

HIGHLY QUALIFIED TEACHER STATUS AND THE READING ACHIEVEMENT
OF STUDENTS WITH DISABILITIES

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Highly Qualified Teacher Status and the Reading Achievement of Students with
Disabilities

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Abstract

A. Helene Robinson. HIGHLY QUALIFIED TEACHER STATUS AND THE READING ACHIEVEMENT OF STUDENTS WITH DISABILITIES. (Under the direction of Dr. Beth Ackerman) School of Education, November, 2008

With the advent of the No Child Left Behind (NCLB) legislation, many changes are occurring in the field of special education. More than ever before, students with disabilities are being included in each state's NCLB required assessment to determine adequate yearly progress. This has resulted in an influx of students with disabilities enrolled in intensive reading classes in the schools. Educators, administrators, and reading coaches are attempting to figure out the best way to educate these students to achieve the reading gains that NCLB requires. The purpose of this study was to examine factors believed to affect reading achievement of students with disabilities in intensive reading classes. The factors under study were the reading achievement of students with mild disabilities in classes taught by teachers who were highly qualified in reading (as defined by NCLB legislation), not highly qualified in reading, and teachers highly qualified in both reading and special education (distinguishing between traditional and alternate special education certification). In addition, student demographics and teacher demographics were analyzed as covariates to determine their effects on student achievement. Results indicated that there was no statistically significant difference between the reading achievement of students taught by highly qualified reading teachers (HQ), non-highly qualified reading teachers (NHQ), highly

qualified reading teachers with additional special education certification (HQP), and highly qualified reading teachers with additional special education certification obtained through an alternate certification program (HQAP). Several teacher demographic variables were highly correlated with a teacher's sense of feeling prepared and competent to teach reading. Additionally, after controlling for their 8th grade FCAT scores, as the number of students with disabilities per HQ, HQAP, or HQP teacher increased, student reading achievement decreased.

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Chapter One

Introduction to the Study

The purpose of this study was to examine factors believed to affect reading achievement of students with disabilities in intensive reading classes. The factors under study were the achievement, as measured by the Florida Comprehensive Achievement Test (FCAT), of students with mild disabilities in classes taught by teachers who were highly qualified in reading (as defined by NCLB legislation), not highly qualified in reading, and teachers highly qualified in both reading and special education. In addition, student demographics and teacher demographics were analyzed as covariates to determine their effects on student achievement. The first chapter introduces the study.

Background of the Study

No Child Left Behind (NCLB) legislation stipulates that only those students who score three or more standard deviations below the mean on IQ tests and adaptive behavior scales may participate in alternate assessment to demonstrate adequate yearly progress (AYP) (Lee, 2003). AYP is an individual state's measure of progress toward the goal of 100 percent of students achieving to state academic standards in at least reading/language arts and math. It defines the minimum level of proficiency that the state, its school districts, and schools must achieve each year on annual tests and related academic indicators. These students may account for no more than approximately 1%-3% of the student population in school districts (Lee, 2003). As a result of NCLB requirements that 97% to 99% of all students participate in each state's AYP assessment, an increasing number of high school students in special education are pursuing the standard diploma

option which requires passing in Florida the Florida Comprehensive Achievement Test (FCAT) to graduate. In Florida, the FCAT is the assessment tool created to measure adequate yearly progress. The only alternative to passing the FCAT in a good cause exemption is the standard diploma FCAT waiver option, which is a portfolio documenting student's mastery of competencies measured by the FCAT. Since 75-80% of students in special education (ESE) with mild disabilities nationwide have significant problems in basic language and reading skills (Pearson, Barr, Mosenthal, & Kamil, 2000) which cause challenges for these students to pass the FCAT reading test, they must take intensive reading classes in middle/high school.

This study focused on the reading achievement of 9th grade students with disabilities as measured by the FCAT reading assessment and the relationship between the qualifications of their intensive reading teachers. In Florida, highly qualified reading teachers are defined as individuals with either a Master's degree in reading, or individuals who have completed the five required courses for a reading endorsement. However, due to a state-wide shortage in Florida of highly qualified reading teachers, the law allows any teacher to teach reading for one year, regardless of certification. This research study attempted to determine whether the NCLB requirements for highly qualified teachers benefit students in special education. Although NCLB does not require reading teachers to be certified in special education if they teach students with disabilities, this study also examined whether additional teacher qualifications in special education have any effects on students with disabilities achievement in reading as measured by the FCAT reading assessment.

Is the definition of a highly qualified teacher (provided by the NCLB Act) really what determines teacher effectiveness as it relates to teaching reading to students with disabilities? Do other factors of teacher demographics such as educational level, teaching experience, teaching experience in reading, interest in teaching reading, major/minor in college, or other certifications/endorsements correlate to increased reading achievement of high school students with disabilities?

Problem Statement

The five hypotheses will be examined by answering the following research questions:

- 1.) Do ninth grade students with disabilities who are taught by highly qualified reading teachers demonstrate greater achievement on the 9th grade FCAT reading test than students with disabilities taught by teachers who are not highly qualified in reading?
- 2.) Do ninth grade students with disabilities who are taught by highly qualified reading teachers, and who are also certified in special education through a traditional teacher preparation program (highly qualified plus) demonstrate greater achievement in reading than students with disabilities who are taught by teachers highly qualified only in reading?
- 3.) Do ninth grade students with disabilities who are taught by highly qualified plus reading teachers demonstrate greater reading achievement than students with disabilities taught by teachers who are highly qualified in reading and certified in special education through an alternate certification program (highly qualified alternate plus)?

- 4.) Do ninth grade students with disabilities who are taught by highly qualified plus reading teachers demonstrate greater reading achievement than students with disabilities who are taught by teachers who are not highly qualified in reading?
- 5.) What is the relationship of the extraneous variables of teacher demographics and student demographics to 9th grade students with disabilities reading achievement?

Null hypothesis I. There is no statistically significant difference between the mean FCAT reading scores of 9th grade students with disabilities taught by highly qualified reading teachers and the mean FCAT reading scores of students with disabilities taught by non-highly qualified reading teachers.

Null hypothesis II. There is no statistically significant difference between the mean FCAT reading scores of 9th grade students with disabilities taught by teachers who highly qualified plus reading teachers and the mean FCAT reading scores of students with disabilities taught by highly qualified reading teachers.

Null hypothesis III. There is no statistically significant difference between the mean FCAT reading scores of 9th grade students with disabilities taught by highly qualified plus reading teachers and the mean FCAT reading scores of students with disabilities taught by highly qualified alternate plus reading teachers.

Null hypothesis IV. There is no statistically significant difference between the mean FCAT reading scores of 9th grade students with disabilities taught by highly qualified plus teachers and the mean FCAT reading scores of students with disabilities taught by non-highly qualified reading teachers.

Null hypothesis V. There is no statistically significant relationship between the extraneous variables of teacher and student demographics and 9th grade students with disabilities reading achievement.

Significance of the Study

Implications

As a result of the No Child Left Behind legislation, educating students with disabilities has become more complex than in the past because Individualized Educational Plans must adhere to both the NCLB laws and the Individuals with Disabilities Education Act (IDEA). However, McDonnell, McLaughlin, and Morrison found that

. . . states, districts, and schools vary considerably in how they interpret and implement standards-based reform and special education. For example, some state's content recommend specific curricula and instructional methods, whereas others stipulate general kinds of student outcomes with methods left to the local decision and classroom teachers. (1997, p.196)

Because of the diversity that exists in preparing students with disabilities to meet adequate yearly progress as defined by NCLB, more research is needed to determine how to best educate students with disabilities. Pearson et al. (2000) reviewed special education reading research in 1965, 1975, 1985, and 1995 that had been published in the *Exceptional Children Journal*. They discovered that out of 147 articles, only 13 mentioned reading or writing in the title. Furthermore, only 4 of the 13 articles had a central focus on reading. Since 75% to 80% of students with mild disabilities have significant problems in basic language and reading skills (Pearson et al., 2000), this

finding would suggest the need for more research in this area. Additional research on this topic would enable states, districts, and schools to make decisions on teacher assignments and instructional grouping formats using scientifically based research.

This author's study also tested the hypothesis that low-performing students demonstrate greater achievement when taught by highly qualified teachers. Recently, NCLB legislation has created a focus on the relationship between teacher qualifications and student achievement. (Shen, Mansberger, & Yang, 2004). According to Joftus and Maddox (2004), a primary purpose of NCLB was to address the unsatisfactory learning outcomes of minority and poor students in America; however, these groups often have the least qualified teachers (Gehrke, 2005). Research on reading achievement of students with disabilities and the qualifications of their teachers could also be generalized to other populations, since there is an overrepresentation of minority and economically disadvantaged students in special education (Harry & Klinger, 2006).

