficient (LEP), identified disabled, and students from racial and ethnic groups. AYP mandates a 95% participation rate in state assessments for all students, along with an increase in proficiency targets in reading and mathematics (Eckes & Swando, 2009). AYP also includes a non-academic accountability index in Kentucky that requires schools to report graduation rates. Districts and/or schools that are unable to meet state defined targets are assigned a Tier I, Tier II, or Tier III status.
- *Annual Measurable Objectives (AMO)* -- The percentage of students reaching proficient performance in reading and mathematics that is one of the three components to determine AYP (Kentucky Department of Education, 2011f).
- *Child Count* -- An annual report required by the Kentucky Department of Education to capture data on children and youth with disabilities receiving special education and related services required under the Individuals with Disabilities Education Act.
- *Child with a Disability* -- A child ages 3-21 who was evaluated and met the eligibility criteria for one of the 13 disability categories: autism, deaf-blindness,

developmental delay (3-9), emotional behavioral disability, hearing impairment, mental disability, multiple disabilities, orthopaedic impairment, other health impairment, specific learning disability, speech language impairment, traumatic brain injury, or visual impairment. A child who also displays an adverse effect on educational performance (Kentucky Department of Education, 2008).

- *Complaint* -- Kentucky defines a complaint as a “written allegation that a LEA has violated a requirement of the Individuals with Disabilities Education Act (IDEA) or an implementing administrative regulation, and the facts on which the statement is based” (Kentucky Department of Education, 2008, p. 4).
- *Co-teaching* -- Regular and special education teachers share teaching responsibilities in a classroom that includes both students with disabilities and non-disabled students (Eaton, Salmon, & Wischnowski, 2004).
- *District Review Team (DRT)* -- A Local Educational Agency (LEA) committee that includes administrators, special educator(s), regular educator(s), a minimum of one parent (not employed by the district) of a child with a disability, and others as needed to analyze district data and develop plans for maintenance and/or improvement (Kentucky Department of Education, 2011a).
- *Free Appropriate Public Education (FAPE)* -- Legislation requiring students with disabilities to be educated with non-disabled peers to the maximum extent appropriate.
- *Inclusion* -- The practice of serving students with disabilities in the general education classroom with appropriate supplementary aides and services (Roach, 1995).

- *Independent Education Plan (IEP)* -- A required multifaceted document developed by student-based admissions and release committee (SBARC) teams that are to be reviewed yearly for every student identified with a disability (Jarrow, 1999).
- *Kentucky Continuous Monitoring Program (KCMP)* -- “An on-going self-evaluation process used for local school districts for data collection and analysis, program evaluation and improvement of a district’s special education programs” (Kentucky Department of Education, 2011a, p. 13).
- *Least Restrictive Environment (LRE)* -- Students with disabilities should be educated with non-disabled peers to the maximum extent appropriate, and removal from regular education occurs when the nature or severity of the disability is such that education in regular classes with the use of supplementary aides and services cannot be achieved satisfactorily (IDEA, 20 U.S.C. § 1412).
- *Least Restrictive Environment Targets* -- The Kentucky Department of Education defines three LRE 2011 targets as the percent of children with IEP’s aged 6-21: more than 65% for students removed from the regular education classroom less than 21% of the school day; less than 11% for students removed from the regular education classroom greater than 60% of the school day; less than 2% for students served in public or private separate schools, residential placements, or homebound or hospital programs (Kentucky Department of Education, 2011b).
- *Mainstreaming* -- A form of service delivery in which students with disabilities receive their academic curriculum in regular education and special education classrooms (Idol, 2006).

- *Regular Education Classroom* -- Also referred to as general education classroom, is a setting in which all students are provided instruction using the general curriculum.
- *Resource Classroom* -- Often referred to as non-disabled, is a service in which a child with a disability is provided instruction by a special education teacher periodically throughout the school day.
- *Special Classroom* -- A service in which a child with a disability is provided instruction in a classroom by a special education teacher for the majority of a school day.
- *Special Education* -- Instruction, interventions, and related services designed to address the individual needs of students who are evaluated and determined eligible (U. S. Department of Education, 2010).
- *Student-Based Admission and Release Committee (SBARC)* -- A group of individuals to include a chairperson, regular education teacher, special education teacher, related service personnel if appropriate, parents, and possibly the student who are responsible for developing, reviewing, and revising an education program for a child with a disability.
- *Subpopulations* -- A provision of NCLB that requires public schools to submit assessment results in reading and mathematics: socio-economic background, race and ethnicity, English language learners, and disability (Eckes & Swando, 2009).

Conclusion

Chapter I is an overview of the national reports that initiated educational reform movements in the United States, along with implications that provide advancement and opportunity for students with disabilities. In addition to addressing national legislation, such as IDEA and NCLB, this chapter described achievement and non-academic barriers that educators must resolve in order for students with disabilities to be successful. Also, inclusion is described as a service delivery system to assist students with disabilities obtain Kentucky AYP annual yearly objectives and LRE performance targets.

CHAPTER II: LITERATURE REVIEW

According to DeYoung (1994), school reform has a 150-year history in the United States. Chapter II provides an overview of significant reports that established the groundwork for educational assessment and accountability afforded to students today: *Equality of Educational Opportunity*, known as the *Coleman Report*; *A Nation at Risk: The Imperative for Educational Reform*; *National Education Goals Report*; and *Third International Mathematics and Science Report*. Due to these landmark statutes, student achievement and accountability became the hallmark of academic programs throughout the nation. This chapter addresses the historical significance of legislation that considered the academic achievement of the population with disabilities: *Section 504 Rehabilitation Act*, *Education for All Handicapped Children Act*, and *Individuals with Disabilities Education Act* with amendments.

Unfortunately, groups of students continued to be excluded from the accountability efforts enacted by Congress. Exclusion led to one of the most controversial enactments of legislation ever to address America's efforts to educate its youth, *No Child Left Behind* (NCLB). Research is explored to determine whether the NCLB mandates achieved the purpose of adequately targeting impoverished, disabled, and minority youth. This chapter also examines practices and investigations that support inclusion of students with disabilities as a placement option in America's schools. Perceptions of inclusion are addressed, as administrators and teachers learn to grapple with the changing landscape of special education.

Chapter II examines the Kentucky schools' system of accountability that has aggressively altered public education in the state for the last two decades. This account

addresses the implementation of the Kentucky Education Reform Act (KERA) through the more recent accountability system known as Kentucky Performance Rating for Education Progress (K-PREP).

History of Educational Reform

Presidential education commissions were relatively common throughout the 20th Century: President Truman's report in 1947, President Eisenhower's Committee on Education Beyond the High School, President Kennedy's 1960 Task Force on Education, and President George W. Bush's Commission on the Future of Higher Education in 2006 are just a few. The two most famous studies were commissioned under President Lyndon Johnson in 1966 and President Ronald Reagan in 1983, igniting educational reform that substantiated accountability practices today. The true focus of educational reform generated support with the 1957 Soviet Union launch of Sputnik. This event rapidly instigated a national movement to advance education in the United States. It suddenly became apparent to American citizens that the Russians were far more scientifically evolved than previously suspected (Abramson, 2007). Due to increased fear and paranoia, an educational debate grew to a national level after the 1950s.

President Lyndon Johnson chartered the Commission of Education to investigate educational equality in the United States. This massive study was conducted by James S. Coleman, who examined over 600,000 children in 4,000 schools. The 1966 research entitled *Equality of Educational Opportunity*, better known as the *Coleman Report*, determined that segregated schools provided similar curriculum opportunities and maintained relatively equal teacher salaries (Schugurensky, 2002). The study concluded that an achievement gap developed and widened as students progressed through school.

Coleman considered this disparity to be directly related to environmental differences. This rationale ultimately created ethnic desegregation of neighborhood schools by transporting students to other buildings within districts.

A Nation at Risk

Accountability and reform attitudes greatly intensified with the release of a second federal report, *A Nation at Risk: The Imperative for Educational Reform*. The Secretary of Education for the United States Department of Education Terrel H. Bell created the National Commission on Excellence in Education on August 26, 1981 (Hewitt, 2008). The Commission was charged with assessing public education in order to direct attention to the growing concern that public school systems were failing students. Bell charged the Commission of 18 individuals with six tasks: (a) assess teaching and learning in both public and private schools, colleges, and universities; (b) compare American schools with those of other industrialized nations; (c) research college entrance requirements in relation to high school achievement; (d) ascertain programs that produce successful post-secondary education students; (e) study the impact of social and educational alterations on student achievement; and (f) identify barriers that must be overcome (National Commission on Excellence in Education, 1983).

A Nation at Risk refocused America's educational priorities by addressing four categorical concerns: content, expectations, time, and teaching (Borek, 2008). The report cited expectation deficiencies across the curriculum. A direct relationship between homework reduction and declining student achievement was noted. Textbooks challenged students at a minimal competency level, and a severe shortage of teachers in mathematics, science, gifted and talented, foreign languages, and special education was

discovered (National Commission on Excellence in Education, 1983). Unfortunately, the committee exposed the fact that many teachers were high school or college graduates from the bottom percentage of the class. The Commission suggested alternative classrooms and programs to address classroom management issues (Bicard, Bicard, Casey, & Nichols, 2008). In order to compete with other industrialized nations, the Commission recommended 7-hour school days and extending the school calendar to 220 days per year.

The report declared academic mediocrity as a standard when examining directives commissioned by the Secretary of Education, as suggested in the following:

Our Nation is at risk...the educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future... If an unfriendly foreign power had attempted to impose on America the mediocre educational performance that exists today, we might have viewed it as an act of war. (Bracey, 2008, p. 81)

As a result of their findings, the National Commission on Excellence in Education (1983) made recommendations targeting content, standards/expectations, time, teaching, leadership, and financial support. The proposals included accelerating academic achievement through an increase of expectations, creating and expanding national standards, implementing accountability, challenging students individually, and providing adequate financial compensation for teachers.

Goals 2000: Educate America Act

Following *A Nation at Risk*, President George W. Bush and governors from across the United States met in 1989 at a summit to develop a national set of educational

standards (Congressional Digest, 1994). Six goals were identified at the summit, later outlined in the 1991 *National Education Goals Report*. In response to the proposals, President Bill Clinton later signed into law a new school education reform bill known as the 1993 *Goals 2000: Educate America Act*. This act expanded legislation first targeted in a 1991 report that identified educational elements to address: dropout prevention, standards and assessment, accountability, parent involvement, technology implementation, school to work, benchmarks and timelines, and organizational improvements (Educational Resources Information Center Digest, 1994). These goals were to be achieved by the turn of the century. This law, combined with the *Third International Mathematics and Science Report*, ultimately inspired the *No Child Left Behind Act* that implemented massive educational assessment and accountability efforts like no other movement in history.

Third International Mathematics and Science Report

The 1995 *Third International Mathematics and Science (TIMSS) Report* followed *A Nation at Risk*, ultimately propelling a movement of unprecedented educational reform and accountability in American schools. “The TIMSS student assessment of mathematics and science were conducted in 1994-95, in 1998-99, and again in 2003” (National Center for Education Statistics, 2006, p. 1). The findings of the science research conducted in Australia, Czech Republic, Japan, and the Netherlands concluded that the United States average score was below the participants in the study. Similarly, the mathematics investigation included the countries participating in the science study in addition to Hong Kong and Switzerland (National Center for Education Statistics, 2006). Findings from the research concluded that the United States scored below all participating nations.

Importantly, the TIMSS confirmed eighth-grade students from the United States were underperforming compared with students from other industrialized countries in the two subjects. This knowledge quickly escalated a government initiative to refocus efforts on mathematics and science instruction in the United States.

The TIMSS assessment results unleashed a firestorm of controversy. Boe and Shin (2005) disagreed with the overall perception of student performance based upon the TIMSS report. They believed consumers were unaware of all available survey results. Second, the idea that average was unacceptable was a cause for apprehension when analyzing published results. Many professionals considered the United States as superior; thus, only the best was good enough. Unfortunately, some individuals “pick and choose from existing surveys only the results that support their beliefs” (p. 694). Essentially, the TIMSS report inspired a great deal of educational debate that escalated the need to further address educational reform.

No Child Left Behind

In 2002 President George W. Bush signed into law one of the most sweeping, controversial educational reform movements in history, *No Child Left Behind* (Eckes & Swando, 2009). The legislation endeavored to improve student achievement by addressing school accountability, defining highly qualified teachers, promoting inclusion practices for all students through co-teaching or collaboration methods, and mandating the use of scientifically research-based educational programs. The law clearly mandated that states assess all students’ reading and mathematics skills to determine adequate yearly progress (AYP). By the 2013-2014 school year, all students will be required to be proficient in reading and mathematics. Subpopulations of students included in AYP were

race, disability free/reduced lunch, and English as a second language (ESL). According to the National Center on Education Outcomes (2004), NCLB clearly stated that the expected outcomes for populations within the subgroups contain the “same high expectations held for all students” (p. 1).

Implementation of No Child Left Behind

The Center on Education Policy (2007) analyzed districts’ implementation of NCLB legislation and the challenges of complying with the federal mandate. This study examined student achievement and teacher quality in both rural and urban school districts. Urban districts were referred to as non-rural in the study. Two empirical questions relating to achievement gaps, programs, and implementation of NCLB requirements were considered in the research.

For methods purposes, the Center on Education Policy (2007) surveyed 491 school districts from across the nation. A questionnaire was mailed to Title I and other federal program administrators, with a response rate of 71%. Based on the Metropolitan Statistical Code 116, districts were identified as rural. District personnel completed the surveys, while Center on Education Policy (CEP) personnel conducted interviews in eight districts. Survey questions addressed whether subpopulations were counted in the overall data and the existence of achievement gap discrepancies. Districts rated whether various programs and policies impacted student achievement. Additionally, highly qualified ratings were considered an essential element of this investigation, along with each district’s recruitment and retention strategies. Interviews targeted the impact of NCLB on teacher quality, student achievement, and school improvement (Center on Education Policy, 2007).

The CEP (2007) reported student achievement gaps within rural districts. A majority of the rural respondents reported too few minority, ethnic, and ESL students in order to determine subgroup data, thus, allowing these districts to forego accountability. When subpopulations data were available, gaps were documented between minority and Caucasian students and between English Language Learners (ELL) and other learners. A substantial number of districts reported achievement discrepancies between students with disabilities and their non-disabled peers. Also, AYP gaps appeared between students based upon socioeconomic status. Both rural and urban districts agreed that the greatest achievement gap to be closed was the discrepancy between students with disabilities and their non-disabled peers. Overall, districts cited local policies and programs as the factor that impacted students' achievement rather than NCLB. The majority of responding districts viewed NCLB as a minor contributor to improved student achievement. Required NCLB provisions, specifically scientifically researched-based programs and adequate yearly progress, were factors that contributed to gains.

The *No Child Left Behind Act* included a provision requiring all students to be taught by highly qualified educators. The CEP (2007) examined compliance of this mandate. Districts reported little impact from this NCLB stipulation, other than enhanced recruiting and retention programs. It is clear, however, that rural communities face fierce competition with urban sprawls that provide better salaries.

Research limitations were included in the analysis of the study. The investigation included only federally funded Title I schools. Small rural districts were excluded from the study, which increased the effectiveness of the sample, yet eliminated the challenges experienced by small student populations (Center on Education Policy, 2007).

In conclusion, this study presented the real truth facing rural American schools: the marginal achievement gap between students with disabilities and non-disabled students and the discrepancy among minority and income factions. While rural school small populations tend to be at an advantage when addressing AYP, the relatively limited number of students can drastically impact scores when a few individuals perform poorly. Obviously, rural districts are confronting the demanding provisions accorded in NCLB. This national statute has clearly instigated a tremendous movement that will impact educational reform in the United States for many years.

History of Legislation for Students with Disabilities

Historically, individuals with disabilities were removed from conventional society. This philosophy embraced an attitude of disregard for both adults and children who were unlike their peers. According to Glancy, Morse, and Russo (1998), federal, state, and local governments ratified laws to limit individuals with disabilities the right to vote, attend school, marry, or hold public offices. With the seemingly unending segregation of all diverse persons from the mainstream population, a movement developed to alter the national attitude of self-imposed isolation. Consequently, the courts took action to improve conditions for these populations. *Brown v. Board of Education in Topeka* (1954) was the first case in the history of education to provide equal opportunity to minority children (Glancy et al., 1998). The United States Supreme Court rejected the concept of “separate but equal,” affording all African-American children the ability to attend public schools with their Caucasian peers. This landmark case provided the means for individuals with disabilities to seek legal protection for their rights.

Parents of children with disabilities turned to the courts to obtain educational services for their children. Two landmark cases, *Pennsylvania Association for Retarded Children (PARC) v. Commonwealth of Pennsylvania* (1972) and *Mills v. Board of Education of the District of Columbia* (1972), ascertained FAPE for children with disabilities (Federal Education Budget Project, 2011). Shortly thereafter, states joined the movement to provide an appropriate education in least restrictive environments for students with special needs.