As a result of the NCLB legislation, all students must now be taught by highly qualified teachers. Due to the recency of this legislation, few studies have examined the relationship between highly qualified teacher status and reading achievement, indicating a need for current research on the effects highly qualified teachers have on the reading achievement of students with disabilities. Elbaum, Vaughn, Hughes, Moody, and Schumm (2000) emphasized that prior to the Regular Education Initiative, which was an initiative from the Office of Special Education and Rehabilitation Services in 1986 that advocated the integration of general and special education into one educational system for all students, students with disabilities who needed specialized reading instruction were pulled-out of the regular classroom and received instruction in a special education

classroom. Students with disabilities became socially isolated from their general education peers and received instruction that was frequently disconnected from the general education curriculum (Elbaum, et al., 2000). The question for future research becomes are students with disabilities making reading gains now that they are receiving reading instruction in the same classes as their non-disabled peers and receiving access to the same curriculum? Furthermore, is it important for teachers to be highly qualified in reading and highly qualified in the pedagogy of teaching students with disabilities?

Applications

This ex post facto study of the reading achievement of students in special education provides important data which can be used to guide colleges and universities in the program development of their Exceptional Student Education teacher education programs. In a recent comparison of undergraduate ESE programs in Florida, this researcher found that out of 10 compared public and private universities in the state, only one included reading courses and/or infused content required for an additional endorsement in reading. Due to the requirements of the NCLB legislation that all special education teachers must be highly qualified in the subject areas they teach, and because most students with mild disabilities have significant problems in language and reading skills, a clear need exists for scientifically based research to determine whether special education teachers who are also reading endorsed are more effective in increasing these students' reading achievement.

Additionally, the results of this study could provide information to states, districts, and schools on qualifications of teachers that significantly relate to reading achievement of students with disabilities. Although NCLB sets basic requirements for teachers to be

designated as highly qualified, states determine the specifics of how teachers may demonstrate content knowledge in each core subject they teach. For new secondary teachers, states may decide if a teacher must either pass a state test in each core academic subject they teach; have completed an academic major, course work equivalent, or an advanced degree; or have obtained National Board Certification to be classified as a highly qualified reading teacher (Birman, et al., 2007). Furthermore, states may decide on passing scores for their state assessments to measure content knowledge and how many hours to require for course work equivalent mastery of content knowledge. This results in even greater variability between what defines a highly qualified reading teacher in each state. In a national study analyzing departmentalized public high school teachers of core subjects qualifications and certifications, Morton et al. (2008) reported that 71% of English teachers held both a major and certification with their main assignment in English. However, only 34% of teachers with a main assignment in English who taught less than half of their classes in English held both qualifications. No distinction was made between English qualifications and Reading qualifications at the secondary level. Lewis (1999) also made no distinction between English certification and Reading certification/endorsement in a national study of state's qualifications. This indicates a need for further research in comparing states highly qualified reading qualifications to their English highly qualified requirements and the effects on student achievement.

On the other hand, Seastrom et al. (2002) distinguished between elementary education teachers and reading specialists or other reading teachers at the elementary level. Reading specialists were defined by having their main assignment in reading while other reading teachers were defined by having at least one class in reading but not as their

main assignment. Of the reading specialists, 36% had a major in reading, 81% had certification in reading, and 31% had both a major and certification in reading. Of the other reading teachers, 5% had a major in reading and 4% had obtained certification in reading. Seastrom et al. (2002) also found that of the general classroom teachers, 5% had a major in reading, 3% had obtained certification in reading, and almost 2% had both a major and certification in reading. Since NCLB only requires specific subject matter competence at the secondary level, more research is needed like this to compare reading qualifications of teachers at the secondary level.

The NCLB Act requires that students with disabilities must make adequate yearly progress toward reaching 100% proficiency by 2014. In addition, accommodations that students with disabilities receive must be valid and reliable or their score will not count toward meeting the high participation requirements of at least 95% of all student subgroups. If states do not meet the minimum participation requirements for students with disabilities, then the state can be considered out of compliance and subject to sanctions (Mastropieri & Scruggs, 2007). Factors of teacher qualifications that correlate to success in teaching reading to 9th grade students with disabilities can guide states and districts in their professional development efforts and highly qualified requirements.

However, there is much state variability in teacher qualifications and a need for further research to determine if there is one way of demonstrating reading subject matter knowledge which may result in higher student achievement. This study provides a base for further research to compare the effects of requiring course work in reading, a graduate degree in reading, or a passing score on a reading subject area test on the reading achievements of secondary students.

Overview of Methodology

This ex post facto study relied chiefly on archived student data and teacher interviews. ANCOVA was utilized to analyze the effect of the independent variables (teacher qualifications) on the dependent variable (reading achievement of 9th grade students with disabilities) and the interaction effects of the variables.

Data were organized using ANCOVA with the four teacher qualifications of highly qualified, not highly qualified, highly qualified alternate plus, and highly qualified plus as the active independent variables. Attribute independent variables of the subjects were used as covariates to ascertain grouping effects by economically disadvantaged (ED) classification, Limited English Proficient (LEP) classification, Exceptional Student Education (ESE) classification, and 8th grade FCAT reading scale scores. To control for selection and statistical regression internal validity threats, the subjects' 8th grade FCAT reading scores were also analyzed as a covariate. Attribute independent variables of the teachers were also used as covariates to determine effects of teacher demographics. Due to the small sample size, including the proposed 15 teacher covariates would sacrifice too many degrees of freedom. The benefit from controlling for the proposed variables was not justified, considering the loss in degrees of freedom. Controlling for the teacher allowed the researcher to remove any variance attributed to teacher differences. Statistical procedures utilized included ANOVA, ANCOVA, Pearson correlations, and linear regression.

Definition of Terms

The following terms used throughout this document for consistency and readability are listed below:

Economically disadvantaged. For the purposes of this study, a student was identified as economically disadvantaged if he/she qualified for a free or reduced lunch as determined by family income reported on the 06-07 lunch application forms.

Florida comprehensive achievement test (FCAT). The Florida Comprehensive Assessment Test (FCAT) is the measurement used to determine whether students are making adequate yearly progress (AYP) as required by the NCLB legislation. In Florida, it is administered annually to students in Grades 3-11; the test contains two basic components: criterion-referenced tests (CRT) measuring selected benchmarks in Mathematics, Reading, Science, and Writing from the Sunshine State Standards (SSS); and norm-referenced tests (NRT) in Reading and Mathematics, measuring individual student and group performance against state and national norms.

Achievement level describes the success a student has achieved on the Florida Sunshine State Standards tested on the FCAT Reading, Mathematics, Science, and Writing+ assessments.

FCAT reading achievement. Achievement level is based on both scaled scores and developmental scaled scores range from 1 (lowest) to 5 (highest). For the purposes of this dissertation, only the 9th grade reading scale scores and reading developmental scale scores are listed below with their corresponding achievement level. A passing score is making at least a 3 in achievement level.

Table 1

FCAT Achievement Levels (Florida Department of Education, 2004)

Achievement level	Developmental scale scores	Scale scores
1	772-1771	100-284
2	1772-1971	285-321
3	1972-2145	322-353
4	2146-2297	354-381
5	2298-2943	382-500
Note. A passing score is an achievement level = 3 or >.		

Highly qualified reading teacher. Highly qualified reading teachers are defined as individuals with either a Master's degree in reading, or individuals who have completed the five required courses for a reading endorsement in the state of Florida and demonstrated mastery of the following six reading competencies.

1. Foundations in Language & Cognition - Has substantive knowledge of language structure and function and cognition for each of the five major components of the reading process.
2. Foundations of Research-Based Practices - Understands the principles of scientifically based reading research as the foundation of comprehensive instruction that synchronizes and scaffolds each of the major components of the reading process toward student mastery.
3. Foundations of Assessment - Understands the role of assessments in guiding reading instruction and instructional decision making for reading progress of struggling readers.

4. Foundations of Differentiation - Has a broad knowledge of students from differing profiles, including students with disabilities and students from diverse populations.
5. Application of Differentiated Instruction - Has knowledge of effective, research-based instructional methodology to prevent reading difficulties and promote acceleration of reading progress for struggling students, including students with disabilities and from diverse populations.
6. Demonstration of Accomplishment - Applies knowledge of reading development to reading instruction with sufficient evidence of increased student reading proficiency for struggling students, including students with disabilities and students from diverse populations.