1973 Rehabilitation Act

In 1973 Section 504, known as the *Rehabilitation Act*, was enacted to provide discrimination protections to individuals with disabilities. This legislation required all organizations, including schools that receive federal funds, to provide equal opportunity to individuals with disabilities. According to the Educational Resources Information Center (ERIC) Digest (1995), an individual who qualifies for Section 504 protections is defined as “any person who has a physical or mental impairment which substantially limits one or more major life activities, has a record of such an impairment or is regarded as having such an impairment” (p. 1). Children who qualify for Section 504 services must be provided an accommodation plan and services as determined by the team. Districts also are required to conduct an evaluation and inform parents of procedural safeguards.

The *Rehabilitation Act* has been reauthorized several times since the statute’s enactment in 1973. The 1983 reauthorization focused on transition for students from school to work, and 1986 amendments proposed supported employment for persons with disabilities (Horne, 1996). This law continued to be reauthorized throughout the next 35

years, with the most substantial changes taking place in 2008. The act provided additional protections to children and expanded the eligibility categories.

1975 Education of All Handicapped Children Act

Prior to the creation of the *Education of All Handicapped Children Act* in 1975, over four million children were denied an appropriate education in public schools. The laws placed an arduous financial burden on state and local school districts to implement programs and provide services to identified students with disabilities. As states petitioned the federal government for funding to adequately support increasing operation costs, Congress enacted the 1975 Public Law 94-142, Education of all Handicapped Children Act. States that consistently adhere to federal statutes were eligible for partial financial support. Inevitably, the allocations provided by the Congress were significantly less than actual costs, leaving states and school districts the burden of sheltering the expense. In 1984 the Supreme Court ruled in *Smith v. Robinson* that it was the intent of Congress to assist only the states with their constitutional obligation to provide Free Appropriate Public Education to children (Federal Education Budget Project, 2011).

One purpose of the 1975 *Education of All Handicapped Children Act*, later reauthorized in 1990 as the *Individuals with Disabilities Act*, was to ensure that all children were provided a Free Appropriate Public Education (FAPE). This federal mandate forced states to develop and implement policies to educate students with disabilities and required all federally-funded institutions to provide FAPE to eligible individuals. This included, but was not limited to, publicly financed schools, institutions of higher education, and any other agency that received federal monies. In order to ensure compliance of this statute, the United States Department of Education, along with the

Office of Civil Rights in Washington, DC, supervised the implementation of the Americans with Disabilities (ADA) legislation (Center for Law and Education, 1994). Section 504 entitles parents to file complaints when dissatisfied, and representatives from the local offices investigate discrimination grievances.

1990 Individuals with Disabilities Act

In 1990 Congress enacted the *Individuals with Disabilities Act* (IDEA). This law often is considered the greatest legislation adopted in history, securing persons with disabilities their civil rights (LaFee, 2011). IDEA was a mammoth reauthorization endeavor to the 1975 *Education for All Handicapped Children Act of 1975*. Programs that were originally included in the earlier legislation were expanded to address transition services, autism, traumatic brain injuries, attention deficit disorder, and related services for counseling and assistive technology (Horne, 1996). Essentially, this legislation continued FAPE for identified children with disabilities, provisions for evaluations, least restrictive environments, development of individual education plans (IEP) or Individual Family Service Plans (IFSP), and related services.

The 1990 general provisions revised the title of the law to IDEA, defined terms, confirmed parental rights, and addressed program/planning of services. Additionally, handicapped children were redefined as children with disabilities. In line with the 1975 Public Law 94-142 *Education of all Handicapped Children Act*, the *Individuals with Disabilities Act* included a stipulation requiring public schools to implement the statute in order to receive federal funding to assist with excess cost (Jarrow, 1999). Funding notwithstanding, Congress mandated an extensive array of related services for students with disabilities and required additional personnel training, leaving the accumulating

expenses to the districts. Obviously, the government vastly underestimated the impact of such an enormous endeavor. Within years, IDEA litigation became unprecedented.

2001 No Child Left Behind

“The federal government further demonstrated its emphasis on improvement by coordinating IDEA’s school efforts with those of *No Child Left Behind Act of 2001*” (Green, 2008, p. 12). The combination of NCLB and IDEA established an even greater emphasis on leadership accountability for all students. School administrators were compelled to implement programs that provided the opportunity for student growth and academic achievement in order to sustain adequate yearly progress (AYP). Subpopulations of students included in AYP were race, disability free/reduced lunch, and English as a second language (ESL).

As building principals attempted to grapple with the new accountability process, district administrators further explored the peer review research legislation. Later branded Response to Intervention (RTI), all struggling students must have been exposed to approved instructional practices before being considered for an evaluation for special education services. This mandate is being monitored closely by state departments of education in order to determine the effectiveness of the interventions.

To further expand accountability, NCLB legislation enforced a concept that impacted instruction across the United States: Highly Qualified Educators. Along with expectations that all students can achieve proficiency, teachers were required to be qualified and certified educators. This mandate became an instant challenge for public schools that traditionally employed exceptional education teachers who were enrolled in transition to teaching programs or seeking certification outside their field of expertise.

As states scrambled to implement NCLB, parents feared this could ultimately be the collapse of special education. According to Wasta (2006), NCLB implied all students with disabilities could learn at high levels, and eligible students were denied an appropriate education. Soon, instruction became the target of further exploration as educators considered RTI practices. Within months of being signed into law by President George W. Bush, instruction and accountability became the hallmark of NCLB.

2004 Individuals with Disabilities Improvement Act

Congress periodically revises IDEA provisions to ensure eligible students receive an education that adheres to their individual needs. In 2004 IDEA was reauthorized as the *Individuals with Disabilities Improvement Act (IDEIA)*. Many of the changes attempted to align the new version with the 2001 No Child Left Behind law. Katsiyannis, Shriner, and Yell (2006) elucidated the relationship between IDEIA revisions as those connected within NCLB. According to Borreca, Osborne, and Russo (2005), significant revisions targeted the identification of learning students with disabilities, individual education plans (IEP), and discipline of students with disabilities, to name few. Additionally, Katsiyannis et al. expounded upon accountability, AYP, and highly qualified teachers as foremost components of NCLB.

Before IDEIA provisions were mandated, students identified as learning disabled were eligible only by severe discrepancy criteria. Essentially, evaluations must have demonstrated a significant difference between a student's ability and actual performance. For example, a student who produced an intelligence quotient (IQ) of 100 on the Wechsler Intelligence Scales for Children (WISC) IV would have to meet a predetermined eligibility criterion score on an achievement test in order to be considered

learning disabled in mathematics calculations, mathematics reasoning, reading comprehension, basic reading, and writing expression (Borreca et al., 2005). Student-based admission and release committees (SBARC) determined student identification based on the discrepancy criteria alone. The reauthorization of IDEA enabled greater criteria for eligibility by including a scientific research-based intervention provision. Educators are now required to provide peer-reviewed research intervention methods in order to improve academic outcomes for struggling students (Curran & Etscheidt, 2010). Throughout the United States, this concept is commonly referred to as the RTI model. RTI monitoring documentation that demonstrates exposure to scientifically research-based methods can be considered full psychological evaluations. Consequently, students can be identified as disabled with far greater autonomy.

The requirement that all educators be highly qualified was first cited in the *No Child Left Behind Act*. Since NCLB generally addressed the directive, IDEIA expanded legislation to specifically include special education teachers (Ratcliffe & Willard, 2006). Special educators traditionally have been certified as K-12 exceptional teachers with no emphasis in any particular subject. IDEIA required special educators to be fully certified in special education, pass the national examination, and hold a minimum of a bachelor's degree in core subjects (Borreca et al., 2005). This is an enormous issue for rural districts and special education teachers in general. Exceptional educators were permitted the option of completing the HOUSSE index that counts experience as a component of highly qualified. Teachers also could take national examinations in core subjects in order to be considered highly qualified. This mandate continues to create numerous obstacles with the inception of alternative to teaching certifications.

The discipline of students with disabilities revision was considered a significant victory for school administrators. For many years, parents of students who displayed disruptive behavior at school would seek the protections of IDEA for their children. Administrators found managing this population of students perplexing. Generally, IDEA granted school principals the authority to remove disruptive students from their least restrictive environment (LRE) to an alternative interim placement or suspended for no more than 10 school days (Katsiyannis, Mattocks, McDuffie, Ryan, and Yell, 2008). In the case where a student with disabilities violated the code of conduct for weapons, drugs, or endangering another person, administrators could remove that student to an alternative placement for 45 school days without considering manifestation.

Least Restrictive Environment

The LRE Principle

The summation of the LRE principle is best stated by Yell (1995): “students with disabilities are to be educated in settings as close to regular classes as possible as appropriate for the child” (p. 193). LRE first emerged in the 1960s when Reynolds (1962) called for placement settings that ranged from least restrictive to most restrictive. The federal courts soon began to address placement issues for students and adults with disabilities in the later 1960s and 1970s. Least restrictive environment became part of that discussion. *Pennsylvania Association for Retarded Children (PARC) v. Commonwealth of Pennsylvania* (1972) and *Mills v. Board of Education of the District of Columbia* (1972) most notably supported LRE (Taylor, 2004). To further expand LRE, the United States Department of Education legislation enactment of the 1975 *Education for All Handicapped Children Act*, later known as the *Individuals with Disabilities Act*,

compelled schools to provide a free appropriate public education (FAPE) within the least restrictive environment (LRE) to all students eligible for services (Linton, Montague, & Ward, 2003). The LRE mandate provided students with disabilities the right to be educated with their same age non-disabled peers to the greatest extent possible. Essentially, schools must provide special needs students access to extracurricular activities, the general curriculum, special designed instruction, supplementary aides, and services with their peers. Student-based admission and release committees (SBARC) must determine placements in order to address LRE.

Court Decisions

According to Douvanis and Hulsey (2002), Congress neglected to define the concept of least restrictive environment, leaving the courts to cultivate the definition. Legal disputes regarding placement quickly surfaced, affording analysts the opportunity to examine results and provide recommendations for future decisions. Etscheidt (2006) explored LRE litigation that involved young children with disabilities. For this research, the investigator accessed 34 decisions from published courts and administrative hearings from the LRP Legal Research Center online database.

Etscheidt (2006) methodology consisted of a qualitative content process in which each case was analyzed to identify key words or phrases. Those identifiers were utilized as codes for analysis that ultimately ascertained four categories: potential benefits, on readiness for inclusion, decisions based on instructional approach, and continuum of options. Three cases evaluated for potential benefits determined that specialized placements were required to provide students with optimal support. Decisions from other cases supported the inclusive setting as the most beneficial to young students both

socially and academically. Overall, decisions supported early education placements with the general population in order for students to interact with peers.

Readiness for inclusion cases were analyzed to determine whether students were prepared for entrance into the regular education settings. Hearing officers often concluded that districts' efforts to gradually integrate students into the mainstream were appropriate. Overall, decisions indicated that SBARC members must consider students' academic and social readiness in order to determine placement (Etscheidt, 2006).

Autism litigation has escalated over the last two decades. Teaching approaches and methodologies often have been the focus of the proceedings during many of these cases. Etscheidt (2006) investigated decisions based on instructional approaches that often involving autism disputes. Instructional practices such as social stories, discrete trial teaching, and applied behavior analysis were requested by parents in the home environment. Districts argued that school-based programs were capable of providing FAPE. In many cases judges and hearing officers alike considered home-based programs or private schools as the least restrictive environment for service delivery; however, public school-based instructional approaches that effectively addressed student needs were preferable (Etscheidt). Ultimately, placement decisions were determined by methodology.

Etscheidt (2006) analyzed two cases in which school districts neglected to consider the general education setting as an option for placement. Both decisions ordered SBARC teams to reconvene and develop IEPs with supplementary aides and services that supported each child in the regular education environment. Private schools also were evaluated as a continuum of placement options. Courts ruled on more than one occasion

that private schools were to be considered as a potential LRE opportunity. Essentially, schools must provide a full continuum of services and placement options.

Inclusion

Least restrictive environment, inclusion, and mainstreaming often are terms spoken interchangeably among members of SBARC committees. LRE is the regulation requiring students to be educated with non-disabled peers, while placement is a discussion of the options available for service delivery. The inclusive model of service delivery is the process in which students with disabilities are instructed in the general education classroom, with modifications and accommodations provided by both regular and exceptional education teachers. Foote, Kilanowski-Press, and Rinaldo (2010) describe inclusion as the practice in which services and supports are provided to the student in the general education classroom. Mainstreaming is the extent to which students with disabilities are educated within special or self-contained resource classrooms and intermittently attend regular classes throughout the school day. Educational inclusion and mainstreaming are different concepts that need to be addressed as separate models of instruction.

In 2002 *No Child Left Behind* (NCLB) was enacted emphasizing the inclusion of students with disabilities in assessment accountability (Fritzberg, 2003). The law required all third- through twelfth-grade students to demonstrate 100% academic proficiency by the year 2014 (Eckes & Swando, 2009). Schools across the United States are required to submit reading and mathematics scores to determine whether adequate yearly progress (AYP) has been attained for all students, specifically the subpopulation groups. Subpopulations are comprised of four categories: English/language learners, students

with disabilities, socioeconomic status, and minorities. NCLB legislation established an expectation of accelerated achievement for students with disabilities comparable to their non-disabled peers (Ratcliffe & Willard, 2006). This concept conflicts with IDEA legislation that individualizes student abilities. Since accountability is the hallmark of NCLB, the regulation has increased awareness of inclusion and the need to consider the implications of LRE.

Inclusion Models

A number of models significantly illustrate the philosophy of educational inclusion propelled by IDEA and NCLB. Successful inclusion is far from magical or coincidental. Unfortunately, delineation exists between educators' knowledge of inclusive strategies and the actual implementation within the classroom. Cummings and King-Sears (1996) identified interventions that are effective practices when employed by general education teachers: the administration of curriculum-based assessments, cooperative learning opportunities, self-management techniques, and class-wide peer tutoring experiences. The authors also recommended increasing "teachers' comfort level with innovative inclusive practices" (p. 224) by providing adequate time for preparation, professional development, and peer coaching opportunities.

Co-teaching, previously referred to as collaboration, often is regarded as an effective inclusive model to employ in classroom settings. This instructional practice incorporates the combined expertise of both a special education teacher and a regular educator working together in the same general education classroom providing services to a diverse population of students. Despite citing this strategy as the most effective means to educate students, Foote et al. (2010) discovered it was implemented the least often.

This study investigated inclusion practices of 71 classroom teachers across the state of New York. Educators surveyed documented the consultative method as the most frequently utilized technique within their classrooms. The consultative approach to service delivery occurs when the general education teachers seek instructional guidance from exceptional educators. Instructional assistants were reported to be a commonly employed inclusive practice. Classroom volunteer support was cited to be more instrumental within the general classroom than assistance from an assigned aide. Regardless of the chosen strategy of inclusion, research suggests it is the most effective as a least restrictive option.

Supporters of inclusion declare the regular education placement as the most appropriate setting for special education students (Lipsky & Gartner, 1997). This group firmly advocated that service delivery be conducted within a collaboration/co-teaching environment. Proponents believe inclusion is a philosophy in which students with disabilities experience higher expectations, receive less discrimination, and achieve greater outcomes (Roach, 1995).

Individuals who challenge the concept of inclusion prefer children with disabilities be educated in the most appropriate setting, also known as LRE. Opponents conceptualize that specially designed services are no longer special in classrooms with greater populations of students. Furthermore, Hocutt (1996) considered the quality of instruction as the basis for academic success, rather than the actual placement.

Adversaries denounce the notion that students should be included for services. This group advocates resource placement options because students receive individual instruction

provided by a certified, highly qualified exceptional education teacher, are placed in small classroom populations, and receive specialized instruction.

Inclusion at the Middle School Level

A limited number of studies were found that investigated students' with disabilities progress in relation to placement. One study conducted by McLaughlin, Rea, and Walter-Thomas (2002) analyzed the relationship between placement in special education resource programs and inclusion in regular education classrooms. The purpose of the study was to examine both academic and behavior outcomes of students placed in both settings.

For methods and design purposes, McLaughlin et al. (2002) utilized a sample population consisting of eighth-grade students with learning disabilities (LD) from two middle schools in a suburban district. One school, referred to as Voyager, included 22 students who received specially designed instruction within a resource setting. A second school, surnamed Enterprise, consisted of 36 students who received special education services within the regular education classroom. All students' demographic, academic, and behavioral data were evaluated during the investigation.

McLaughlin et al. (2002) scrutinized settings in both schools in order to document the similarities and differences between the two populations being investigated. Program variables such as services delivery models, support staff, teacher certification, and experience also were considered. Special education students who attended Voyager Middle School received pull-out services during their elective periods. At that time, the exceptional education teachers assisted students with assignments or provided academic interventions to address weaknesses. The students attended general education core classes

with no collaborating teachers present. Enterprise Middle School implemented an inclusive model of services delivery. Students received special education services in the regular classroom for core academics. Co-teachers had one period of team planning per day in order to coordinate activities, discuss curriculum, and evaluate student progress.

The results of the McLoughlin et al. (2002) study supported inclusive models of service delivery for special education students. The reserachers determined that students with learning disabilities demonstrated higher academic achievement than their peers educated in pull-out programs. Identified learning students learning disabled (LD) served in the regular classroom setting were found to perform better on the Iowa Test of Basic Skills (ITBS) language and mathematics subtests. This group also demonstrated similar results on reading, writing, and mathematics subtests on state assessments.

The study conducted by McLaughlin et al. (2002) included only two suburban middle schools within one district and was limited to one disability category, excluding the other identified students from data results. In order for an individual to be eligible for LD services, a severe discrepancy must be evident between intelligence quotient (IQ) and achievement (Reauthorization of IDEA, 2004). Additional inclusive studies considering all eligibilities would yield a greater insight into the relationship between inclusion and performance for students with disabilities.

Inclusion at the High School Level

The previous study investigated middle school inclusion practices that produced successful results. Anderson, Bartholomay, Hupp, and Wallace (2002) conducted a study examining high school students and teacher behaviors in inclusive classrooms. The researchers performed behavioral assessments that included 199 observations in 118

classrooms. Four secondary schools within the states of Florida, New York, Tennessee, and Arizona were selected from 114 applicants; and demographic and disability data were collected and analyzed from those buildings. Three trained observers conducted all the observations within each of the four buildings.

In this study, Anderson et al. (2002) collected observations from a number of general classroom locations. Of the classrooms, only 30% contained both a regular education and special education teacher. Observed classrooms consisted of English, Spanish, health, music, computers, and sign language. Investigators monitored both eligible and non-disabled students in the classrooms.

The Anderson et al. (2002) study supported educational inclusion as a least restrictive placement option for students with disabilities. Researchers discovered that teachers tended to target students with disabilities more than general education students. Results also indicated few discrepancies existed between academic engagement and on-task behaviors for students with disabilities and the regular education population. Few inappropriate behaviors were observed within any of the classrooms participating in the study. Foremost, the selected schools were chosen for their success. The authors conceded the possibility that these institutions were practicing “effective teaching,” which impacted the results of this investigation. The fact that the observers were located in the classrooms could have modified student behavior.

Perceptions of Inclusion

Since the inception of the *Individuals with Disabilities Act*, the concept of inclusion has permeated the design of special education programs throughout the country. While research documents models of inclusion as successful methods of integration for

students with disabilities, educator attitudes become the focus of further investigations into the practice. Since school leaders significantly impact placement decisions, Praisner (2003) conducted a study surveying 408 Pennsylvania elementary school principals to examine their attitudes toward inclusion. Building administrators were expected to provide a collective program of services for students with disabilities; thus, the researcher surveyed variables that affect building leader attitudes. The Principals and Inclusion Survey (PIS) instrument included demographics, placement philosophies, attitudes toward inclusion, training, and experience (Praisner). The 28-question survey was mailed to 750 elementary school principals randomly chosen to participate in the investigation.

Research results from the Praisner (2003) investigation determined that principals who possessed positive attitudes toward inclusion were more supportive of LRE placements for students with disabilities. It also was established that administrators who documented positive experiences with students with disabilities embraced inclusion practices within their building. Surprisingly, no significant correlations were evident between years of experience and perceptions. Administrators who were adequately prepared to supervise and implement special education programs reported greater positive perceptions than leaders with limited exposure. This study concluded that principal preparation programs provided limited inclusion instruction to administrators. Since Praisner's study included elementary principals from only one state, the report was limited in scale; however, the implications from this investigation are universal. Principals who are adequately prepared to coordinate services for students with disabilities support inclusive practices.

Special education is a service, not a placement. Educators should be aware that research has demonstrated that instruction delivered within the regular education classroom setting improves academic achievement for students with disabilities. Future investigations examining the relationships between inclusion, all eligibilities, and academic performance on state assessments would yield even more valuable data of interest to administrators.

Academics and Inclusion

An investigation conducted by Durrett and Luster (2003) explored the relationship between inclusion and academic outcomes for students with disabilities on state level assessments and graduation rates. Analysis included fourth- and eighth-grade students from 66 school districts in one southern state.

For method purposes, the Durrett and Luster (2003) exploratory study examined the percentage of student placements in the regular education classrooms and scores on state assessments. The percentage of students with disabilities educated in the regular classroom was obtained from the state office of special education programs. Students with disabilities performance scores were generated from district accountability reports, and data generated from the eight most and least inclusive districts was visually examined.

Investigations by Durrett and Luster (2003) found correlations between general education placements and student performance on diploma rates, language arts, and mathematics state assessments. Districts that supported more inclusive practices for students with disabilities produced greater graduation rates. Mathematics and language arts assessment scores were significantly higher than districts serving students in resource

classrooms. The researchers concluded that more inclusive districts produced higher outcomes than their least inclusive counterparts for all students. Additional correlation studies analyzing inclusion and student achievement need to be conducted in order to validate the stated results. This study included only one southern state, with limited variables being addressed.

Least Restrictive Environment Practices and Targets in Kentucky

LRE Practices

Kentucky Administrative Regulations requires a continuum of alternative placements for students with disabilities as follows: instruction in regular classes, special classes, special schools, home instruction, and instruction in hospitals and institutions (Kentucky Department of Education, 2008). Those placements are categorized into eight options designated by KDE for reporting purposes to the Office of Special Education Programs (OSEP) in Washington, DC:

- regular class 80% or more of the day
- regular class no more than 79% and no less than 40% of day
- regular class less than 40% of the day
- separate school
- residential facility
- homebound/hospital
- correctional facilities
- parentally placed in private schools

LRE Targets

KDE Division of Learning Services collects districts' LRE as part of the yearly December 1 Child Count Report each year. The LRE category within the child count submission is converted into three categories for KCMP reporting purposes (Kentucky Department of Education, 2011a):

- removed from class less than 21% of the day
- removed from regular class greater than 60% of the day
- served in public or private separate schools, residential placements, or homebound or hospital programs

The conversion removes the 79% of day and no less than 40% of day to exclude it from the KCMP. No target was established for that particular group. There are only targets for only the highest and lowest LRE categories along with the population of students who are served outside the local education agency (LEA). Two groups are excluded for population served off campus, parental placement, and correctional facilities. KDE excludes these placements since LRE was not determined by the LEA. Table 1 illustrates the placements and LRE targets.

Table 1

Least Restrictive Environment Placements and Targets

LRE Placements	KDE Targets
Removed Less than 21% of Day	>64.5%
Removed Greater than 21% of Day	<11.0%
Separate Schools	<2.0%

LRE indicators reflect state targets. According to the Kentucky Department of Education (2011a), the LRE goal for the 2010-2011 school year submission was 65% or more for students removed from regular class less than 21% of the day; less than 11.0% for students removed from regular class greater than 60% of the day; and less than 2% for students served in public separate schools, residential placements, or homebound or hospital programs. LRE data includes ages 6-21.

Kentucky Schools System of Accountability

Kentucky Education Reform Act

In 1989 the Kentucky Supreme Court proclaimed the “state’s public school system unconstitutional” (Foster, 1991, p. 34). Prior to 1990, public education was available to all students within the Commonwealth. Schools were mandated to provide a curriculum to all students. Academic failure was expected of poor and low achieving students; thus, little concern was found regarding the educational success of all children. Kentucky’s Supreme Court justices declared that schools were not (financially or academically) equitable when a marginal number of students were unsuccessful. Their decision required the state legislature to devise a system of performance and accountability (Kentucky Department of Education, 2011c). Ultimately, the directive required policy makers to adopt the 1990 *Kentucky Education Reform Act* (KERA). According to VanMeter (1992), KERA established a new system of education that commenced at the state department and trickled down to schools through a number of significant legislative decrees: a new commissioner of education, a reorganized department of education, creation of family resource centers, an ungraded primary, school-based decision making councils, and early childhood program for at-risk four-

year-old. This mandate further established a system of student achievement and accountability through a development of standards and assessment.

Kentucky Instructional Results System

In order to comply with KERA provisions, the Kentucky Instructional Results System (KIRIS) was enacted in 1991-1998 to foster learning for children in the Commonwealth. According to Zirkel (1998), the primary function of "the KIRIS test was to evaluate the progress of schools, not individual students" (p. 330). Essentially, KERA mandated reform, while KIRIS testing forced teachers to get the job done (McIver & Wolf, 1999). Writing portfolios became the hallmark of testing practices in Kentucky schools. Teachers in grades 4, 7, and 12 were responsible for ensuring that students submitted selected writing material for assessment purposes.

Commonwealth's Accountability Testing System

In 1999 the General Assembly enacted legislation that eliminated KERA, and the Commonwealth's Accountability Testing System (CATS) evolved. According to Hall and Livard (2005), the CATS examination grew out of KIRIS and adequately met the future demands of NCLB. Notable differences were found between CATS and KIRIS; teachers were more involved with the development of test items, student accountability was first considered, results would be distributed to schools by September 15th, and test format reduced the time required to complete a single assessment (Fishback, 1998). Furthermore, students in grades 3, 6, and 9 took the Comprehensive Test of Basic Skills (CTBS), while the remaining grades were given the Kentucky Core Content Test (KCCT) (Hall & Livard). The KCCT test consists of multiple choice, open response, and on-

demand questions. Writing portfolios continued to remain as part of the assessment until 2009.

Once Congress enacted No Child Left Behind legislation as part of the 2001 *Elementary and Secondary Education Act*, states were further required to assess schools every year to determine whether AYP had been achieved. NCLB mandated all schools close the gaps between high and low performing students, between minority and non-minority students, and between advantaged and disadvantaged students (Sterns, 2002). The KCCT reading and mathematics tests were adequate measures to assess school progress toward eliminating achievement gaps (Hall & Livard, 2005).

Senate Bill 1

The Kentucky General Assembly passed Senate Bill 1 in 2009, which revised the accountability system by eliminating the CATS assessment utilized since 1999 (Wasson, 2010). Senate Bill 1 required new standards be adopted and removed open response questions and portfolios from the assessment. Kentucky enacted the new assessment accountability testing system beginning with the 2011-2012 school year, known as Kentucky Performance Rating for Education Progress (K-PREP) (Kentucky Department of Education, 2011c). The new system assessed grades 3-8, 10, and 11. K-PREP required the ACT be administered to all grade 11 students and enacted end-of-year course exams in high school courses: English II, Algebra II, Biology, and U.S. History (Floyd, 2011). The EXPLORE examination must be administered in the 8th grade, with PLAN being administered in the 10th grade. Alternate assessment in the form of attainment tasks will be required for students with disabilities who are determined ineligible for common assessment practices.

Adequate Yearly Progress in Kentucky

The *Elementary and Secondary Education Act of 1965* was reauthorized by Congress in 2001 and signed into law by President George W. Bush in January 2002 (Eckes, & Swando, 2009). The function of this law is to close the achievement gap of subpopulations, increase accountability, and provide school choice. Ultimately, the statute was formalized as No Child Left Behind. Since Kentucky's system of accountability had been a national model for many years, NCLB goals simply blended with a well-established system of accountability (Kentucky Department of Education, 2011f).

AYP Decision Components

Three components are considered for determining whether a district achieved AYP: annual measurable objectives (AMO) in reading and mathematics, other academic indicator, and participation rate. Component one, AMO, targets reading and mathematics achievement for all students and subpopulations with sufficient size. Component two, other academic indicator, has the same requirements for elementary and middle schools: decrease the percentage of novice for reading, mathematics, social studies, science, and on-demand writing; perform at or above the state average for proficient or distinguished percentages; and increase proficient and distinguished percentages in social studies, science, and on-demand writing compared to the previous year (Kentucky Department of Education, 2011f). The other academic indicator at the high school must include the graduation rate. Component three, participation rate, requires all districts to maintain a participation rate of 95%. Schools or districts must achieve a 95% participation rate for all subpopulations as well as the entire student testing population.

The federal government designed a table defining AMO targets for reading and mathematics for each school year from the inception of NCLB in 2002, when all states are required to acquire 100% proficiency in reading and mathematics content areas. The scale is illustrated as Table 1.

Table 2

Federal Annual Measurable Objectives (AMO)

Testing Year	Reading	Mathematics
2001-02	37.38	19.57
2002-03	37.38	19.57
2003-04	37.38	19.57
2004-05	45.21	29.62
2005-06	45.21	29.62
2006-07	45.21	29.62
2007-08	53.04	39.68
2008-09	60.86	49.73
2009-10	68.69	59.79
2010-11	76.52	69.84
2011-12	84.35	79.89
2012-13	92.17	89.95
2013-14	100.00	100.00

(Kentucky Department of Education, 2011e)

Sufficient Size

According to Markowitz (2002), the number of students must be considered in order for data to be statistically reliable and to maintain confidentiality of the participants within the subgroups. NCLB allowed each state to determine when a subgroup contains a population too small to be included. Sufficient size is considered for both AMO and participation rate when determining AYP. In order for a subpopulation to be included in the AMO calculations in Kentucky, 10 students must be enrolled per accountability grade

assessed each year and 60 school-wide total for the accountability grades or 15% of all accountable students (Kentucky Department of Education, 2011e). Also, at least 10 students must be enrolled per assessed grade and 60 students school-wide for the participation rate to be calculated for any of the subpopulation groups.

Confidence Intervals

Thompson (2007) reported that the American Psychological Association 2001 *Publication Manual* suggests confidence intervals are reported for studies in order to compare results to previous years. Confidence intervals also provide the researchers the opportunity to examine studies across disciplines. The U.S. Department of Education provides states the option to create error band percentages for proficient and distinguished scores in reading and mathematics. Confidence intervals are utilized for the subpopulation category that contains sufficient size. Three years of test scores reported for a category are utilized when assigning confidence interval.

Safe Harbor

Kentucky, along with other states, use the term “safe harbor” to define districts that failed to achieve the scaled score or confidence interval AMOs for a subpopulation with sufficient size but attained this category otherwise (Kentucky Department of Education, 2011f). In order to obtain this term, the participation rate must be at least 95% or the total number of students in a subpopulation scoring below proficient must be reduced by 10% (Kentucky Department of Education, 2011e). Safe harbor is not an NCLB term; however, it is used by Kentucky to determine AYP.

NCLB Consequences

Federal consequences are applied for Title I schools and districts and contain a sufficient size that are unable to achieve AMO. These consequences originally were termed as Tiers by NCLB. Kentucky district improvement status and consequences are described in Table 3 below.

Table 3

Overview of Title I District Improvement Status

Number of Years Not Making AYP	District Improvement Status And Phase	Consequences
One Year	Not in Improvement Status	No Consequences
Two Years (consecutive)	District Improvement Year 1 (formally KY Tier 1 status)	Notification to families Revise district improvement plan Set aside 10% Title I funds for district improvement professional development
Three Years	District Improvement Year 2 (formally KY Tier 2 status)	
Four Years	District Corrective Action Year 1 (formally KY Tier 3 status)	Notification to families Revise district improvement plan Submit revised plan to KDE for approval Set aside 10% Title I funds for district improvement professional development
Five Years And More	District Corrective Action Year 2 (or more depending on the number of years not making AYP)	Set aside Title I funds deferred to support the identified academic needs in core content areas from the improvement plan along with the use of other funding sources

(Kentucky Department of Education, 2011g)

Conclusion

Chapter II examines the historical significance of congressional reports initiating and intensifying the educational reform movement that altered the philosophy of educators today: *Coleman Report*, *A Nation at Risk*, *National Educational Goals Report*, and the *Third International Mathematics and Science Report*. These reports ultimately led to the enactment of a controversial mandate, *No Child Left Behind*. As the national assessment and accountability movement materialized, students with disabilities continued to be excluded from the education afforded the non-disabled population. This chapter addresses national legislation that altered the landscape of public education for students with disabilities: *Rehabilitation Act*, *Education of All Handicapped Children Act*, *Individuals with Disabilities Education Act*, and future amendments. With continued focus on excluded populations, the enactment of *No Child Left Behind* further solidified efforts to address academic inequity among America's public schools.

In addition to reviewing national reports, this chapter further investigates the placement option of inclusion. Historically, students with disabilities were excluded from public schools and general education classrooms. With increased assessment and accountability legislation, students with disabilities are entering the regular education environment in astounding numbers. The research of inclusion models is examined, along with principals' perceptions of the placement. Ultimately, principals who maintain positive attitudes are supportive of inclusion as a placement option in their buildings.

In conclusion, the history of the Kentucky schools' system of accountability is evaluated. The Kentucky Supreme Court determined public education in the Commonwealth unconstitutional. This proclamation instigated an urgency to immediately

reorganize the educational platform. The effort commenced with the enactment of the *Kentucky Education Reform Act*. Shortly thereafter, the Kentucky Instructional Results System evolved to evaluate the progress of schools. Within the same decade, legislation enacted a new method of accountability known as Commonwealth's Accountability Testing System. More important, this assessment aligned with NCLB's requirements. School accountability continued to be assessed by CATS for over a decade before Senate Bill 1 abolished the system. The new assessment became known as the Kentucky Performance Rating for Education Progress.