Highly qualified plus reading teacher. Highly qualified plus reading teachers have either a Master's degree in reading or have completed the five required courses for a reading endorsement *and* demonstrated mastery of the six reading competencies. In addition, these teachers have become certified in Exceptional Student Education through participation in a college of education preparation program and passing all three sections of the Florida Teacher Certification Exam (FTCE).

Highly qualified alternate plus reading teacher. Highly qualified alternate plus reading teachers have either a Master's degree in reading or have completed the five required courses for a reading endorsement in the state of Florida *and* demonstrated mastery of the six reading competencies. In addition, these teachers have become certified in Exceptional Student Education by passing the subject area exam in Exceptional Student Education and adding the area to their teaching license.

Intensive reading classes. These are remedial reading classes mandated for students whose reading achievement level is a 1 or 2. In the high school where this study was conducted, students who scored a level 3 also had to take intensive reading classes. The intensive reading classes in the high schools where this research was conducted utilized the same curriculum and small group instructional procedures.

Since this study involved only 9th grade students, an explanation of their curriculum follows. All the intensive reading teachers were given curriculum from the school reading coach and instructed on how to rotate the three small groups. Students would rotate to the following three groups: small group instruction, computer assisted instruction, and silent independent reading. The 9th grade intensive reading teachers were given the Read 180 curriculum, the Jamestown non-fiction critical thinking series, books at various reading levels, FCAT test preparation materials, and various handouts from the reading coach. Some teachers also reported supplementing their curriculum with other materials and utilizing other instructional procedures like whole group instruction.

Mild disabilities. For the purposes of this study, this term will be used to mean a student with any disability who did not qualify for alternate assessment and was required to take the FCAT. The disabilities represented in this study included specific learning disabled, emotionally handicapped, severely emotionally disturbed, autistic, educable mentally handicapped, speech impaired, other health impaired, language impaired, visually impaired, and hearing impaired. The majority of the students included in the study were identified as specific learning disabled. Students who were gifted were not included in this study.

Non-highly qualified reading teacher. A teacher assigned to teach an intensive reading course who did not complete a Master's degree in reading or the coursework required for the reading endorsement.

Student demographics. For the purposes of this study, this term will refer to the student's classification of economically disadvantaged (ED), limited English proficient (LEP), Exceptional Student Education classification (ESE).

Teacher demographics. For the purposes of this study, this term will refer to teacher educational levels, types of certification/licensure, years of experience, teacher's academic proficiency, in-service training, teacher motivation/beliefs, and the perceived quality of mentoring by the reading coach.

Summary

This chapter introduced an ex post facto research design for conducting a study on the reading achievement of 9th grade students with disabilities in Florida. The need for current research on teacher qualification factors which impact the reading achievement of student with disabilities was established. Using ANOVA, ANCOVA, Pearson correlations, and linear regression procedures helped to identify if there was a significant difference between the highly qualified, the highly qualified plus, the highly qualified alternate plus, and the non-highly qualified teachers, and to what extent student demographics and teacher demographics predicted achievement. The following chapters will present the review of the literature, the methodology, the results, and a discussion of the results.

Chapter Two

Review of the Literature

To provide a conceptual framework for the empirical research reviewed, this chapter will examine the theoretical literature and empirical studies related to the history and the highly qualified requirements in special education implications of NCLB, social cognitive and choice theory, and variables of teacher quality. The variables of teacher quality that will be reviewed in the literature include the following: teacher education levels, pedagogical knowledge, subject matter knowledge, types of certifications/licensure, years of experience, teacher's academic proficiency, in-service training, teacher motivations/beliefs, and the impact of mentoring. Additionally, it will review research in instructional practices for teaching reading to students with disabilities, students who are English language learners, and students who are economically disadvantaged.

History and Implications of NCLB in Special Education

Yell, Drasgow, and Lowrey (2005) report that even though the federal government of the United States contributes only 10% of education funding, its financial role in assisting states in educating economically disadvantaged youth has been significant. From 1995 to 2005, \$400 billion of federal funds have been spent on educating economically disadvantaged youth. Since the report *A Nation at Risk* in 1983 (Yell, Drasgow, & Lowrey, 2005), officials began to question the results of federal funding on states' education systems. The National Assessment of Educational Progress

(NAEP), given biannually to a large sample of America's students, has shown that reading and math achievement for all students has remained stagnant over the past 40 years (Yell, Drasgow, & Lowrey, 2005). The Improving America's School Act in 1994 required the development of rigorous academic content standards by the states. Since the development of these rigorous standards did not increase student achievement (Yell, Drasgow, & Lowrey, 2005), passage of the NCLB in 2001 required states and school districts to use numerical data to provide evidence of student gains.

Petrilli and Finn (2006) report that states are responding to NCLB by lowering their standards, making their tests easier, and shielding schools from accountability as evidenced by the growing disparity between student performance on state exams and the National Assessment of Educational Progress (NAEP). Petrilli and Finn (2006) suggest that the federal Department of Education should have a smaller role in the everyday affairs of local schools, but be more specific about achievement expectations. Specifically, the federal Department of Education should have the following three roles: fund high quality research and data gathering; distribute dollars through a formula weighted by student needs; and measure the school's progress with common standards and tests (Petrilli & Finn, 2006)

Research throughout the 1990s suggested that the lower expectations for students with disabilities resulted in their exclusion from national and state assessments (Rosenberg, Sindelar, & Hardman, 2004). Ingles (1996) reported from a national longitudinal study, with a baseline in 1988, that out of a sample size of 24, 599 eighth grade students, about 5 % were excluded from state assessments. Of the five percent who were excluded, 74 % of the students were excluded due to a disability. McGrew,

Vanderwood, Thurlow, and Ysseldyke (1995) reported that at the national level 40-50% of school age students with disabilities were estimated to be excluded from the National Assessment of Educational Progress (NAEP). However, these same students were not excluded from noneducational data collection programs like the National Health Interview Survey. At the state level, there was little data documenting the extent of exclusion of students with disabilities in state assessment programs. The authors concluded that a large number of excluded students should not have been excluded and could have participated either with or without accommodations. As a result of excess number of students with disabilities being excluded from assessments, IDEA '97 linked the concepts of educational benefit and meaningful progress to access to the general curriculum and participation in the same assessments as peers without disabilities. The 2003 reauthorization of IDEA further aligned the accountability provisions in IDEA with NCLB. Both include the following provisions:

measuring annual yearly progress; determining measurable annual objectives; linking assessments under Title 1 of NCLB, including the use of appropriate accommodations on individualized education programs (IEP) to measure student achievement; providing instruction grounded in scientifically based research; providing prereferral intervention for preventing early reading failure; and measuring states' progress on improving educational results on standardized assessments (including the use of accommodations) and alternate assessments, as well as dropout and graduation rates. (Rosenberg, Sindelar, Hardman, 2004, p.269)

The President's Commission on Excellence in Special Education (PCESE) was a report designed to align the 2004 reauthorization of IDEA with NCLB. In 2001, the PCESE emphasized that the purpose of special education was to help children with disabilities close the achievement gap with their peers. The recommendations from the report included a focus on results, not process; embracing a model of prevention, not a model of failure; and considering children with disabilities as general education children first (Bouck, 2007). Kauffman (2005) argues that comparing the achievement of students in special education with the achievement of students in general education is the wrong way to assess the effectiveness of special education services. Kauffman stated that an appropriate comparison would be to compare the individual gains of students with disabilities against their own benchmarks, or to compare the achievement of students with disabilities who receive special education services and those who do not and control for extraneous variables.

Although all three of the policies mentioned above have informed special education programming for all students with disabilities, NCLB's highly qualified requirements have had a significant impact on special education teachers. The emphasis changed from pedagogy to content knowledge and verbal ability (Rosenber, Sindelar, & Hardman, 2004). Special educators can no longer consider their pedagogical expertise as content that enables them to be highly qualified; they must also be highly qualified in the subject areas they teach. Although, general educators are highly qualified in a core academic subject, they are not required to be highly qualified in the pedagogy of teaching that subject to students with disabilities (King-Sears, 2005). NCLB demands that teachers meet three basic requirements in order to be considered highly qualified: have a

minimum of a bachelor's degree, have full state certification/licensure for the subject area they teach, and demonstrate subject matter competence. They may demonstrate subject matter competence by passing state-administered subject matter tests, by completing an academic major, course work equivalent, an advanced degree, or National Board certification (Yell, Drasgow, & Lowrey, 2005). Many argue that the streamlined preparation of achieving full certification by testing compromises teacher quality. Rosenberg, Sindelar, & Hardman (2004) state that in special education, effective alternative route preparation must be extended, rigorous, and programmatic; otherwise, there will be a shortage of adequately prepared teachers. New elementary special education teachers must demonstrate subject matter competence for elementary education certification. New middle and secondary special education teachers must demonstrate subject knowledge and teaching skills in every academic subject they teach.

Current policy frameworks make no mention of educating secondary students with disabilities who qualify for alternate assessment in functional skills; however, the frameworks do emphasize the general curriculum and preparation for state assessments. Bouck (2007) states that current policy frameworks do not address what counts as core knowledge for these students. Special educators who teach functional skills, vocational education, social skills, independent living skills, and functional academics do not have to be highly qualified in order to teach these subject areas (Bouck, 2007).

Some policymakers and educators are concerned that the new highly qualified requirements in NCLB and the IDEA reauthorization will result in more students who do not have access to a qualified special education teacher (Rosenberg, Sindelar, & Hardman, 2004). Others fear that exempting special education teachers from the

requirements of NCLB will widen the gap between students with and without disabilities and foster separate accountability systems (Rosenberg, Sindelar, & Hardman, 2004).

More importantly, the question becomes: does the No Child Left Behind definition of a highly qualified teacher identify the teacher quality variables that really make a difference in student achievement? Is subject matter knowledge more important than pedagogy when teaching students with disabilities?

Social Cognitive and Choice Theories

The theoretical base for this study is derived from Bandura's social cognitive learning theory and Glasser's choice theory. Bandura's concept of agency as the capability of individuals to make choices and to act on those choices in ways that make a difference in their lives (Martin, 2004), and Glasser's choice theory provide a foundation to understand how teacher motivation and beliefs are significant variables of teacher quality. Vygotsky's social development theory states that all cognitive abilities are directly affected by the social interaction of an individual within his/her specific culture (Leonard, 2002).

Bandura's social cognitive learning theory expanded on this idea by explaining that human learning is a continuous interaction of cognitive, behavioral, and environmental factors. Within the three modes of agency (direct personal agency, proxy agency, and collective agency) people are producers and products of social systems (Bandura, 2001). Self-efficacy is defined as an individual's belief about their competence on a prospective task. Individuals who enter adulthood poorly equipped with skills and plagued by nagging doubts about their capabilities, find many aspects of their adult life aversive, full of hardships and depressing. People need a sense of efficacy to

apply what they know consistently, persistently, and skillfully, especially when things are not going well and deficient performances carry negative consequences.

Furthermore, this belief of self- efficacy is central among the three modes of human agency and regulates human functioning through cognitive, motivational, affective, and decisional processes (Bandura & Locke, 2003). Self directed independent learners must develop more than just a set of learning skills - - they must develop a self-efficacious attitude which ultimately leads to thinking independently in society (Eisenberger et. al., 2000). Similarly, perceived self-efficacy is not a measure of the skills one has, but rather about what one can do under different sets of conditions with whatever skills one possesses (Bandura, 1997).

Glasser's choice theory describes human behavior as a choice that is motivated by the fulfillment or frustration of five basic needs: survival, love and belonging, power, freedom, and fun. Since Glasser's choice theory emphasizes the importance of human relationships and feelings of worth, it also stresses the importance of feeling a sense of competence (Malone, 2002). Nicholas (2002) stated that individuals who believe they are capable of successful performance are more likely to choose challenging activities, work hard, and persist when difficulties are encountered. Self-efficacy is believed to have a strong influence on performance as it affects choice of activities, the amount of effort exercised and perseverance in the face of difficulty (Bandura, 1997; Eisenberger et al., 2000, Graham & Harris, 1989).

When individuals approach tasks without self-efficacy, they often make poor use of their capabilities. Experiencing success is an integral part of the process of building a strong sense of self-efficacy (Nicholas, 2002). What are the factors that cause a teacher

to feel competent in teaching reading to students with disabilities? What is the relationship between a teacher's sense of competence, their choice in teaching an intensive reading course, and the reading achievement of their students with disabilities? In other words, how does a teachers sense of self-efficacy influence their teaching performance? These theories may help to explain how teacher motivation and beliefs are significant variables related to highly qualified teacher status.

Reading Instructional Practices by Student Demographics

Special education reading research.

A limited amount of research is available on the subject of teaching reading to special education students. Elbaum et al. (2000) compared the effects of reading outcomes for students with disabilities based on grouping formats as compared to whole class instruction. The grouping formats examined were pairing, small group, and multiple formats. Results indicated that students with disabilities performed better in the grouping formats as compared to whole class instruction. Students in lower ability groups for reading instruction received inferior instruction as measured by instructional time, time on task, meaning orientation to reading tasks, appropriateness of reading materials, and amount of material read.

A study comparing the reading outcomes of students with learning disabilities to other low-progress readers found that intensive literacy remediation was equally effective with students with a variety of disabilities (Pogorzelski & Wheldall, 2002). These struggling readers were classified as either dyslexic or garden variety readers based on their performance on the Phonological Assessment Battery (PhAB). Dyslexic readers had a relatively high IQ, compared with their word reading ability, but had difficulties

with the phonological processing of words. Garden-variety readers had a lower IQ, and not only struggled with the phonological processing of words but also with language, comprehension and vocabulary. The study examined gains made in single word recognition and oral reading fluency following intervention with the Making Up Lost Time in Literacy program (MULTILIT). Both groups made substantial gains on both reading measures and the PhAB sub test scores did not predict the size of gains.

Many students with learning disabilities do not know how to go about learning and studying. Students with learning disabilities often appear to be “inactive learners” (Torgesen, 1988) and may not acquire strategies or knowledge at a rate consistent with that of their non-disabled peers. Additionally, students with learning disabilities have a very poor awareness of text structure, the writing process, and their own cognitive processes in writing (Newcomer & Barenbaum, 1991). They may appear disorganized and lack an understanding of what to do or how to proceed with academic tasks or assignments. Students with learning disabilities frequently have cognitive difficulties related to basic writing skills (Graham et al., 1991), acquiring math concepts and mathematical reasoning (Miller & Mercer, 1997), information processing (Torgesen et al., 1994), reading comprehension and decoding skills (Carnine et al., 1997), and motivation and academic self-regulation (Bender & Wall, 1994). In addition, students with disabilities and students labeled “at-risk” lack metacognitive skills (Reid, 1988).

Much research has focused on how these students approach and master objectives. Much of the focus has been on learning strategies. The basic assumption underlying this perspective on strategic instruction is that many students can be taught effective strategies for acquiring information (Nicholas, 2002). Strategic instruction in writing helps

students enrich and upgrade their writing skills by teaching them new and different ways to formulate and structure their thoughts (Harris & Graham, 1992). Specific strategy training can increase students' performance on tasks requiring metacognitive abilities (Tralli et al., 1996). If students have well developed metacognitive skills they will know how to study effectively, monitor their own understanding, and plan and budget their time more effectively. They will also be familiar with cognitive strategies that help them learn and remember more efficiently, and will frequently regulate their own strategy use (Nicholas, 2002).

There are several definitions for the term "learning strategies". For example, Deshler and Schumaker (1986) characterized learning strategies as "behaviors of a learner that assist learners to process information" (p.583). Underlining of key ideas in a passage, outlining ideas in a lecture, or trying to put some newly learned information into one's own words are examples of learning strategies. Similarly, Weinstein et al. (1988) viewed learning strategies as "thoughts or behaviors that facilitate learning" (p.17). These behaviors can range from simple study skills, such as underlining the main idea, to complex thought processes, such as using analogies to relate prior knowledge to new information.

Scruggs and Mastropieri (1993) offered a summary of recent findings in strategy training and relational thinking skills as applied to content area instruction and suggested that learning strategies and thinking skills should be integrated into special education practices. They suggested that although learning strategies are particularly suited for textbook-based approaches to content area instruction, they represented a mismatch with the characteristics of students with learning disabilities due to a heavy reliance on

language and literacy skills. It was recommended that special education and general education should collaborate to continue a search for more effective strategies that promote relational thinking and more active learning approaches to understanding content area information. When teachers have used a direct, systematic approach that taught specific strategies for academic problem solving students with disabilities have shown success across all academic areas (Carnine et al., 1997).

Another study concluded that reading instruction was most effective for students with learning disabilities in an inclusion model where there was a team teaching approach that included techniques to help students enhance comprehension (Anderson, 2006). Two students with learning disabilities were pulled for eight 90 minute sessions over a 3 month time span for direct instruction in meta-cognitive reading comprehension skills. The special educator pulled them from the social studies inclusion class which she co-taught with the general education teacher. Reciprocal teaching was used to provide students with a set of clarifying, predicting, questioning, and summarizing meta-scripts to provide structure and methodology that could be used in different situations. Anderson found no increase in the two students comprehension skills after comparing pre and post tests and interviewing the science and social studies teachers. Anderson concluded that meta-cognitive strategies should be integrated and embedded in a co-teaching general education classroom to benefit all students (2006).