This study questions the relationship between district achievement scores and placement practices. It requires further examination of research that analyzes inclusive models, administrator perceptions, and Kentucky's system of accountability. Information from this investigation could prove to be a valuable resource for district and building-level administrators when considering achievement and placement for students with disabilities.

CHAPTER III: METHOD

Introduction

According to Creswell (2003), quantitative research employs strategies of data collection such as surveys, experiments, and other “predetermined instruments that yields statistical data” (p. 18). Rather than employing an instrument to collect evidence, this investigation utilized data sets maintained by the Kentucky Department of Education. Least restrictive practices are collected as part of December 1 child count and later converted for analysis in the KCMP document. Likewise, students with disabilities inreading and mathematics scores are maintained at KDE and included in the KCMP as an indicator. The purpose of this study was to analyze the relationship between Kentucky schools least restrictive environment practices and No Child Left Behind AYP reading and mathematics performance targets for students with disabilities.

Educating America’s youth with disabilities has been a matter of great concern for decades. Consequently, two very powerful acts of legislation are shaping education in public schools for students with disabilities: *Individuals with Disabilities Improvement Act* and *No Child Left Behind* (McLaughlin, 2010). Educational statutes such as IDEIA and NCLB have significantly altered the landscape of public education within the last decade. Students with disabilities are re-entering the general education environment in staggering numbers. The Office of Special Education requires the Kentucky Department of Education to generate LRE and AYP achievement targets as part of the State Performance Plan and Annual Performance Plan. KDE increases the targets each year, further expanding inclusive practices of school districts.

According to the U.S. Department of Education (2010), more than ever before students with disabilities have access to public schools and participate in general education classrooms at least a portion of the day than ever before. This study was designed to examine whether placement in the general education classroom is positively impacting achievement scores of students with disabilities, furthermore closing the achievement gap between populations that are disabled and non-disabled. Due to assessment and accountability, the information provided by this investigation has the potential to transform inclusive practices within the state of Kentucky.

Independent and Dependent Variables

Quantitative research measures what social scientists refer to as variables (Creswell, 2003). Variables have variance which means they can possess a “degree of variety” (Vogt, 2007, p. 40). The two different types of variables are independent and dependent. According to Creswell (2012), independent variables are characteristics or attitudes that “influence or affect the outcome of a dependent variable” (p. 116). The independent variable in this study is the placement or LRE of students with disabilities. In retrospect, the dependent variable is a “characteristic or attitude that is dependent on or influenced by the independent variable” (p. 115). The dependent variable in this study is test scores reported in the AYP data sets for students with disabilities. Invariably, this study investigates whether a relationship exists between placement and achievement scores. Questions number 4 and 5 examine the correlation between the three placement categories for students with disabilities, which are the independent variables, and the reading and mathematics AMO achievement (the dependent variables).

Research Questions

Investigators of quantitative studies use research questions to establish focus of the study (Creswell, 2003). This chapter describes research questions along with information pertaining to the data collection of this study.

1. What percentage of Kentucky school districts are achieving the annual measurable objectives to determine annual yearly progress in reading for students with disabilities?
2. What percentage of Kentucky school districts are achieving the annual measurable objectives to determine annual yearly progress in mathematics for students with disabilities?
3. What percentage of Kentucky school districts are achieving the least restrictive environment targets for students with disabilities in terms of placement in the regular classroom, placement in the special education classroom, and placement outside the regular school?
4. Is there a relationship between placement and annual measurable objective performance in reading for students with disabilities?
5. Is there a relationship between placement and annual measurable objective performance in mathematics for students with disabilities?

Research Design

Vogt (2007) defines research design as the plan an investigator employs to collect evidence in order to answer theoretical questions. This quantitative research investigation utilized a descriptive research design in order to examine the relationship between accountability and least restrictive practices for students with disabilities in the state of

Kentucky. The Kentucky Department of Education requires schools to assess student achievement in reading and mathematics every year. Those scores are calculated to determine school and district performance. KDE maintains annual AYP data sets for every school and district. Data sets are used to “calculate numerical indexes such as averages, percentile ranks, and measures of spread” (Christensen & Johnson, 2004, p. 434). The 2011 data sets were used for this correlation investigation.

KDE also requires districts to report LRE practices in the annual December 1 Child Count Report. Those LRE data sets are maintained by KDE, converted, and later analyzed by school districts in the KCMP document as indicator 5. The 2010 December 1 LRE submission was converted to be included in the Fall 2011 KCMP. The relationship was statistically examined between spring 2011 AMO reading and mathematics achievement scores for students with disabilities and fall 2011 LRE data sets.

Data Collection

Data were collected from a variety of sources in order to examine research questions. Data used to answer question 1: What percentage of Kentucky school districts are achieving annual measurable objectives to determine annual yearly progress in reading for students with disabilities? were AMO data obtained from the Kentucky Department of Education NCLB Expanded Data file. It was used to determine the school districts that contained sufficient size in order to be considered for AYP in reading and mathematics for students with disabilities. Data used to answer question 2: What percentage of Kentucky school districts are achieving annual measurable objectives to determine annual yearly progress in mathematics for students with disabilities? were

obtained from the same resource as Question 1. Additionally, districts with insufficient size also were examined.

KDE Expanded Data File

District target information is disclosed in the NCLB Expanded Data file located on the KDE website. The report identifies districts with sufficient size that achieved or did not achieve AYP status based on the federal target or safe harbor components. The federal performance target for 2010-2011 reading was 76.52, while mathematics was 69.84. Districts that achieved safe harbor did not meet AMO in reading and mathematics but reduced by 10% the total number of students scoring below proficient. (Kentucky Department of Education, 2011e). Data collection required a simple frequency count of districts that achieved AMO due to federal targets, safe harbor and confidence interval in reading and mathematics. The mean scores of both reading and mathematics were calculated for examination for the with disability subpopulation.

Kentucky NCLB Adequate Yearly Progress Report

To further explore the achievement of AYP for districts that contained sufficient size, 100 NCLB annual yearly progress reports from 2011 were examined. The reports were obtained from the KDE Open House database, which consists of data from MUNIS, Kentucky Student Information System (KSIS), and other sources such as the state accountability system (Kentucky Department of Education, 2012). The AYP reports display a summary of decisions regarding each district's performance in reading and mathematics for all students and subpopulations. District decisions regarding AYP performance were examined to further investigate whether the population with disabilities alone inhibited districts from achieving the objective.

To determine whether districts achieved AYP due to the confidence interval, additional data were obtained from the 2011 Kentucky NCLB annual yearly progress reports. The with disability subpopulation contains an error band for all districts with a sufficient size. The confidence interval is adjusted for each district based on the number of students and the size of the proportion. An upper boundary and lower boundary are provided both numerically and visually within the report.

KDE Open House Database

Districts with less than sufficient size to be considered for AYP also were examined. Scores are provided for all districts on the KDE Open House KCCT Combined Reading/Mathematics Gap to Goal Comparison Report. These data were used to calculate mean scores in reading for districts that achieved AMO due to federal targets, safe harbor, confidence interval, and those districts that did not achieve AMO. Reading and mathematics mean scores were individually calculated and combined for each of the three categories. Districts that contain an insufficient size are not accountable for those subpopulation scores for AYP purposes.

KDE LRE Targets

Data for Question 3: What percentage of Kentucky school districts are achieving the least restrictive environment targets for students with disabilities in terms of placement in the regular classroom, placement in the special education classroom, and placement outside the regular school? were obtained from a KDE data file document that contained LRE target data from all 174 districts. Targets addressed three LRE categories:

- removed from regular class less than 21% of the day
- removed from regular class greater than 60% of the day

- served in public or private separate schools, residential placements, or homebound or hospital programs

Kentucky Administrative Regulations require a continuum of alternative placements for students with disabilities as follows: instruction in regular classes, special classes, special schools, home instruction, or instruction in hospitals and institutions (Kentucky Department of Education, 2008). Those placements are categorized into eight options designated by KDE for reporting purposes to the Office of Special Education Programs (OSEP) in Washington, DC:

- regular class 80% or more of the day
- regular class no more than 79% of day and no less than 40% of day
- regular class less than 40% of the day
- separate school
- residential facility
- homebound/hospital
- correctional facilities
- parentally placed in private schools

LRE district placements reported with the December 1 child count submission are converted to the three categories analyzed in this study. The 79% of day and no less than 40% of day was removed; thus, it is excluded the KCMP. No target was established for that particular group. Targets are for only the highest and lowest LRE categories along with the population of students who are served outside the local education agency (LEA). Two groups are excluded for population served off campus: parental placement and

correctional facilities. KDE excludes these placements, as LRE was not determined by the LEA.

KDE Data Files

KDE maintains a data file citing 174 districts, respective cooperative numbers, and LRE converted data for all three categories. For this study, all districts' with disability subpopulation reading and mathematics scores were transferred from the KDE Expanded Data file to this LRE file.

Data for Question 4: Is there a relationship between placement and annual measurable objective performance in reading for students with disabilities? and Question 5: Is there a relationship between placement and annual measurable objective performance in mathematics for students with disabilities? were collected by comparing 174 districts' AMO reading achievement scores for students with disabilities and LRE targets for all three categories. AMO reading and mathematics achievement scores were obtained from the KDE Open House KCCT Combined Reading/Mathematics Gap to Goal Comparison Report, which includes all 2010-2011 district scores. All subpopulations that are unavailable for AYP reporting purposes due to the lack of sufficient size can be located on this report.

Data Analysis

Data analysis is used to determine whether a relationship exists between the identified variables (Benetka, Braakmann, & Gelo, 2008). The variables in this study consists of (a) placement of students with disabilities, and (b) reading and mathematics achievement scores. The relationship was analyzed to determine whether inclusive

practices affect AYP scores for the population with disabilities. Statistical examination of data sets was conducted in this study.

Quantitative analysis is easily calculated by ordinary computer software programs that were once “rare skills” (Vogt, 2007, p. 2). For this study, SAS® software was used to perform calculations with data from the expanded data file. Once the data were collected for the five questions in this study, the results were analyzed as described below.

Districts of Sufficient Size

Regarding Questions 1 and 2, a simple frequency procedure was performed to determine the number of districts that achieved AMO reading and mathematics for students with disabilities. One hundred districts were determined to contain sufficient size to be included in the investigation. Additionally, the number of districts that achieved AMO due to federal targets, safe harbor, and confidence interval for reading and mathematics were ascertained. Corresponding mean scores also were calculated. The with disability subpopulation mean reading and mathematics scores were calculated for districts that achieved AMO and those that did not achieve the target. Additionally, correlations were computed for questions to determine whether a significant relationship exists between least restrictive environment practices and achievement scores.

Districts of Insufficient Size

The total number of districts that contain an insufficient number of students for an AYP decision were calculated using a simple frequency procedure. Using data provided by the KDE Open House KCCT Combined Reading/Mathematics Gap to Goal Comparison Report, reading and mathematics mean scores were calculated for districts

of an insufficient size to be included in the AMO calculations in order to determine AYP.

LRE Target Calculations

Regarding Question 3, a frequency procedure was performed using LRE target data from a document provided by KDE in order to identify districts that achieved target for the three least restrictive environment categories. Target determination based on the LRE goal for the 2010-2011 school year submission was 65% or more for students removed from regular class less than 21% of the day; less than 11.0% for students removed from regular class greater than 60% of the day; and less than 2% for students served in public separate schools, residential placements, or homebound or hospital programs (Kentucky Department of Education, 2011a).

LRE Targets and AMO Reading Achievement

Regarding Question 4, a correlation procedure was performed to describe the strength of the relationship between reading AMO scores for students with disabilities and LRE targets for each of the three categories for the 100 districts that contained sufficient size. Pearson Correlation Coefficients were performed for reading AMO scores and each of the three LRE categories. Additionally, correlation plots were created to provide a visual of the relationships between the variables.

LRE Targets and AMO Mathematics Achievement

Regarding Question 5, the same process was utilized for LRE targets and AMO mathematics achievement scores as was used for reading achievement. Again, Pearson Correlation Coefficients were performed for mathematics to examine the strength of the

relationship between the mathematics AMO scores and each of the LRE targets for 100 districts that contain sufficient size. Correlation plots were created to analyze the results.

Ethical Safeguards

According to Leedy and Ormond (2010), ethical issues fall into four categories: protection from harm, informed consent, right to privacy, and honesty with professional colleagues. Ethical considerations were taken into account during data collection for this study according to the requirements of the internal review board at Western Kentucky University (see Appendix A). No school or teacher identities were collected, and district identities were included for data collection and analysis purposes. No potential risks were involved in this study since all data considered in this research is publicly reported on the KDE website.

Conclusion

Congressional reports intensified the educational reform movement that has generated the current implemented programs such as inclusion. Studies suggest that least restrictive environment practices, such as inclusion and the placement of students with disabilities in the regular classroom, improve both the academic and social success of students with disabilities. Additionally, court decisions suggest that general education placements must be considered as an option for all students with disabilities. KDE developed LRE targets that districts must address when analyzing the KCMP. Similarly, all districts must analyze students' with disabilities reading and mathematics scores as part of the KCMP. It is worthwhile to assess whether districts are achieving LRE targets and AMO reading and mathematics proficiency targets for students with disabilities and whether a relationship exists.

CHAPTER IV: RESULTS

Introduction

Schools are required by the NCLB Act (2002) to make progress toward AYP each year. Unfortunately, schools throughout the U. S. are dealing with the repercussions of failed attempts to reach proficiency. In many cases, students with disabilities reading and mathematics scores of students with disabilities have experienced only modest increases since the enactment of NCLB, leaving districts searching for strategies to sustain growth. This study was conducted to afford school leaders the opportunity to make informed decisions regarding the placement needs of students with disabilities.

This research is significant because federal and state governments continue to allocate funding and tremendous resources to the advancement of students with disabilities; however, achievement has not remained at the same rigor. Mandates such as NCLB and IDEIA emphasized greater educational outcomes through instructional practices, along with placement, for the population with disabilities (Handler, 2006). Unfortunately, student achievement continues as a source of concern throughout the country. The investigation of variables that impact practices, placement, and achievement are essential in order to provide accessible, optimal programs for students with disabilities.

The relationship of inclusive practices in Kentucky schools and reading and mathematics achievement of students with disabilities was examined for the study. The results are valuable for administrators responsible for improving outcomes and reducing the achievement gap for the population with disabilities. Five research questions were analyzed for this study:

1. What percentage of Kentucky school districts are achieving the annual measurable objectives to determine annual yearly progress in reading for students with disabilities?
2. What percentage of Kentucky school districts are achieving the annual measurable objectives to determine annual yearly progress in mathematics for students with disabilities?
3. What percentage of Kentucky school districts are achieving the least restrictive environment targets for students with disabilities in terms of placement in the regular classroom, placement in the special education classroom, and placement outside the regular school?
4. Is there a relationship between placement and annual measurable objective performance in reading for students with disabilities?
5. Is there a relationship between placement and annual measurable objective performance in mathematics for students with disabilities?

According to the 2011 NCLB Expanded Data file, 174 districts that participated in the KCCT during the spring 2011 testing cycle. In order to answer the five questions, data were collected on all districts to examine reading and mathematics AMO achievement and LRE attainment. That data utilized to examine the relationship between LRE practices and achievement scores for students with disabilities.

Districts Reporting with Sufficient Size

In order to include a subpopulation in the AMO calculations in Kentucky, 10 students must be enrolled per accountability grade assessed each year and 60 school-wide total for the accountability grades, or 15% of all accountable students (Kentucky

Department of Education, 2011e). At least 10 students must be enrolled per assessed grade and 60 students school-wide for the participation rate to be calculated for any of the subpopulation groups. Data were collected from the 2011 NCLB Expanded Data File in order to address this query. Of the 174 districts that assessed students during the 2010-2011 school year, 57% ($n = 100$) consisted of a sufficient size to report scores for students with disabilities.

Each year school districts are unable to achieve AYP due to one of the AMO categories: all students reading and/or mathematics scores, ethnicity, Limited English Proficiency, free/reduced lunch, or disability (Kentucky Department of Education, 2011e). Results illustrated that 7% ($n = 7$) of the 100 districts with sufficient size did not achieve AYP due only to the with disability subpopulation category. Seventy-four percent ($n = 74$) did not achieve AYP due to one of the other categories or a combination thereof.

Districts Reporting with Insufficient Size

Districts with insufficient size consist of less than 10 students enrolled in an accountability grade and fewer than 60 students school-wide, or 15% for all assessed grades. Forty-three percent of the ($n = 74$) districts reported no scores for students with disabilities to determine AYP during the 2010-2011 assessment year as illustrated in Table 4. However, those scores are available within the KDE Open House KCCT Combined Reading/Mathematics Gap to Goal Comparison Report. Linn, Porter, and Trimble (2005) assert AYP results vary substantially among states that when a design trajectory encompasses a minimum number of students for a subpopulation category and combines that standard with confidence interval.