Schmidt, Rozendal, and Greenman reviewed literature to identify pedagogically sound and empirically grounded reading approaches that could be used by all students in an inclusive classroom setting. They reviewed specific reading strategies effective for students with learning disabilities and contextual factors necessary for successful literacy

learning in an elementary inclusion setting. Contextual factors included teachers' perceptions and beliefs, and student grouping practices. They found that teacher attitude and teacher-student collaboration were essential components to successful reading instruction for the student with disabilities in an inclusion classroom. In addition they found that strategy instruction is most effective when embedded in contextualized literacy activities, and that multifaceted interventions promote more reading growth than utilizing a single strategy. Finally, they reported on the necessity for all students to be engaged in construction of new knowledge, specifically where individual needs are addressed and teachers are willing to make modifications to instruction or use of materials (2002).

Dieker and Ousley (2006) suggest several tools and activities that secondary English and special education teachers can use to help students with disabilities. Their suggestions include a tool for planning a co-taught lesson, a modified cooperative learning tool for reading and behavior difficulties, technological devices to modify reading material, and two activities infusing non-fiction material with authentic assessment which allows for peer and teacher support. The researchers stress the importance of collaborative preparation to teach secondary English and special education teachers to speak a blended language across the two fields. The authors conclude by stating that higher education must provide practical ideas that teachers can use in middle and high school inclusive classrooms.

Coleman-Martin, Heller, Cihak, and Irvine (2005) conducted a study with three students who had severe speech impairments and physical disabilities or autism. Their purpose was to determine if computer-assisted instruction using the Non-Verbal Reading

(NRA) approach was effective in increasing word identification. The students were provided decoding and word identification instruction using the NRA in the three following conditions: teacher only, teacher plus computer-assisted instruction, computer-assisted instruction only. Results indicated that the students reached criterion of at least 80% for two consecutive sessions across all three conditions. This research demonstrates that computer-assisted instruction is effective in teaching word identification to students with a variety of disabilities.

In a twelve week study Shippen, Houchins, Calhoon, Farlow & Sartor, (2006) compared the effects of two comprehensive school reform (CSR) models, Success For All and Direct Instruction, on the reading growth of urban middle school students with disabilities who were performing 2 or more years below grade level. Results indicated no significant growth for either of the CSR models. Besides improving the instructional methods in both models, another implication that the authors mention is that comparing students with disabilities collectively is illogical. They suggest growth norms based on cognitive ability, and that adequate yearly progress (AYP) “could be based on a combination of average growth for non-disabled peers and average growth patterns for various disability groups” (p.327).

Economically disadvantaged reading research.

In a cross-national study comparing 46 countries (Akiba, LeTendre, Scribner, 2007), the opportunity for low-SES students to be taught by qualified teachers was compared to their high-SES peers. The resulting difference between the number of high-SES and low-SES students taught by qualified teachers was defined as an opportunity gap. The higher the opportunity gap, the less opportunity low-SES students had to be

taught by a qualified teacher. The United States opportunity gap was the fourth-highest among the 46 countries. There was a 14.4% difference between the number of high-SES and low-SES students taught by qualified teachers in the United States, as compared to 21 other countries which had less than a 5% difference. Additionally, 15 countries in the study provided a higher level of access to qualified teachers for low-SES students.

Much research documents a strong association between poverty and a student's academic success or lack of it. Chatterji (2006) reported that reading level at kindergarten was significantly correlated to poverty status. In addition, Chatterji found that class size, elementary teacher certification, attendance rates, and reading time at home were also significantly correlated to reading achievement. Children living in poverty are exposed to risk factors such as deprivations in physical, social, emotional, and sensory experiences which are critical to cognitive development of young children (Hertert & Teague, 2003). Research has shown that interactive teaching methods are associated with more learning in both reading and mathematics; however, the teachers most likely to use such methods are those who completed 40 college credit hours in their subject area or who had advanced degrees (Smith, Lee, & Newman, 2001). Much research has consistently shown that schools with a high percentage of low-income students have the least qualified teachers, and that these are the teachers who utilize more didactic methods instead of interactive methods (Smith, Lee, & Newman, 2001).

VanTassel-Baska and Stambaugh (2006) concluded from their study that a high-powered curriculum, emphasizing developing low-SES students' critical thinking skills, is only successful when combined with teacher training that stresses the importance of faithful implementation of units of study. Additionally, the researchers reported that

instrumentation must be sensitive to low socioeconomic learners to accurately gauge the level and extent of their learning.

Taylor, Pearson, Clark, and Walpole (2000) performed a study to look at the reading achievement of primary grade students in schools with a high percentage of students on subsidized lunch across the nation in 14 different schools. Results showed a combination of school and teacher factors which were important in the most effective schools. School factors found to be statistically significant included systematic assessment of student progress, strong links to parents, and strong collaboration and communication within the school. Teacher factors found to be statistically significant included time spent in small group instruction, time spent in independent reading, high levels of student on-task behavior, and strong home communication. Furthermore, these teachers supplemented explicit phonics instruction with coaching in phonics strategies for everyday reading, utilized higher level questions when discussing texts, and had the students respond to reading in writing.

Another challenge facing the quality of education that low-income students receive is the use of tracking. Ansalone (2004) stated that tracking increases dramatically in economically disadvantaged areas with considerable enrollments of minority students. Ansalone further reported that most schools organize students in ability groups based on past academic performance or outcomes on standardized tests. This results in separate instructional groups within the same or different classrooms. Tracking has been justified as a managerial strategy since it limits the wide range of academic diversity in the classroom (Ansalone, 2004).

Ansalone (2004) examined results of tracking including differentiation of the curricula and teacher expectations; school misconduct; race, class, and gender bias; and the development of separate friendship patterns. Perhaps a key finding is that lower tracked students sense a differential attitude towards themselves and consequently lower their own expectations (Ansalone, 2004). Belief in personal efficacy diminishes, and students have little incentive to persevere in the face of difficulties (Noguera, 2003).

Limited english proficient research.

Since poverty exists in disproportionate rates among African Americans, Hispanics, and English language learners, the research above is helpful in understanding the quality of education that many English language learners receive. In addition, research has noted that these learners need targeted, continuing intervention that is closely integrated with the main literacy program. Furthermore, teacher skills are very important as they must deliver intense, explicit, and supportive reading instruction (AERA, 2004).

Since research has clearly shown that there are a disproportionate number of minority and low-SES students receiving special education services (Harry & Klinger, 2006), reviewing the research to understand the educational practices that have been used with these subgroups of students helps to interpret any student demographic variables that may impact reading achievement.

Teacher Quality Variables

Research supports that teachers are critical influences on student learning. With the advent of the No Child Left Behind legislation, specific teacher qualifications have become prioritized (Reese, 2004). Highly qualified teachers must have a standard

license, possess a degree in the subject area they teach, or have successfully passed tests or other standards set by the state (Lewis, 2005). Many educators would agree that teacher competence is important, but would argue over how teacher competence is defined and measured. Lewis (2005) noted that before NCLB, there was a gradual emergence from research and policy towards defining teacher competence. With the implementation of the highly qualified requirements of NCLB, Lewis states that there is now less of a consensus on what defines teacher competence.

Birman et al. (2007) reported that state definitions of a highly qualified teacher varied greatly due to a difference in requirements for teachers to demonstrate content knowledge, various passing scores requirements on tests to measure content knowledge, difference in number of required courses in subject area, and great variability in the rigor of requirements for teachers not new to the profession to demonstrate subject matter competence. Birman et al. (2007) reported that among the 27 states and the District of Columbia that specified the amount of course work needed to be equivalent to a major, requirements ranged from 15 to 42 credit hours, with the majority citing 30 credit hours. In addition, all 47 states had systems in effect in 2004–05 to measure the content knowledge of veteran teachers which could be categorized into one of four approaches: (1) point system, (2) performance-based evaluation, (3) certification, or (4) a menu of options. However, some of the state systems were much more demanding than other state systems based on the number of points teachers could earn for different activities and which of the four approaches they utilized.

Koppich (2004) summarizes what research has found to be qualities of effective teachers.

1. They know their subjects thoroughly and how to teach them.

2. They understand the interaction of standards, curriculum, and assessments and how to use these in their classrooms.
3. They know how to diagnose student learning and differentiate instruction to meet student needs.
4. They are flexible and can adapt to an ever-changing classroom situation.

Kane (2007) argues that a teacher who is highly qualified is not necessarily a highly effective teacher. He argues that focusing on teacher impact on student achievement during the first few years on the job instead of initial qualifications is how states and districts should determine whether or not a teacher is highly effective.

Important variables of teacher quality, which are not included in the NCLB definition of highly qualified, are teacher motivation and beliefs. The impact of teacher choice making and self-efficacy upon observed teacher behaviors is supported by Bandura's and Glasser's theories. Kozol (2005) and Noguera (2003) describe the motivation and beliefs of effective urban school teachers. Since there is an overrepresentation of minority and economically disadvantaged students in special education, their description of effective urban teachers would also describe effective special education teachers.

Kozol (2005) described these effective urban teachers as “. . . affectionate, confident, morally committed with a fascination and delight with growing children and are thoroughly convinced that each and every one of them, has an inherent value to begin with”(p.286). He also stated that successful urban schools produced environments in which effective teaching occurs without the sacrifice of all those elements of warmth, playfulness, informality and cheerful camaraderie among the teachers and the students.

Kozol (2005) described an effective small school as one that is “. . . defined not only by its size but also by its sense of mission, as a place indeed that has a sense of mission, with a teaching staff that truly wants to be there in the first place”(p.275). He further added that students thrive on this sense of warmth and intimacy that the school makes possible.

Noguera (2003) described effective urban educators as . . . “highly dedicated and skilled professionals who demonstrate commitment, effort, will, enthusiasm, compassion, solidarity, and love” (p. 21). He further described effective principals as inspiring their staff and generating a sense of accountability to those they serve. They also have developed a coherent mission for the school that is supported by the teachers, students, and parents. These effective urban schools develop not only the internal capacity of the school to support good teaching and learning but also face external constraints head on. In these effective urban schools there is “. . . a quality that produces a high morale and compels those who teach or learn there to work with a sense of purpose and commitment” (p.21).

Many empirical studies have been conducted to identify the characteristics of teacher quality that are associated with student achievement. The teacher characteristics identified include teacher certification, subject matter knowledge, pedagogical knowledge, and teaching experience. Darling-Hammond and Young (2002) mention several studies which have found that students taught by teachers holding subject-specific certification achieve more than those who are taught by teachers who do not hold subject-specific certification. Rowan, Chiang, and Miller (1997) reported that students taught by a teacher with a bachelor's or master's degree in mathematics or one who had scored well

on a brief mathematics quiz had higher gains in math achievement. Wayne and Young (2003) also reported that students achieved more in mathematics when taught by a teacher with degree(s) or coursework in mathematics.

In addition, Goldhaber and Brewer (1997) found that teachers with a bachelor's or master's degree in the content area taught had a greater influence on student achievement. Goldhaber and Brewer further found (2000) that subject matter knowledge in conjunction with knowledge about teaching had even larger effects on student achievement. Darling-Hammond (2000) conducted a state level analysis and found that the percentage of teachers with full certification, and the percentage of teachers with a subject major predicted higher mathematic and reading student achievement.

Darling-Hammond (2000) further argues the need for teacher certification by citing that teachers who do not go through a teacher preparation program have higher attrition rates. This attrition creates a lack of a stable, high ability teaching force which further exacerbates the teacher shortage problem. Furthermore, she notes that while it is necessary to have rigorous, professional teaching standards, there is also much variation between states. This variation creates inequity in students' access to high-quality teaching (Darling-Hammond, 2000), especially in the urban schools (Gehrke, 2005). Other studies (Rice, 2003) suggest that subject-specific certification matters in secondary schools, but not in elementary schools.

Subject matter knowledge, pedagogical knowledge, and a teacher's academic proficiency have been measured by various indicators: subject major, number of courses taken, college entrance exam scores, or National Teachers Examination (NTE) scores. Rowan, Chiang, and Miller (1997) reported that students who were taught mathematics

by teachers with an undergraduate or graduate mathematics major made greater achievement gains than those who were taught mathematics by teachers with a non-math major or degree. Studies have shown a correlation between the number of subject matter courses teachers have taken and student achievement in secondary mathematics (Monk & King, 1994) and science (Druva & Anderson, 1983). However, studies that examined the impacts of both subject matter courses and pedagogy courses showed that pedagogy coursework had a larger impact on teaching performance (Ferguson & Womack, 1993) and student achievement in secondary mathematics and science (Monk, 1994).

Finally, Strauss and Sawyer (1986) analyzed district-level data from one state and found that a 1% increase in district average NTE scores predicted a 5% decline in the rate of student failure on mathematics and reading high school competency examinations. NTE scores are often used to describe a teacher's academic proficiency. The research above suggests that a teacher's academic proficiency, as measured by the NTE test, may be a good indicator of teacher quality.

Another indicator of teacher quality is experience. Although many studies have shown a significant and positive relationship between number of years and student achievement, the relationship is not linear. Teacher effectiveness in improving student achievement increases the most in the first three years of teaching with no major improvement in effectiveness observed after 3 years of teaching (Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2006; Rice, 2003).

Rivkin, Hanushek, and Kain (2005), utilized matched panel data from the Texas Schools Project to identify teacher quality based on student performance, and the impact of specific, measured components of teachers and schools. Their data included estimates

of variance in teacher quality based entirely on within-school heterogeneity. They found that teachers do have a significant effect on reading and mathematics achievement, although the variance in teacher quality was not explained by observable characteristics such as education or years of experience. Also, gains in teaching quality were made primarily in the first year of teaching with some gains the following two years and little evidence of improvement after the first three years of teaching. The authors suggest that it is more effective to increase teacher quality up one standard deviation than to reduce class size by ten students. The authors argue that because there are such differences in quality among teachers with similar backgrounds that personnel practices of effective hiring, firing, mentoring, and promotion of teachers would be more effective in raising teacher quality than raising certification standards and education levels for teachers. They conclude by stating that there should be a closer link between rewards and performance.

Goldhaber (2003) reviewed various research reports and reports on five indicators correlated to teacher quality: teacher degree levels, teacher preparation (pedagogical versus subject knowledge), teacher licensure, teacher years of experience, and teachers' academic proficiency. In reference to teacher degree levels, Goldhaber states that research does not show a positive correlation between teachers having advanced degrees and student achievement. However, teachers with advanced degrees in specific subjects can have an impact on student learning in those subjects in certain settings. Goldhaber also stated that there is not enough research to make definitive conclusions about the value of state regulation of the teacher market. Commenting on teachers' years of experience, he cites various research and concludes that there is little correlation between

years of teaching and student outcomes. Goldhaber defined teachers' general academic proficiency as their intelligence and motivation as measured by performance on tests of verbal ability, teacher licensure, or college entrance exams, and by the selectivity of the undergraduate institutions attended by teachers. He cites literature that reports positive relationships between student achievement and teacher academic proficiency and concludes that teacher academic proficiency is one of the best predictors of teacher quality.

In Xin, Xu, and Tatsuoka (2004), the authors use a rule space model method to compare teacher quality with student outcomes using TIMSS-99 data. The authors selected four countries from the TIMSS-99 data to use for their study based on similar teacher characteristics, specifically having either a bachelor's or master's degree. The authors break down 8th grade mathematics achievement scores into three subscales of cognitive achievement: process skills, reading skills, and higher level mathematical thinking skills. Their hypothesis was that teachers may have a vital part in the development of some cognitive skills and not others. They found that, generally, teacher credentials had no effect on any type of cognitive skill development or test scores and that there was much more within-teacher variance of student performance in Japan and Korea, while in the USA and Netherlands, there was a greater between-teacher variance. This means that teacher differences added more performance gaps between students from different classrooms. This might indicate that teacher quality matters, or it might imply that student attributes are more heterogeneous between classrooms than within classrooms. They conclude by warning against using teacher credentials, like degrees or certificates, for hiring purposes.

In contrast to the above findings, the New York City Board of Education (2000) found that there was a positive correlation between higher percentages of certified teachers and the percentage of students showing high achievements in reading and math. Student demographics that were controlled for included the percentage of students receiving free/reduced lunch, percentage identified as English language learners, and percentage receiving special education services. After controlling for student demographics, certification rates explained 4.4 percent of student variation in reading scores and 5.4 percent of the variation in student math scores at a statistically significant level (New York City Board of Education, 2000). Student demographics significantly explained variation among schools, though teacher certification rates was also statistically significant and accounted for student achievement more in elementary schools than middle schools, and more in math than in reading.