Table 4

Kentucky School District AYP Participation

AYP Participation	N	Frequency (%)
Total Districts	174	100%
Sufficient Size	100	57%
With Insufficient Size	74	43%

Findings Related to Research Question 1

What percentage of Kentucky school districts are achieving the annual measureable objectives to determine annual yearly progress in reading for students with disabilities?

Data for questions 1 and 2 were collected from the Kentucky Department of Education No Child Left Behind Expanded Data file to locate districts that contained a sufficient size for AYP accountability for students with disabilities. The file includes multiple data sets beginning with 2002 and concluding with the 2014 projected score of 100. These data contain Title I documentation, reading and mathematics scores for all schools and districts, and current AYP status along with consequences. A population size of 100 districts was extracted from the 2011 data set for the purpose of this study.

Data also were obtained from the KDE Open House database located on the state website. KDE's Open House is composed of a manifold of applications consisting of data from MUNIS, Kentucky Student Information System (KSIS), and other sources such as the state accountability system (Kentucky Department of Education, 2012). The achievement category contains data that focus primarily on student proficiency. No Child Left Behind adequate yearly progress reports are located within this KDE Open House

data set, and each contains a visual representation of AYP performance for all NCLB requirements. Each of the 100 districts containing the sufficient size for students with disabilities was analyzed to determine safe harbor status, whether AMO federal scaled score was achieved, and whether AMO was achieved due to the confidence interval for reading and mathematics.

Table 5 illustrates descriptive statistics for question 1. Results reveal districts that achieved all AMO targets, safe harbor, and confidence interval as well as districts unable to attain AMO for reading for students with disabilities. The reading target of 76.52 was difficult to achieve for 81% of the districts. The districts that achieved reading AMO due to confidence interval ($M = 72.19$) were within points of achieving the scaled score. Those that achieved reading AMO due to safe harbor reduced the number of novice performers. The range of the scores illustrates that outlying districts were a possible factor in the correlation analysis.

Districts that Achieved the AMO in Reading due to the Scale Score

The federal government designed a table defining AMO targets for reading and mathematics for each school year from the inception of NCLB in 2002, when all states are required to acquire 100% proficiency in reading and mathematics content areas. Fifty-seven percent ($n = 100$) of schools had a size large enough to be considered for questions 1 and 2 of this research. Table 6 illustrates results, indicating that 1% of school districts ($n = 1$) achieved the AMO reading scaled score of 76.26 for students with disabilities.

Table 5

Descriptive Statistics: Reading AMO Achievement to Determine AYP Performance for Students with Disabilities

AMO Performance	N	Mean Score	Minimum	Maximum
All Achieved AMO Targets	19	65.29	38.99	79.25
Achieved AMO Scale Score	1	79.25	79.25	79.25
Achieved AMO Safe Harbor	9	56.67	38.99	65.68
Achieved AMO Confidence Interval	9	72.19	68.55	80.50
Did Not Achieve AMO Target	81	46.96	24.11	62.05

Districts that Achieved AMO in Reading due to Safe Harbor

Kentucky and other states are using the term safe harbor to define districts that failed to achieve AMO for a subpopulation with sufficient size (Kentucky Department of Education, 2011f). Those considered for this category achieved other components of AYP. In order to achieve safe harbor, the participation rate must be at least 95% or has reduced the total number of students in a subpopulation scoring below proficient must be reduced by 10% (Kentucky Department of Education, 2011e). Safe harbor is not an NCLB term; however, it is used by Kentucky to determine AYP. Nine percent ($n = 9$) of school districts achieved safe harbor in reading for students with disabilities. Table 6 results indicate a total of 81% ($n = 81$) did not achieve AMO for the 2011 assessment

year. Further examination determined that a slightly greater number of districts achieved AMO reading for students with disabilities due to confidence interval than safe harbor.

Table 6

Reading AMO to Determine AYP Performance for Students with Disabilities

AMO Performance	N	Frequency
All Achieved AMO Targets	19	19%
Achieved AMO Scale Score	1	1%
Achieved AMO Safe Harbor	9	9%
Achieved AMO Confidence Interval	9	9%
Did Not Achieve AMO Target	81	81%

Districts that Achieved AMO in Reading due to Confidence Interval

The U.S. Department of Education provides states with the option to create error band percentages for proficient and distinguished scores in reading and mathematics. Confidence intervals are utilized for the subpopulation category that contains sufficient size. Three years of test scores reported for a category are utilized when assigning confidence interval. Data demonstrated that 9% of school districts ($n = 9$) achieved AMO in reading for students with disabilities, therefore attaining AYP for that population.

Findings Related to Research Question 2

What percentage of Kentucky school districts are achieving the annual measurable objectives to determine annual yearly progress in mathematics for students with disabilities?

Table 7 illustrates descriptive statistics for question 2. Results reveal districts that achieved all AMO targets; scaled, safe harbor, and confidence interval as well as districts that were unable to attain AMO for mathematics for students with disabilities. The mathematics target of 69.84 was achieved by a greater number of districts than the reading target. Many of the confidence interval scores ($M = 64.13$) were within points of achieving the AMO target. Safe harbor districts are making progress by reducing the number of novice. The mathematics target is 6.68 points less than the reading target. This difference partially explains how more districts were able to achieve the mathematics target. Scores ranging 18.46 to 83.68 illustrates that outlying districts are possible factors in the analysis.

Districts that Achieved AMO in Mathematics due to the Scale Score

In 2002 the federal government designed a table defining AMO targets for reading and mathematics for each school year from the inception of NCLB. All states are required to obtain 100% proficiency in reading and mathematics content areas. Table 8 illustrates the results of the statistical analysis of LRE performance and mathematics achievement. Seven districts achieved the AMO scaled score of 69.84 in mathematics, 7% ($n = 7$), for students with disabilities. The mathematics scaled score was more attainable than reading since the benchmark was 6.68 points lower.

Table 7

Descriptive Statistics: Mathematics AMO Achievement to Determine AYP Performance for Students with Disabilities

AMO Performance	N	Mean Score	Minimum	Maximum
Total Achieved AMO Targets	30	66.44	39.01	83.78
Achieved AMO Scale Score	7	76.56	71.76	83.78
Achieved AMO Safe Harbor	9	51.93	39.01	57.34
Achieved AMO Confidence Interval	14	64.13	58.25	69.16
Did Not Achieve AMO Target	70	40.71	18.46	58.41

Districts that Achieved AMO in Mathematics due to Safe Harbor

States across the union have elected to employ the term safe harbor when determining AYP. Kentucky uses the term to define districts that failed to achieve AMO for a subpopulation with sufficient size (Kentucky Department of Education, 2011f). School districts considered for this category achieved other components of AYP. In order to achieve safe harbor, the participation rate must be at least 95% or has reduced the total number of students in a subpopulation scoring below proficient must be reduced by 10% (Kentucky Department of Education, 2011e). As in reading, 9% ($n = 9$) of the school districts obtained safe harbor in mathematics for students with disabilities. Consequently, 70% ($n = 70$) of the school districts did not achieve AMO.

Districts that Achieved AMO in Mathematics due to Confidence Interval

Osborne (2008) explains that confidence intervals are a convenient method for disclosing the margin of error in effect sizes. Kentucky utilizes the option to create error band percentages for proficient and distinguished scores in reading and mathematics. Confidence intervals are utilized for the subpopulation category that contains sufficient size. Three years of test scores reported for a category are utilized when assigning confidence interval. A larger number of school districts achieved AMO in mathematics for students with disabilities than in reading, thereby attaining AYP for the population with disabilities mathematics target. Table 8 illustrates that 14 districts ($n = 14$) achieved AMO due to confidence interval margins.

Table 8

Mathematics AMO to Determine AYP Performance for Students with Disabilities

AMO Performance	N	Frequency
Total Achieved AMO Targets	30	30%
Achieved AMO Scale Score	7	7%
Achieved AMO Safe Harbor	9	9%
Achieved AMO Confidence Interval	14	14%
Did Not Achieve AMO Target	70	70%

Findings Related to Research Question 3

What percentage of Kentucky school districts is achieving the least restrictive environment targets for students with disabilities in terms of placement in the regular classroom, placement in the special education classroom, and placement outside the regular school?

LRE Targets

KDE Division of Learning Services collects districts' LRE as part of the yearly December 1 Child Count Report. The LRE category within the child count submission is converted into three categories for KCMP reporting purposes (Kentucky Department of Education, 2011a):

- removed from regular class less than 21% of the day
- removed from regular class greater than 60% of the day
- served in public or private separate schools, residential placements, or homebound or hospital programs

By utilizing LRE target data provided by KDE, a frequency procedure was performed in order to identify districts that achieved target for the three least restrictive environment categories.

Descriptive statistics for the least restrictive environment targets are illustrated in Table 9. One hundred districts were determined to contain sufficient size to be included in the Pearson Correlation. The mean score ($M = 74.64$) for students with disabilities removed less than 21% of the school day indicates that districts are placing students in the regular classroom at a greater rate than placement outside the general classroom ($M = 7.40$). Table 9 indicates that few students with disabilities are receiving services

outside the regular school placement ($M = 1.16$). A significant range is evident between the scores in the table, contributing to the districts that are outliers.

Table 9

Descriptive Statistics: Least Restrictive Environment Targets

Variable	N	Mean	Std. Dev.	Minimum	Maximum
Removed Less than 21% of Day	174	74.64	7.98	51.45	92.18
Removed Greater than 60% of Day	174	7.40	7.75	.65	19.49
Separate School	174	1.16	1.41	0	9.01

Removal from Regular Class Less than 21% of the Day

The National Report to Congress reveals that 49.9% of students with disabilities received more than 80% of their services in the regular classroom, while 23% of those were provided services in a separate setting (U.S. Department of Education, 2007). Table 10 illustrates results for question 3 in terms of the number of districts that achieved LRE target for students removed from regular class less than 21% of the day. A simple frequency count was performed that revealed 91% ($n = 158$). Consequently, 9% ($n = 16$) of the districts did not achieve LRE target for students removed from regular class less than 21% of the day.

Removal from Regular Class Greater than 60% of the Day

Students once assigned to segregated programs are now physically integrated alongside peers in the general classroom (Tapasak & Walter-Thomas, 1999).

For this study, a simple frequency count in Table 10 indicates 90% ($n = 157$) districts

achieved LRE target for students removed from regular class greater than 60% of the day. Conversely, 10% ($n = 17$) did not achieve the LRE target for students removed from regular class greater than 60% of the day.

Services Provided Outside the Regular School Placement

Districts across the Commonwealth provide special education services to students placed outside the regular school. Table 10 indicates that 84% ($n = 146$) of Kentucky school districts achieved LRE target for students served in public separate schools, residential placements, or homebound or hospital programs. Conversely, 16% ($n = 28$) did not achieve the LRE target for this category.

Table 11 illustrates the percentage of school districts that achieved all three LRE targets, two targets, one target, and achieved no target. A total of 174 districts were calculated for this data indicating the majority of districts are achieving the LRE targets.

Table 10

Kentucky Public School Districts Least Restrictive Environment Targets

LRE Performance	N	Frequency (%)
Removal from Regular Education < 21% of the School Day		
Achieved LRE Target	158	91%
Did Not Achieve LRE Target	16	9%
Removal from Regular Education > 60% of the School Day		
Achieved LRE Target	157	90%
Did Not Achieve LRE Target	17	10%
Placement Outside the Regular School		
Achieved LRE Target	146	84%
Did Not Achieve LRE Target	28	16%

Table 11

Cumulative Kentucky Public School Districts Least Restrictive Environment Targets

LRE Performance	N	Frequency (%)
Achieved Three Targets	125	72%
Achieved Two Target	39	22%
Achieved One Targets	8	5%
Achieved Zero Targets	2	1%

Findings Related to Research Question 4

Is there a relationship between placement and annual measureable objective performance in reading for students with disabilities?

According to Osborne (2008), the Pearson correlation coefficient measures the association between variables. Correlations for this study were performed using statistical software to examine the relationship between LRE targets and reading and mathematics achievements for students with disabilities. Descriptive statistics for reading and mathematics AMO achievement for students with disabilities are provided in Table 12. The total number of districts with sufficient size for the with disability subpopulation category was 100. The reading mean of 50.44 indicates that a significant number of districts are not obtaining AMO, as illustrated in question 1 results. The range of the proficient reading scores is extreme, with 24.11 indicating the lowest and 80.50

representing the highest score obtained by an accountable district. This range accounts for the outlying districts that are impacting the correlation results.

Table 12

Descriptive Statistics: Reading and Mathematics AMO Achievement for Students with Disabilities

Variables	N	Mean	Std. Dev.	Minimum	Maximum
Reading	100	50.44	11.65	24.11	80.50
Mathematics	100	47.51	14.07	18.46	83.75

Question 4 was examined through comparison of the 100 districts that contain sufficient size AMO reading achievement scores for students with disabilities and LRE targets for all three categories. A Pearson correlation procedure was performed to describe the strength of the relationship between AMO reading scores for students with disabilities and LRE targets for each of the three categories. Additionally, correlation plots as described in Figure 1 were created to provide a visual illustration of the relationships between the variables. The plot reveals districts are making progress towards successfully improving the relationship between students with disabilities reading achievement and placement in the regular classroom.

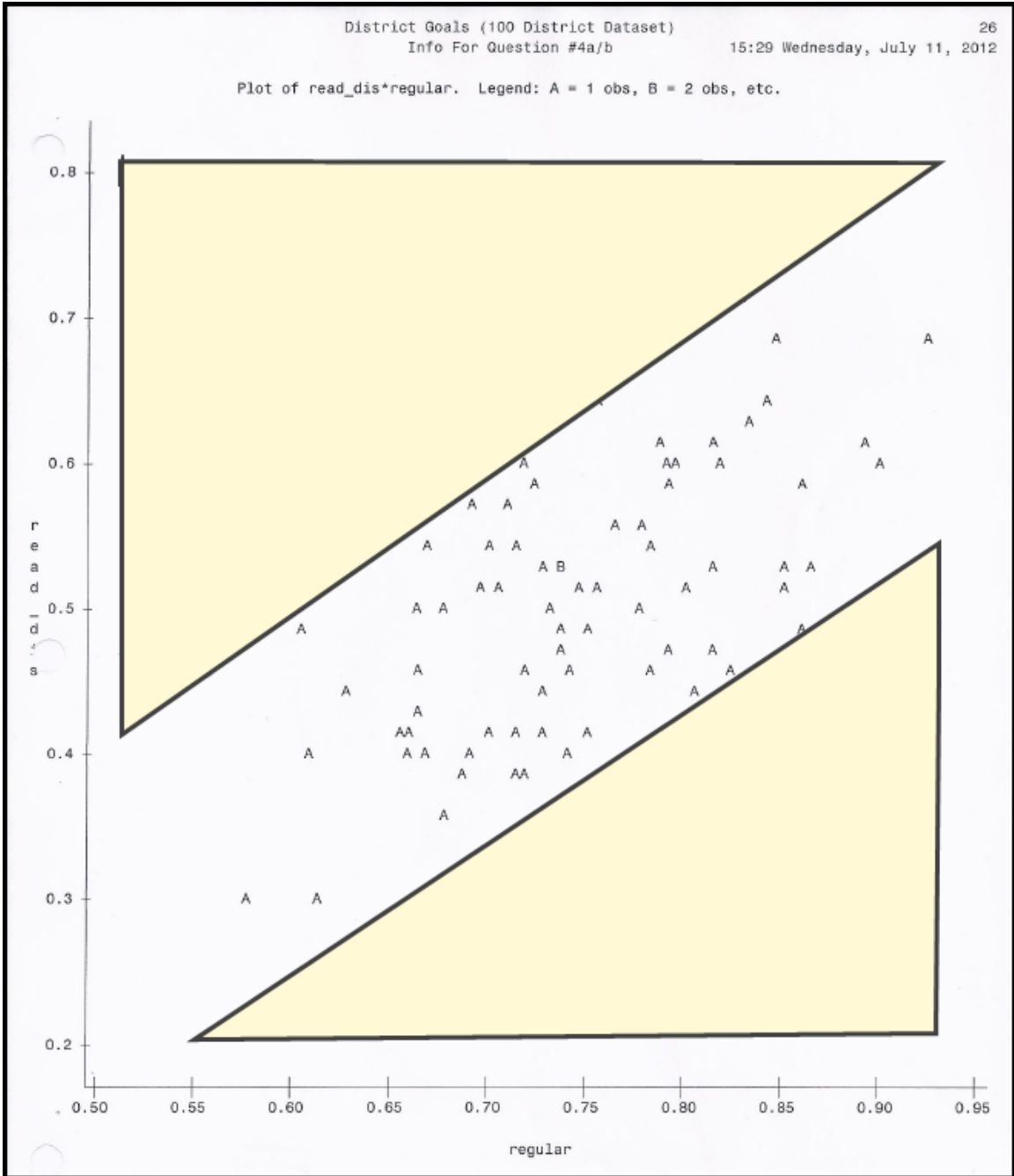


Figure 1. Removal from Regular Class Less than 21% of the School Day and Reading Achievement Correlation Plot.

Removal from Regular Class Less than 21% of the School Day and Reading Achievement

Table 13 illustrates that the Pearson correlation coefficient statistical analysis was conducted to address question 4. Results indicate a weak positive correlation between the removal of students from the regular classroom less than 21% of the school day and reading achievement ($r = 0.14$). Due to the number of districts that are outliers, the relationship demonstrates little strength. Vogt (2007) describes outliers as scores with extreme values that, once removed, create important statistical changes. Once those districts are taken into account, a stronger correlation appears. Based on the results of this analysis, districts are making progress toward proficiency for students with disabilities. The conclusion can be drawn that this correlation confirms students with disabilities who are appropriately placed in the regular classroom exhibits a positive effect on reading achievement scores.

Removal from Regular Class Greater than 60% of the School Day and Reading Achievement

Once again, the Pearson correlation coefficient was conducted to analyze the strength of the relationship between removal from regular education greater than 60% of the school day and reading achievement. According to SAS output, the significance of the correlation ($r = -0.16$) revealed a negative degree of association between the two variables. The correlation is weak until the outlying districts are removed from the calculations; the relationship strengthens with their removal. Since the degree of correlation was negative but weak due to the outliers, the results indicate that reading achievement decreases when students are provided services in pull-out programs. The correlation plot described in Figure 2 illustrates the results.

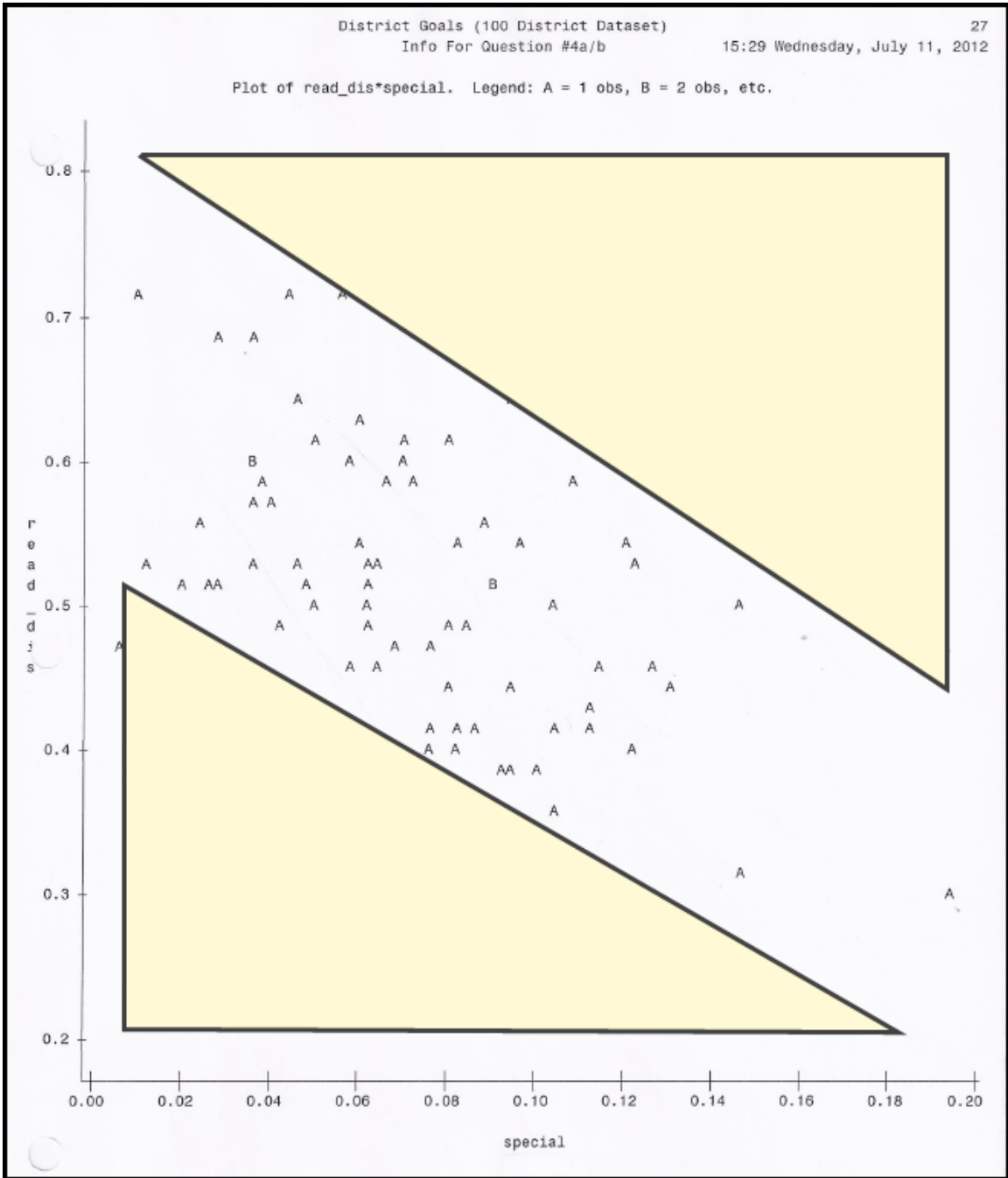


Figure 2. Removal from Regular Class Greater than 60% of the School Day and Reading Achievement Correlation Plot.

Services Provided Outside the Regular School and Reading Achievement

Placement outside the regular school includes separate school, residential facilities, and homebound/hospital. Students placed in correctional facilities or parentally placed in private schools were excluded from this LRE target because placement was not determined by a school. Special education services are provided differently at each location, thus, affecting reading achievement results. Table 13 illustrates the Pearson correlation statistical analysis conducted to evaluate the relationship between placement outside the regular school and reading achievement. Results revealed an unrelated correlation ($r = 0.04$), which indicates a weak relationship. The values in question were so minute that a correlation was difficult to confirm. Excluding the outlying districts would alter the results very little. The correlation plot provided in Figure 3 illustrates the results.

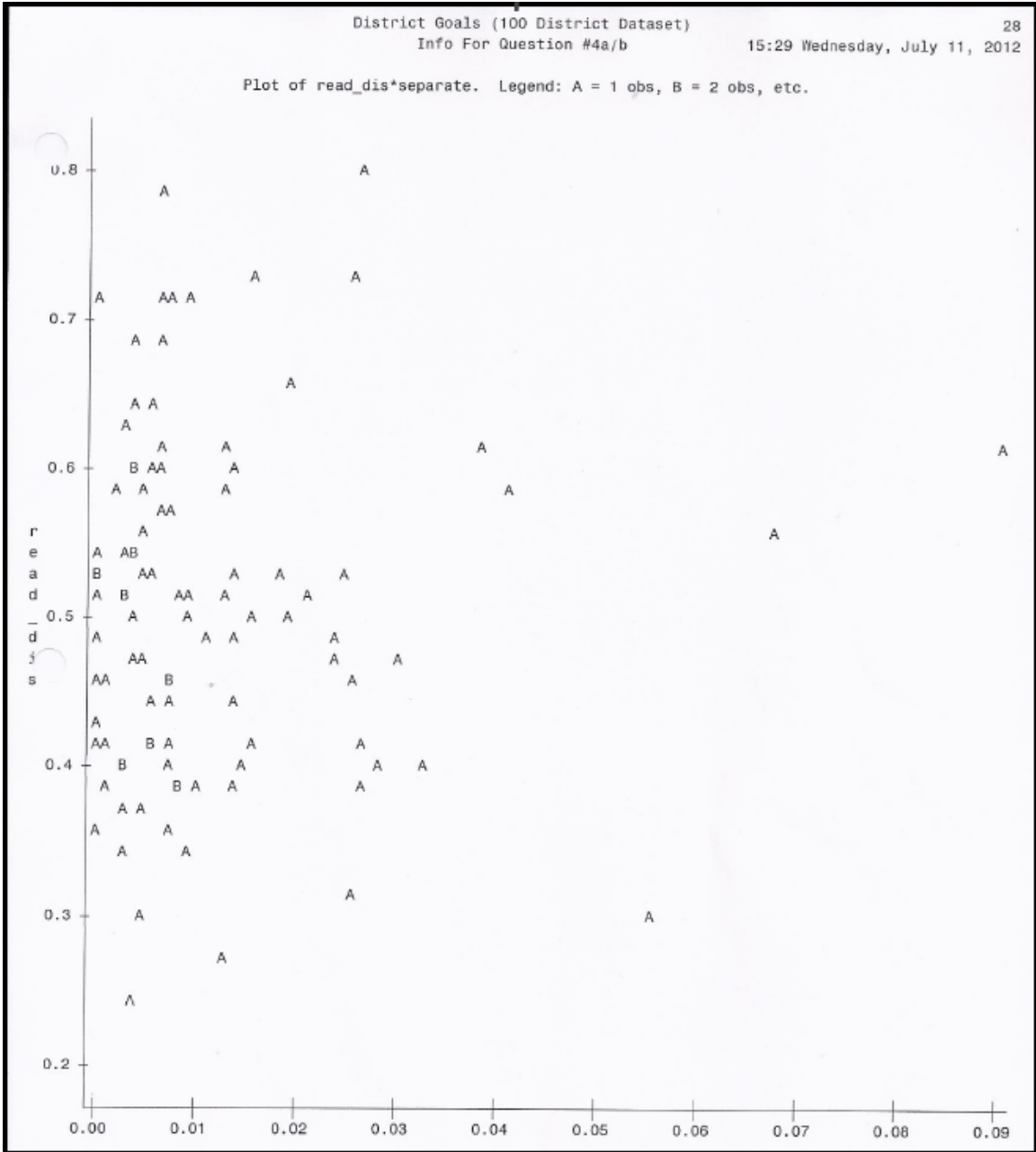


Figure 3. Services Provided Outside the Regular School and Reading Achievement Correlation Plot.

Table 13

Pearson Correlation: Relationship Between Least Restrictive Environment Categories and AMO Reading and Mathematics Achievement for Students with Disabilities

Variables	N	<i>r</i>
Removed Less than 21% of the Day		
Reading	100	0.14
Mathematics	100	0.15
Removed Greater than 60% of the Day		
Reading	100	-0.16
Mathematics	100	-0.18
Placement Outside the Regular School		
Reading	100	0.04
Mathematics	100	0.00

Findings Related to Research Question 5

Is there a relationship between placement and annual measureable objective performance in mathematics for students with disabilities?

Removal from Regular Class Less than 21% of the School Day and Mathematics Achievement

Descriptive statistics for AMO achievement in reading and mathematics for students with disabilities are provided in Table 12. The total number of districts of sufficient size for the with disability subpopulation category was 100. The mathematics mean score ($M = 47.51$) indicates that a significant number of districts are not obtaining AMO, as illustrated in question 2 results. Again, the range of the proficient mathematics scores is similar to reading, with 18.46 indicating the lowest and 83.75 representing the highest score obtained by an accountable district. The minimal score was slightly lower

than reading, yet the highest score was greater than reading. This range also accounts for the outlying districts that are impacting the correlation results.

Similar to the reading achievement, Pearson correlation statistical analysis was conducted for students removed from regular education less than 21% of the school day and AMO mathematics achievement scores for the 100 districts of sufficient size. Table 13 illustrates a weak but positive correlation ($r = 0.15$). Results indicated that the outlier districts significantly influenced the strength of the correlation, as those districts generate scores that are atypical of the data (Christenson, & Johnson, 2004). Removal of the outlying districts would result in a stronger relationship between placement in the regular classroom and mathematics achievement. A correlation plot described in Figure 4 was conducted to provide a visual of the results. The outlier districts clearly influence the strength of the correlation. The relationship between students removed from regular education less than 21% of the school day for mathematics achievement was slightly stronger than reading.

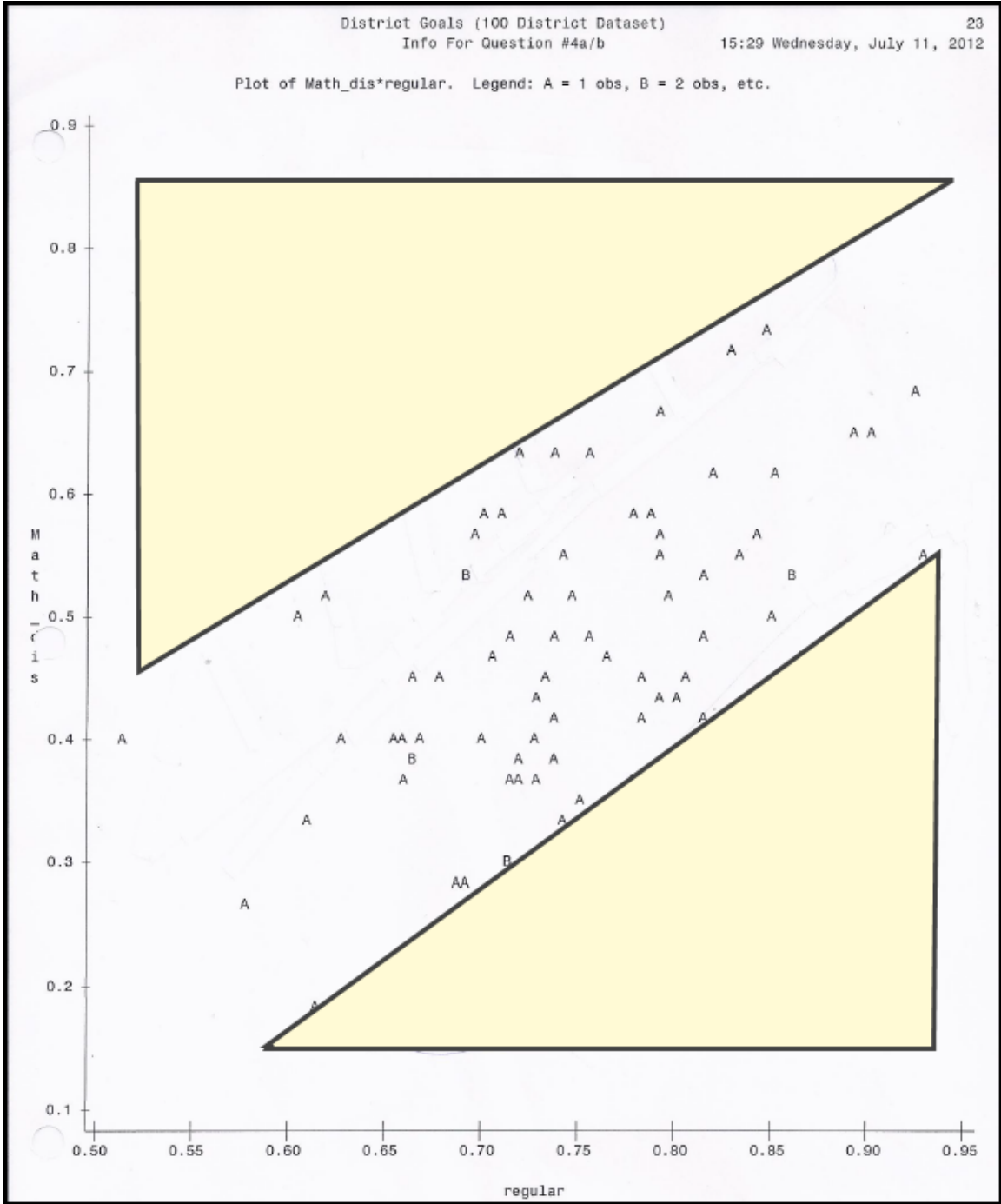


Figure 4. Removal from Regular Class Less than 21% of the School Day and Mathematics Achievement Correlation Plot.

Removal from Regular Class Greater than 60% of the School Day and Mathematics Achievement

The Pearson correlation was conducted to analyze the strength of the relationship between removal from regular class greater than 60% of the school day and reading achievement. According to SAS output illustrated in Table 13, the significance of the correlation ($r = -0.16$) revealed a negative degree of association between the two variables. The correlation is weak until the outlying districts are removed from the calculations; the relationship strengthens when they are removed. Since the degree of correlation was negative but weak due to the outliers, the results indicate that, as pull-out programs decrease, mathematics achievement increase. The correlation plot as described in Figure 5 illustrates the results.