Jacobson (2004) reports on results from more than 610,000 state reading and math scores of 3rd, 4th, and 5th graders in North Carolina over three school years from 1996 to 1999. The research found that end-of-the-year test scores improved an average of seven percent higher for students who were taught by Nationally Board Certified teachers as compared with students whose teachers had failed to earn it. The improvement was even more significant for younger children (12 percent) and children from low-income families (15 percent). National Board for Professional Teaching Standards Certification is a voluntary process of evaluations, portfolios, student work, and subject-matter tests that can take between one and three years to complete. Teachers must demonstrate and reflect on how they are implementing the NBPTS for their subject area and developmental level. They must critique their own teaching practices and provide

evidence on how they are measuring up to the standards. This may explain why it is a good indicator of teacher quality.

Fidler (2002) examined the relationship between teacher instructional techniques, teacher characteristics (credentials and experience), and student achievement in 2nd and 3rd grade students. Controlling for student language classification, grade level, and socioeconomic status, Fidler found that teacher status (permanent or nonpermanent) was a significant predictor of reading gains for English language learners in second grade and in reading, language, and math gains for English only students in second grade. In addition, second grade English language learners with more experienced teachers made significantly higher mathematics and language gains. Second grade English only students made significantly larger math gains with more experienced teachers.

Chard (2004) refers to research that suggests that teacher quality has significant effects on student achievement. One important aspect of increasing and maintaining teacher quality is professional development. The problem, as he explains it, is that there is little research to clarify what factors make professional development effective. Gibson (2003) examined the relationship between sustained professional development and student achievement. She correlated the number of professional development in-service points earned by instructional personnel within a school site to the school's average FCAT scores in mathematics and reading. She reported that sustained professional development did not positively affect student achievement in math and reading unless it was coupled with high teacher quality. High teacher quality was defined as years of experience, advanced degrees, and percent of returning teachers.

Penuel, Fishman, Yamaguchi, and Gallagher (2007), in a study of 454 teachers, examined the effects of different characteristics of professional development on teacher's knowledge and their ability to implement the program they had been trained in at a workshop. They found that incorporating teacher planning time and providing technical support were significant for promoting program implementation.

Zientek (2007) asked five research questions related to preparing high quality teachers in the classroom. The answer to her question on a teacher's perception of overall preparedness suggested that the likelihood a teacher would feel prepared was predicted most by having prior classroom experience, positive school district mentoring experiences, or by participating in a program that contained specific components. These components included curriculum design, lessons, evaluations and assessments, Texas Essential Knowledge and Skills (TEKS), multicultural training, and classroom management.

Lowe (2005) performed a research study to evaluate whether fifth grade students of highly qualified teachers would outperform fifth grade students of qualified teachers in reading achievement. An ANCOVA was utilized and covariates included ethnicity and socioeconomic status. Results did not reveal any significant differences between the students of highly qualified teachers and the students of qualified teachers for both the economically disadvantaged students and the minority students. Further, minority and economically disadvantaged student achievement decreased with the increased percentage of minority/economically disadvantaged enrollment regardless of teacher quality. This research suggests the need for further nationwide studies on the distinctions

between qualified and highly qualified teachers and what indicators of teacher quality are addressed in both classifications.

The debate over what specific indicators constitute a highly qualified teacher is necessary. If a teacher is highly qualified, then logically their students would have increased learning gains. Hence, more research should be conducted to ascertain whether these qualifications, as mandated by the NCLB legislation, have any effects on student learning.

Summary

This literature review examined the theoretical literature and empirical studies related to the history and implications of the highly qualified requirements in special education of NCLB; social cognitive and choice theory; reading instructional practices by student demographics; and variables of teacher quality. Effective instructional practices for all students include heterogeneous grouping, computer assisted instruction, explicit instruction, and interactive teaching methods. Teacher quality variables that have an impact on student achievement include teacher motivation and beliefs, subject matter knowledge, pedagogy knowledge, teacher's academic proficiency, new teacher mentoring, and national board teacher certification.

Chapter Three

Methodology

The General Perspective

This study utilized causal comparative and correlational research methods. An ANCOVA was utilized to analyze the effect of the independent variables (teacher qualifications) on the dependent variable (reading achievement of 9th grade students with disabilities) and the interaction effects of the variables. Pearson correlation was conducted to examine the significant relationship between reading achievement and the covariates of student demographics and teacher demographics. Linear regression was used to predict the likelihood of the outcomes based on one predictor variable.

The Research Context

This study was conducted in a small public school district, centrally located on the east coast of Florida, in a county with a population of just over 112,000 residents. The school district is the largest employer in the county. All but four of the subjects included in this study attended one of the two public high schools in the county. The remaining four subjects attended an alternative center in the county. One of the high schools in the study is not considered a traditional high school as there are 10 different academies that students may choose from after their freshman year. All students at this school pursue a

regular diploma graduate with a high school diploma and a certificate from their chosen academy. The other public high school included in the study is considered a traditional high school.

At the non-traditional high school, a large migrant population exists in the school with many families that move seasonally for work. The statewide average of migrant populations is 0.9%; while at this school, the migrant population is 2.0% of the school population (FLDOE, 2007). In addition, this high school has seen a significant increase in the number of students with disabilities who are working towards a standard diploma because of NCLB legislation. This has resulted in an increase of students with disabilities enrolled in intensive reading courses. To help increase reading scores, a reading coach was hired at the beginning of the 2004 school year. The 2006-2007 FCAT reading scores was the dependent variable utilized for this research.

The research context supports the goals of the research. Of the total student population in the county, 20% of the students receive special education services, 46% of the students are identified as economically disadvantaged, and 6% are identified as limited English proficient. In addition, the two high schools have a higher percentage of classes with teachers teaching out-of-field than the state average. The non-traditional high school has 12.4% and the traditional high school has 13.3% of teachers teaching out-of-field as compared to the state average of 8.8% (FLDOE, 2007). The non-traditional school had been rated a C school for several years by the state of Florida, although it received a B rating after the 2007 FCAT scores were analyzed by the state. The traditional high school received a C rating after the 2007 FCAT scores were analyzed.

Procedures

Access to the FCAT data and questionnaires for the teachers was approved by the principal in the school and at the district level. This researcher applied for a research exemption request for human subject research from the IRB board at her university. Based on the use of anonymous data gathered by educational tests and questionnaires without sensitive information, the research exemption request was granted. An information management systems employee in the district office compiled the FCAT data from various databases on all 9th grade students in the district during the 2006-2007 school year who were enrolled in intensive reading classes in both 8th and 9th grade. He then transferred the data into a spreadsheet after ensuring compliance with FERPA regulations. Finally, he provided information to identify teacher names with identification numbers so that the researcher of this study could send the questionnaire or interview the teachers involved in this study.

Next, the researcher selected only those 9th grade students identified as students with a disability, who were enrolled in intensive reading classes in the district. This narrowed the sample size from 400 to 94 subjects. Subjects were selected if they were identified with any ESE classification except for gifted. Gifted students were not included in this study.

After this researcher identified the 94 subjects associated with 10 different teachers who met the above criteria. The data were disaggregated and subjects were placed into one of the four groups based on the qualification status of their intensive reading teacher in 9th grade: highly qualified, not highly qualified, highly qualified plus, and highly qualified alternate plus.

These five groups were operationally defined to test the five hypotheses:

Null hypothesis I. There is no statistically significant difference between the mean FCAT reading scores of 9th grade students with disabilities taught by highly qualified reading teachers and the mean FCAT reading scores of students with disabilities taught by non-highly qualified reading teachers.

Null hypothesis II. There is no statistically significant difference between the mean FCAT reading scores of 9th grade students with disabilities taught by teachers who highly qualified plus reading teachers and the mean FCAT reading scores of students with disabilities taught by highly qualified reading teachers.

Null hypothesis III. There is no statistically significant difference between the mean FCAT reading scores of 9th grade students with disabilities taught by highly qualified plus reading teachers and the mean FCAT reading scores of students with disabilities taught by highly qualified alternate plus reading teachers.

Null hypothesis IV. There is no statistically significant difference between the mean FCAT reading scores of 9th grade students with disabilities taught by highly qualified plus teachers and the mean FCAT reading scores of students with disabilities taught by non-highly qualified reading teachers.

Null hypothesis V. There is no statistically significant relationship between the extraneous variables of teacher and student demographics and 9th grade students with disabilities reading achievement.

To test hypotheses II and III, group HQP was formed consisting of 24 subjects taught by two highly qualified plus intensive reading teachers. To test hypotheses I and II, group HQ was formed consisting of 9 subjects taught by two highly qualified intensive

reading teachers. To test hypotheses I and IV, group NHQ was formed consisting of 15 subjects taught by four intensive reading teachers who were not highly qualified.