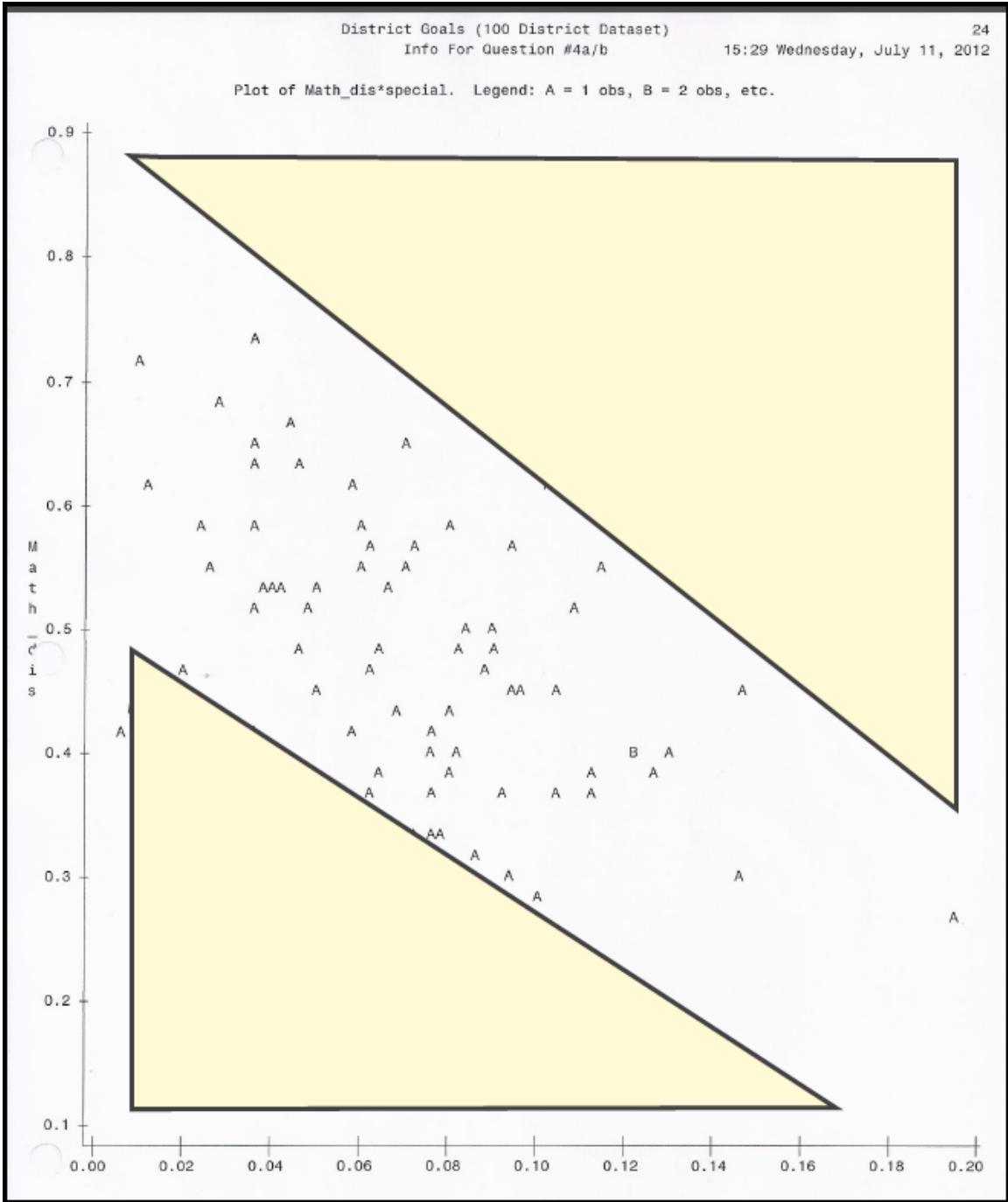


Figure 5. Removal from Regular Class Greater than 60% of the School Day and Mathematics Achievement Correlation Plot.

Services Provided Outside the Regular School and Mathematics Achievement

Placement outside the regular school includes separate school, residential facilities, and homebound/hospital. Students placed in correctional facilities or parentally placed in private schools were excluded from this LRE target because placement was not determined by a school. Services are provided differently at each location, thus, affecting mathematics achievement results. Table 13 illustrates the Pearson correlation that was conducted to evaluate the relationship between placement outside the regular school and mathematics achievement. Results revealed no relationship ($r = 0.00$). Excluding the districts that are outliers would not alter the results. Figure 6 illustrates the correlation plot results.

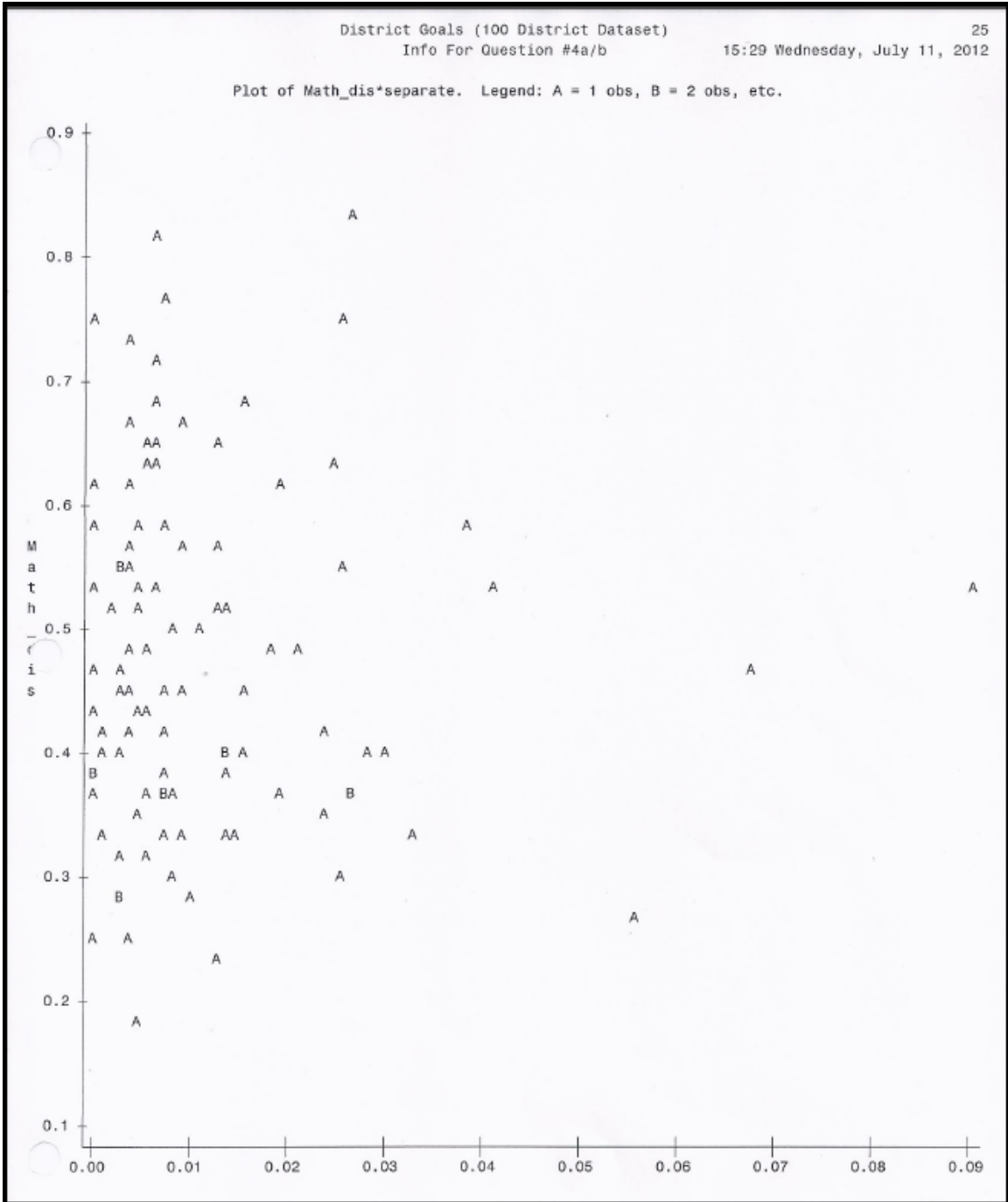


Figure 6. Services Provided Outside the Regular School and Mathematics Achievement Correlation Plot.

Conclusion

This study examined the relationship between LRE practices and reading and mathematics achievement of students with disabilities. Chapter 4 presents data relative to all five questions; the number of districts achieving reading and mathematics AMO targets for the with disability subpopulation; the number of districts that are targets for the three LRE categories; and the relationship between the three LRE categories and reading and mathematics achievement for students with disabilities. A simple frequency count and Pearson correlations were utilized to determine results. Chapter 5 further explains the findings, implications, study limitations, and recommendations for future research.

CHAPTER V: DISCUSSION

Introduction

Student achievement is the foundation for all educational accountability. NCLB legislation mandates that all students participate in state-wide assessment practices. While the law is routinely criticized for the accountability provisions, it also has been praised for improving the academic achievement for all students (Chubb, Linn, Haycock, & Wiener, 2005). Subpopulation accountability became the cornerstone of NCLB legislation in order to ensure that all students were included and improved academically. Shortly thereafter, achievement gaps rhetoric accompanied the implementation of the federal mandate. In order to attain AYP, all subpopulation categories must experience yearly growth to reach the goal of 100% proficiency by 2014. This strategy is designed to pressure educators to implement all necessary measures to improve student achievement (Harriman, 2005). Since the with disability subpopulation category is a component of the criteria to achieve AYP, the educational placement of that subpopulation is an enormous factor that must be considered by administrators.

The purpose of this study was to investigate the relationship between Kentucky least restrictive environment practices and KCCT assessment annual measurable objectives (AMO) in reading and mathematics for students with disabilities. This research was designed to determine whether a relationship exists between special education students' placement and assessment scores attained for the with disability subpopulation AYP category. Corresponding inclusion and student performance outcomes can provide the foundation for student-based release and admission committees (SBARC) to make the best placement decisions for children with disabilities.

Discussion and Results of Findings Related to Question 1

What percentage of Kentucky school districts are achieving the annual measurable objectives to determine annual yearly progress in reading for students with disabilities?

The accountability system established by NCLB requires states to determine annual measurable goals for reading and mathematics that result in 100% proficiency by 2014 (Linn et al., 2005). A simple frequency count was performed to determine the districts that achieved AMO in reading for students with disabilities. Results revealed 19% ($n = 19$) achieved AMO. Guisbond, Neill, and Schaeffer (2012) state that, as benchmarks extend toward 100% proficiency, more schools in every state are unable to maintain growth. With only one district achieving AMO due to the scaled score of 76.52, the Guisbond et al. argument has merit. Students with disabilities within this district scored higher than all students and other subpopulation categories. Nine districts achieved AMO due to safe harbor, and nine achieved AMO due to confidence interval.

Districts that are unable to obtain the reading AMO for students with disabilities need to evaluate the achievement gap. Draper and Protheroe (2010) argue that children born disadvantaged often encounter the same conditions in schools: inadequate funding, low expectations, and lack of qualified teachers. Crucial conversations addressing this inequity can reduce the achievement gap by reviewing all data, providing expanded student support, analyzing what is working, and contending with hard issues such as low expectations.

The American Diploma Project (2004) suggests that reading skills correlate with a successful K-12 experience, postsecondary education opportunities, and career advancement (Blackorby & Schiller, 2011). Academic failure places all students at risk

for dropping out of school, especially students with disabilities. Bridgeland, DiIulio, and Morison (2006) interviewed participants ages 16-25 who identified themselves as drop-outs. Students cited a number of reasons for dropping-out of school- academic failure, repeating courses, absenteeism, and uninteresting classes (Bridgeland, et al., 2006). Furthermore, participants in this study suggested that educators strengthen the curricula's connection to the real world, improve instruction that provides support for struggling students, and create a positive school climate that encourages academic success. Obviously, high school graduation is strongly connected to academic achievement for all students.

Discussion and Results of Findings Related to Question 2

What percentage of Kentucky school districts are achieving the annual measureable objectives to determine annual yearly progress in mathematics for students with disabilities?

A total of 100 districts consisted of a sufficient size to be included in the AMO subpopulation calculations. Thirty districts ($n = 100$) achieved AMO for mathematics and were comprised of seven that achieved the scaled score of 69.84, nine that achieved AMO due to safe harbor, and 14 that achieved AMO due to confidence interval. Seventy districts did not achieve mathematics AMO. Mathematics attainment for students with disabilities was greater than reading achievement for the scaled score, the same for safe harbour, and greater for confidence interval. Mathematics AMO is 6.68 points lower than the reading goal of 76.26.

Based on results from this study, students with disabilities are making progress in mathematics. Unfortunately, outlying districts continue to struggle in mathematics

achievement. As more students with disabilities receive services in the regular education setting, teacher performance in mathematics is a growing concern. Flores, Franklin, Hinton, Patterson, and Shippen (2010) investigated regular and special education teachers' content knowledge and their competence perceptions. A survey questionnaire was utilized to analyze performance. Results revealed a number of problem solving and computation concerns among participants across grades levels, kindergarten, and sixth grade. The Flores et al. findings revealed that regular and special education teachers exhibited difficulty with problem solving and computations that involved fractions and decimals. Other basic skills were determined to be problematic for teachers: converting centimeters to meters, determining volume, and solving complex word problems involving multiple steps. While NCLB requires teachers to be highly qualified in order to provide instruction, districts need to continue on-going professional development that establishes a relationship between accountability and student achievement.

To further examine teacher accountability in mathematics, Marshall (2009) recommends practices that improve achievement for disadvantaged students and reduce the gap; assign the most effective teachers to challenging students, create clear learning expectations, and collaboratively map out the curriculum. Marshall further suggests teachers provide additional time to struggling students, continuously check for understanding, and consistently implement positive classroom discipline.

Discussion and Results of Findings Related to Question 3

What percentage of Kentucky school districts are achieving the least restrictive environment targets for students with disabilities in terms of placement in the regular

classroom, placement in the special education classroom, and placement outside the regular school?

Removal from Regular Class Less than 21% of the Day

Throughout the years, special education practices have been significantly transformed from services tailored to individual student needs often delivered in small groups to a reconfiguration of the regular education classroom (Volonino & Zigmond, 2007). The National Report to Congress reveals that 49.9% of students with disabilities received more than 80% of their services in the regular classroom, while 23% were provided services in a separate setting (U.S. Department of Education, 2007).

Results from this study indicate schools throughout the state of Kentucky are placing students in the general education environment a significant part of the day. A simple frequency count revealed that 91% ($n = 158$) of the state's 174 school districts achieved the LRE target for students removed from regular class less than 21% of the day. This target appears in the KCMP as an indicator that districts must analyze each year. As the target increases annually, districts are compelled to consider the regular education placement as the best option for students with disabilities.

Removal from Regular Class Greater than 60% of the Day

Results from this research indicate that districts are utilizing inclusion models more often than pull-out. A simple frequency count indicated that 90% ($n = 157$) achieved LRE target for students removed from regular class greater than 60% of the day. Obviously, those districts are placing students in the regular classroom a greater portion of the school day rather than electing to provide services elsewhere. Only 10% ($n = 17$) did not achieve LRE target for students removed from regular class greater than 60% of

the day. SBARC committees in those districts have elected to provide services to students with disabilities outside the mainstream setting for more than 60% of the school day.

Marston (1996) conducted a study evaluating three service delivery models: inclusion only, combined services, and pull-out only. His investigation determined that a combined service approach was the most effective model for the academic advancement of students with disabilities. Marston noted the “impact of instruction is magnified” (p. 130) when services are provided through a variety of supports.

Services Provided Outside the Regular School Placement

Few students with disabilities are provided services in facilities that are removed from the school campus. Eighty-four percent ($n = 146$) of the districts achieved LRE target for students served in public separate schools, residential placements, or homebound or hospital programs. This category includes facilities such as juvenile detention centers and psychiatric hospitals. Sixteen percent ($n = 28$) of the districts did not achieve the LRE target. The provision of services to students who are placed in those facilities is required. Likewise, those districts also are required to educate students with special needs who reside in homebound placements.

Implications Related to LRE Practices in Kentucky Schools

IDEA legislation set a legal precedent for students with disabilities, while NCLB further established the importance of access to the general education curriculum (Causton-Theoharis, Cosier, Orsati, & Theoharis, 2011). Many schools have embraced the concept of full inclusion in order to provide FAPE, an age-appropriate curriculum, and special education services,

Clear implications for practice can be garnered from the findings generated from this investigation. Results indicate that outlier districts would benefit from professional development targeting the implementation of best practices and co-teaching in order to improve student achievement. Many districts are implementing co-teaching as an effort to meet the demands of IDEA and NCLB. The National Center on Educational Restructuring and Inclusion (1995) reported co-teaching as “the most frequently used service delivery model for inclusion classrooms” (Volonino & Zigmond, 2007, p. 294).

Co-teaching studies were reviewed by Pugach and Winn (2011), revealing a number of challenges that must be overcome for models to be effectively implemented within inclusion classrooms: novice teachers lacked content knowledge, many special education teachers are the subordinates in the classrooms, special education teachers experience confusion about their roles, lack of adequate planning time, and limited administrator support. Research by Dowdy, Nichols, and Nichols (2010) determined that most co-teaching is initiated with little professional development for the special and regular education teachers or school administrators. Furthermore, Dowdy et al. indicated that the notion of co-teaching has been initiated primarily due to compliance of NCLB rather than for the benefit of all students.

Unfortunately, the definition of inclusion is ambiguous, leaving schools the ability to interpret the concept differently. According to Skilton-Sylvester and Slesaransky-Poe (2009), many districts have eliminated self-contained classrooms and inadvertently created rooms for the lowest performing, essentially tracking groups of students. Schools often consider inclusive practices as an additional requirement, creating inclusion classrooms rather than developing a building practice that considers all students. In many

instances, inclusion is still deemed a “place” rather than a service for the disabled. It is commonplace for students to visit regular classrooms for instruction that is considered important and then transition to a pull-out setting. Often, inclusion is provided to students as a service to improve their social skills rather than to address the academic nature of the placement.

Discussion and Results of Findings Related to Question 4

Is there a relationship between placement and annual measureable objective performance in reading for students with disabilities?

Removal from Regular Class Less than 21% of the School Day and Reading Achievement

Inclusion for many parents and educators is fueled by moral advocacy. Generally, it is believed that students with disabilities should be educated alongside their non-disabled peers. Cook, Gerber, and Semmel (1999) examined attitudes of special education teachers and principals in order to determine whether their philosophies impact inclusion practices in their buildings. Administrators and teachers often disagreed regarding inclusionary practices. The principals frequently expressed optimistic views citing improved academic outcomes for students provided services in the regular classroom setting, while special education teachers were less supportive. Attitudinal differences need to be taken into account when considering the implementation of inclusion.

Finkel (2011) describes special education as “front and center in the regular classroom” (p. 51) with students from all eligibilities. Special education is no longer a place but a service. In order to understand this paradigm question 4 evaluated the relationship between three LRE placements and reading achievement for students with

disabilities. Results revealed that a weak correlation exists between removal from the regular class less than 21% of the school day and reading achievement ($r = 0.14$). This relationship includes districts that are outliers, which are significantly impacting the results of the Pearson Correlation.

Removal from Regular Class Greater than 60% of the School Day and Reading Achievement

School districts are required to provide a continuum of services for students with disabilities. Marston (1996) conducted a study examining three placement options: full inclusion, combined, and pull-out only. This investigation monitored reading performance, teacher philosophies, building administration support, and student needs among all three placements. Results revealed that when LRE, appropriate assessments, and implementation of the IEP are integrated into schools' philosophy, resources, and professional development, combined services are the most beneficial method for serving students with disabilities. Unfortunately, this placement is a challenge since it requires a renewed commitment by all parties involved in order to provide students with the opportunity to be academically successful.

For this study, the correlation of LRE category in which students are removed from the regular class greater than 60% of the school day and reading achievement revealed a negative relationship between the two variables ($r = - 0.16$). This relationship indicates that reading achievement increases as pull-out programs decrease. The outlying districts affect this correlation as well. Savich (2008) recommends that schools explore the benefits of effective inclusion models in order to address the achievement gaps and improve academic outcomes for the population with disabilities. However, Marston

(1996) suggests combined placements are effective when student growth is connected to instructional interventions and shared philosophies with school-wide support.

Services Provided Outside the Regular School and Reading Achievement

Placement outside the regular school includes separate school, residential facilities, and homebound/hospital. Students placed in correctional facilities or parentally placed in private schools were excluded from this LRE target because placement was not determined by a school. Services are provided differently at each location, thus, affecting reading achievement results.

The U.S. Department of Education (2010) reports that more than ever before in history, students with disabilities are attending neighborhood schools with access to the general curriculum. This affirmation explains the reason for the lack of a relationship between placement outside the regular school and reading achievement. Results from this study revealed an unrelated correlation ($r = 0.04$), indicating a weak relationship.

Discussion and Results of Findings Related to Question 5

Is there a relationship between placement and annual measureable objective performance in mathematics for students with disabilities?

Removal from Regular Class Less than 21% of the School Day and Mathematics Achievement

Berry, Daughtrey, and Wieder (2009) recommend closing the teaching gap in order to improve the effectiveness of collaboration. Instruction must be data driven, structured, and student centered to address reading outcomes for students placed in inclusive classrooms. Co-teaching models should be paired with research-based practices that will ensure successful achievement results for all students.

Additionally, Eaton, Salmon, and Wischnowski (2004) conducted a two-year co-teaching study that examined academic success, student behavior and self-concept, and parent and teacher satisfaction. Results indicated that students with disabilities achieved at grade level when appropriate supports such as accommodations and test modifications were implemented appropriately. It also was determined that students were referred for discipline problems more often at the middle school than elementary. Students with disabilities accounted for more than half the discipline referrals. Teachers often are more concerned about confronting discipline issues than academics for students with disabilities (Eaton et al., 2004). Both teachers and parents expressed concerns about the co-teaching models which obviously are works-in-progress throughout the nation.

Statistical analysis was conducted for removal from regular education less than 21% of the school day and AMO mathematics achievement scores for the 100 districts with sufficient size. Results indicated a weak but positive correlation ($r = 0.15$), and outlier districts significantly influenced the strength of the correlation. Removal of the outlying districts would result in a stronger relationship between placement in the regular classroom and mathematics achievement. A correlation plot was conducted to provide a visual of the results. The relationship between students removed from regular education less than 21% of the school day and mathematics achievement was slightly stronger than that of reading.

Removal from Regular Class Greater than 60% of the School Day and Mathematics Achievement

According to the National Report to Congress, 23% of students with disabilities received services in resource or pull-out settings (U.S. Department of Education, 2007). Although studies suggest higher academic achievement in inclusive settings, some

researchers support educating students in resource, pull-out, or self-contained settings (Causton-Theoharis et al., 2011). Kentucky districts are utilizing optional placements less often than inclusion. Regardless of the intent, schools should be providing a continuum of placements.

Typically, schools offer a number of service delivery options that extend from mainstreaming to self-contained classrooms. Students with severe disabilities often are provided services in segregated environments. According to Brown, Dodd, Gruenewald, Sontag, Vincent, and Wilcox (2004), students with more profound disabilities should interact as much as possible with their non-disabled peers. Regardless of the disability severity, school districts are accountable for the academic achievement of this population. Students with significant cognitive disabilities are required to participate in the accountability system by means of an alternate assessment. Those scores are included in the schools and districts with disability AMO similar to all other students. Typically, this is less than 3% of the entire student enrollment.

Results of this study revealed a negative degree of association between the variable of removal from regular class greater than 60% of the school day and reading achievement ($r = - 0.16$.) The correlation is weak until the outlying districts are removed from the calculations; the relationship strengthens with their removal. Since the degree of correlation was negative but weak due to the outliers, the results indicate that mathematics achievement increase as pull-out programs decrease.

Services Provided Outside the Regular School and Mathematics Achievement

Placement outside the regular school includes separate school, residential facilities, and homebound/hospital. Students placed in correctional facilities or parentally

placed in private schools were excluded from this LRE target because placement was not determined by a school. Services are provided differently at each location, thus, affecting mathematics achievement results.

Brown et al. (2004) contend that students with the most severe disabilities often are educated in residential facilities as one of the six possible service delivery models. Schools districts are required to educate this student population. Those alternate assessment scores are included in the with disability AMO category. This is a small population that has little impact on the results in this study but still needs to be considered.

Gallego, Moll, and Rueda (2000) note that schools are required by law to provide a “continuum of services in a variety of settings” (p. 75). Home/hospital, detention facilities, residential facilities, and many others require districts to deliver special education service at those locations. Results from this study indicate no relationship exists between placement outside the regular school and mathematics achievement ($r = 0.00$). Excluding the outlier districts would not alter the results.

Implications Related to Reading and Mathematics Achievement for Students with Disabilities

A longitudinal study was conducted in Rhode Island to examine how low performing schools are successfully closing the achievement gap. Hawkins (2007) identified a number of practices that were effective for all the schools: the engaging inclusive strategies, establishing high expectations for all students, initiating quality professional development, employing highly qualified staff, parent involvement, teacher analysis of student work, differentiation, and increasing instructional time for literacy development. All these practices are effective approaches to closing the achievement gap

at any level. Additionally, Eisenman and Ferretti (2010) argue that educators must re-evaluate local social and cultural facets that influence learning experiences in order to improve outcomes for students with disabilities.

Differentiation must be an integral part of the curriculum for learning to occur (Inman & Roberts, 2009). A climate for differentiation must be supported by administration at each level in order to improve outcomes for all students. Classrooms that differentiate accept diversity, maintain high expectations, and generate an atmosphere open to new ideas. Students with disabilities generally feel accepted in those environments. Daniels, Hyde, and Zemelman (2005) share common recommendations selected from national curriculum reports, along with best practices for classroom instruction. All suggestions embrace the concept of differentiation, inclusion, and interventions.

As reported, a significant number of special needs students in Kentucky are being placed in regular education classrooms where services are provided by the special education teacher. Carter, Ernest, Heckman, Hull, and Thompson (2011) suggest that differentiated instruction, along with pre-assessment, self-assessment, and on-going assessment, is essential to address individual student needs in an inclusive environment. Kentucky created the Instructional Support Leadership Network (ISLN) that provides standards and assessment training and assistance to all districts throughout the Commonwealth. ISLN offers a number of resources to educators. Three books provided by the ISLN network that are beneficial to classroom instruction are *Advancing Formative Assessment in Every Classroom* (2009), *Seven Strategies of Assessment for Learning* (2009) and *Assessment Balance and Quality: An Action Guide for School*

Leaders (2010).

An important facet of an effective school is data-driven instruction that includes formative assessment along with the implementation of professional learning communities (PLC). Brookhart and Moss (2009) contend that formative assessment significantly improves student achievement and increases teacher quality. Teachers who utilize formative assessment data to drive instruction not only improve the quality of content delivery, but steadily close the achievement gap. Classroom instruction that includes the seven strategies of assessment are essential to closing the achievement gap: clear and understandable vision of learning target, use of examples and models, regular descriptive feedback, student self-assessment and goal setting, lesson designs that focus on one learning target at a time, focused revision, and student self-reflection and sharing of their learning (Chappuis, 2009).

To further explain the benefits of target learning, Bianco (2010) examined a school districts' response to intervention program (RTI) that enhanced data-driven instruction and implementation fidelity, consequently improving student achievement. Students were assessed using Dynamic Indicators of Basic early Literacy (DIBELS) to evaluate early literacy skills. Results indicated that fidelity of implementation was most apparent when teachers frequently assessed an intervention. Tracking forms were found to be a specific mechanism for monitoring and enhancing student achievement. Bianco further recommends other means that provided support to teachers in order to expound upon data-driven instruction methods; reading coaches, video clips, and websites. This research determined that implementation of RTI models that embrace implementation

fidelity and data monitoring improve student achievement, reduce referrals for special education services, and yield positive feedback for teachers.

Limitations and Delimitations of the Study

Limitations

Hoy (2010) states that limitations are the elements of research that are potential weaknesses. LRE and achievement limitations are found in this study. Special education teachers, speech therapists, and other individuals who maintain due process documentation are required to enter LRE information into a state-mandated software program, Infinite Campus (IC). Human error is a consideration when data are being entered by numerous individuals. Reason (2000) describes human error as a system approach, since “humans are fallible...even in the best of organizations” (p. 768). LRE data are calculated for preschool through age 21. Only LRE for ages 6-1 are included in the overall total for this study.

Along with LRE limitations, achievement issues need to be addressed. Section 504 students are included in the AYP with disability subpopulation data but excluded in LRE sets. Accommodations found in Section 504 Plans and Individual Education Plans (IEP) such as reader, scribe, paraphrasing, prompting, and cueing are permitted for identified students during testing administration and affect achievement scores. Achievement data were considered for only grades 3, 4, 5, 7, 8, 10, and 11, since state testing administration occurs only at those levels.

Delimitations

Leedy and Ormond (2010) concluded that delimitations are the aspects of the study intentionally excluded by the researcher. Data were collected for this investigation

at the district level; no results are provided for individual schools. The Kentucky School for the Deaf and the Kentucky School for the Blind data sets were excluded from this study since all data sets were unavailable.

Recommendations for Future Research

This research analyzes the relationship between Kentucky least restrictive environment practices and KCCT assessment annual yearly objectives (AMO) in reading and mathematics for students with disabilities. The study was limited to fall 2010 LRE data and spring 2011 KCCT reading and mathematics results for the with disability subpopulation. Expanding the research to the new accountability system known as Kentucky Performance Rating for Educational Progress (K-PREP) also would be beneficial. This assessment was first implemented in Kentucky during the spring of 2012. The reading and mathematics blueprints require testing administration for grades 3 through 11. New legislation limits accommodations for students with disabilities beginning with the 2013 assessment. The examination of student achievement results after implementation of the new mandates are implemented would be an opportunity for further research.

This study examined Kentucky districts AMO subpopulation for reading and mathematics results but did not seek to evaluate individual school performance, implementation of intervention programs, or inclusion rates. Future research investigating the relationship between inclusive practices in elementary, middle, and high schools and AMO attainment would provide a greater analysis of programs being utilized. The Marsh Inclusion Scale-Revised (Abbreviated Version) 58 - item Likert survey could be utilized to obtain information regarding practices in each school.

Additional research that provides recommendations for improving inclusive practices would be equally advantageous. A study that examines the relationship between co-teaching and AMO attainment has the potential to provide a powerful account of best practice for all students. The investigation would require a qualitative approach due to observations, interviews, and survey data that would be collected.

It would be equally prudent to consider other factors that could be impacting reading and mathematics achievement for students with disabilities such as a study to examining the highly qualified status of regular and special education teachers. Furthermore, including in the study placement of students while instruction is being provided by those educators would prove beneficial as well. Another potential factor to examine the impact of reading and mathematics achievement of AMO attainment for students with disabilities is the utilization of research-based programs. Those programs should include response to intervention data that focuses on the most appropriate strategy being provided to students with disabilities in schools.

An examination of the relationship between inclusion, achievement, and drop-out rates for students with disabilities would be advantageous. Unfortunately, even with the recent progress in education, students across the nation continue to leave schools without a diploma at astounding rates. The Alliance for Excellent Education (2008) estimates drop-out rates of over 7,000 students each day in the United States. Graduation, assessments, standards, and systems of accountability must focus on preparing all students for the future. Research conducted by Bridgeland et al. (2006) involved interviewing students who were dropouts at ages 16-25. These students overwhelmingly reported the need for curricula connection to the real world, improved access and support

for struggling students, relationships with adults, communication with parents, and the reduction of class size.

Conclusion

Kentucky has been recognized as the leader in educational reform since the landmark passage of the Kentucky Education Reform Act of 1990 (KERA) (Brewer & Knoepfel, 2011). Subsequent to that landmark event, education in the state has embarked on a mission to evaluate all avenues to improve preschool-12 curriculum and instruction. Formative and summative assessment, adoption of new standards, and a revised teacher evaluation process have become part of that movement.

Students with disabilities have experienced the combined effects of IDEIA and NCLB greater than any other population dealing with the implementation of the mandates. Inclusion has slowly begun to replace pull-out programs, and subpopulation accountability has invariably advanced curriculum and instruction. Response to intervention programs and on-going classroom and district assessments have pressured teachers and students to reach proficiency.

Two conclusions can be derived from this research. Students with disabilities in Kentucky schools are being placed in regular education classrooms at astounding rates. The correlation strengthens with the removal of the outlying districts from the equation. Those districts would benefit from professional development to improve academic achievement for students with disabilities. Co-teaching techniques, differentiation, and data-driven instruction are effective methods to improve student outcomes. Second, a number of districts are achieving AMO for the with disability subpopulation category in reading and mathematics. Outlying districts would benefit from conducting observations

to improve instruction in their classrooms.

New initiatives are replacing current practice in the state. Recently, the Kentucky legislature revised permissible accommodations for students with disabilities. The mandate limits accommodations for students with disabilities beginning with the 2013 assessment. This enactment, along with a new state assessment known as K-PREP, will likely alter future reading and mathematics achievement results for students with disabilities. Kentucky was granted an NCLB waiver in February 2012. Exclusion from the federal requirements has the potential to significantly transform education in the Commonwealth.

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APPENDIX A: INSTITUTIONAL REVIEW BOARD APPROVAL



A LEADING AMERICAN UNIVERSITY WITH INTERNATIONAL REACH
OFFICE OF COMPLIANCE

DATE: April 3, 2012

TO: Rhonda Simpson
FROM: Western Kentucky University (WKU) IRB

PROJECT TITLE: [327734-1] A STUDY OF THE RELATIONSHIP BETWEEN READING AND MATHEMATICS ACHIEVEMENT OF STUDENTS WITH DISABILITIES AND LEAST RESTRICTIVE ENVIRONMENT PRACTICES IN KENTUCKY

REFERENCE #: IRB12-265
SUBMISSION TYPE: New Project

ACTION: APPROVED
APPROVAL DATE: April 3, 2012

REVIEW TYPE: Exempt from Full Board Review

Thank you for your submission of New Project materials for this project. The Western Kentucky University (WKU) IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Exempt from Full Board Review based on the applicable federal regulation.

Please note that any revision to previously approved materials must be approved by this office prior to initiation. Please use the appropriate revision forms for this procedure.

All UNANTICIPATED PROBLEMS involving risks to subjects or others and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

This project has been determined to be a Minimal Risk project.

Please note that all research records must be retained for a minimum of three years after the completion of the project.

If you have any questions, please contact Paul Mooney at (270) 745-2129 or paul.mooney@wku.edu. Please include your project title and reference number in all correspondence with this committee.