Hypothesis III was tested by forming group HQAP consisting of 46 subjects taught by two highly qualified alternate plus teachers. Finally, hypothesis V was tested using a Pearson correlation to examine the relationships between 9th grade FCAT Scale Scores and the student and teacher covariates. Linear regression was used to make predictions on 9th grade FCAT reading scores and the one predictor variable which was found to be statistically significant.

Measurement of Variables

The independent variable of teacher qualification status was measured through the data classifying a teacher as out-of-field or in-field to teach the subject of reading, and as highly qualified or not. If a teacher was identified as teaching in-field, then they were certified in the subject of reading. Highly qualified reading teachers are defined as individuals with either a Master's degree in reading or individuals who have completed the five required courses for a reading endorsement and have demonstrated mastery of the six reading competencies. In addition, questionnaires were sent to teachers to obtain additional qualification status data and gather data for potential covariates. If a teacher reported that they were certified in reading and ESE but had not majored in ESE in undergraduate or graduate studies, the researcher had them verify how they obtained their ESE certification to determine if they were a highly qualified plus teacher or a highly qualified alternate plus teacher (Appendix A).

The dependent variable, reading achievement of 9th grade students with disabilities, was measured by the FCAT reading achievement test during the 2006-2007

school year. To control for selection and statistical regression internal validity threats, the subjects' 8th grade FCAT reading scores were also analyzed as a covariate. Since random assignment was not possible for this study, it was important to control for differences in pre-test scores between the four groups of subjects.

Finally, the extraneous variables were measured by data from the teacher questionnaires, and from the data compiled by the district employee and given to the researcher. Data from the teacher questionnaires were coded and input as covariates to determine effects of teacher demographics. It was not possible to test all the 15 teacher covariates due to the small samples size so judgments were made on which covariates to include based on what Pearson Correlations found to be statistically significant to 9th grade FCAT reading scores.

More than half of the answers involved interval or ordinal data so the numerical value was inputted. For the six answers that involved nominal data, a numerical value was input to identify the categories. The data were entered and compiled using SPSS statistical software. ANCOVA was used to determine the effects of teacher quality variables on reading achievement, and to partially adjust for pre-existing differences on reading achievement scores for any initial differences on the extraneous variables of teacher demographics and student demographics.

In addition, student demographics including economically disadvantaged (ED), limited English proficient (LEP), Exceptional Student Education (ESE) classification, and the 8th grade FCAT reading scores were examined as extraneous variables believed to influence reading achievement. Economically disadvantaged status was determined by family income as reported each year on lunch application forms. Based on family

income, students were identified as eligible for free lunch, reduced lunch, or not eligible. For the purpose of this study, eligibility for free or reduced lunch, classified subjects as economically disadvantaged. Fifty percent of the students in this study were identified as economically disadvantaged and were eligible for free or reduced lunch.

LEP students were classified into three groups. The first group was comprised of students with various levels of English proficiency enrolled in ESOL classes. The second group consisted of students who were exited from the ESOL program but were still within their two year follow up period. The third group consisted of students with whom the two year follow up had been completed after their exit from the ESOL program. The majority of the LEP students identified in this study had been exited from the ESOL program and had completed their follow up period.

Students labeled ESE were further identified by the type of their primary disability. Gifted was the only exceptionality excluded from this study. The other disabilities represented in this study included: specific learning disabled, emotionally handicapped, severely emotionally disturbed, autistic, educable mentally handicapped, speech impaired, other health impaired, language impaired, visually impaired, and hearing impaired. Some of the students had a dual diagnosis, and were identified only by their primary classification. The majority of the subjects were identified as specific learning disabled.

Participants

The subjects of this study consisted of 94 ninth grade students with disabilities who were enrolled in an intensive reading course in both the 8th and 9th grades. There were 10 teachers included in this study. Four teachers in the study were not highly

qualified in reading. They did not have a Master's degree in reading or had not completed the five required courses for a reading endorsement. These teachers taught 15 of the students in the study. Two teachers had completed the five required courses for a reading endorsement in the state of Florida and demonstrated mastery of the six reading competencies described in the definition of terms in chapter 2. They were classified as highly qualified. These teachers taught 9 of the students in the study.

For the purposes of this study, the researcher created the categories of highly qualified plus and highly qualified alternate plus. Two teachers, who had completed the five required courses for a reading endorsement and demonstrated mastery of the six reading competencies, had also become certified in Exceptional Student Education through participation in a college of education preparation program and were classified as highly qualified plus. These teachers taught 24 of the students in the study. The remaining two teachers in the study were classified as highly qualified alternate plus and had completed the five required courses for a reading endorsement in the state of Florida and demonstrated mastery of the six reading competencies. In addition, these teachers had become certified in Exceptional Student Education by passing the subject area exam in Exceptional Student Education and adding the area to their teaching license. These two teachers taught 46 of the students in the study.

The curriculum and instructional group procedures utilized was similar between the two high schools based on responses from questions 7 through 10 on the teacher questionnaire (Appendix A). These were questions asked to gather data for some of the teacher demographic covariates. The intensive reading teachers at the two high schools were given curriculum from the school reading coach and instructed on how to rotate

three small groups within each class. Students would rotate to the following three groups: small group instruction, computer assisted instruction, and silent independent reading. The 9th grade intensive reading teachers were given the Read 180 curriculum, the Jamestown non-fiction critical thinking series, books at various reading levels, FCAT test preparation materials, and various handouts from the reading coach. Some of the teachers reported using other supplemental material. Eight of the ten teachers in the study taught at one of the two high schools. Of these eight teachers, two were highly qualified, two were highly qualified plus, three were not highly qualified, and one was highly qualified alternate plus.

The two teachers at the two alternative centers did not have a reading coach and had to contact district employees for reading support. Their use of small group rotational cycles varied depending on student behavior and smaller class sizes. One of these teachers was not highly qualified and one was highly qualified alternate plus.

Instruments Used in Data Collection

The primary instruments used in this study were the composite scores from the FCAT reading achievement test during the subjects' 8th and 9th grade years. This instrument is the state mandated test used to determine whether students are making adequate yearly progress as required by the No Child Left Behind legislation. As last reported in the *Assessment and Accountability Briefing* (2007), by the Florida Department of Education, internal reliability for the FCAT reading test, as measured by Cronbach's Alpha, was 0.88 the subjects 8th grade year, and .90 for the subjects 9th grade year. Statistics gathered from the Florida DOE website also indicated the use of Item Response Theory (IRT) to represent the variability of test scores for a specific group of examinees

and estimate the standard error of measurement for a test. Internal reliability scores using the IRT were 0.91 for 8th grade and 0.92 for 9th grade. Concurrent validity with the Stanford 9 test for 8th grade was 0.82 and for 9th grade was 0.79 (Florida Department of Education, 2007).

Questionnaires were also sent or interviews held with the intensive reading teachers by the researcher to gather data on the teacher demographic covariates. The purpose of the questionnaire was to collect data on teachers' interest in teaching reading, confidence in ability to teach reading, perception of support given by the reading coach, major/minor in college, scores on college entrance exams or the Florida Teacher Certification Exam (FTCE), education level, total experience, experience in teaching reading, additional certifications and endorsements, and number of courses taken in reading. In addition, the questionnaire was designed to determine the extent to which the selected teachers were utilizing the prescribed curriculum and small group instruction as advised by the reading coach in the school. A copy of the questionnaire is included in appendix A. Question 14 was excluded from this study as no data could be collected from the teachers on their college entrance exam scores or their FTCE scores.

Data Analysis

Data were organized using an ANCOVA with four teacher qualifications as the active independent variables and reading achievement as the dependent variable. Attribute independent variables of the subjects were used as covariates to ascertain grouping effects by economically disadvantaged classification, LEP classification, disability classification, and 8th grade FCAT reading scaled scores. Attribute independent variables of the teachers were also used as covariates to determine effects of teacher

demographics. It was not possible to test all the teacher covariates at once on account of the small sample sizes. Controlling for the teacher allowed the researcher to remove any variance attributed to teacher differences. Judgments were made as to what covariates to include based on what was found to be statistically significant using Pearson Correlations.

The statistical procedures used for this study included the tests described below. First, an ANOVA was performed to determine whether there was a significant F value without the inclusion of any covariates. Since the F was not significant utilizing ANOVA, an ANCOVA was performed to determine whether there was a significant F value after controlling for covariates of student demographics and teacher demographics. The explanatory power of the independent variables was assessed using r squared and adjusted R squared statistics. Adjusted r squared accounts for different degrees of freedom and was selected as ANOVA and ANCOVA have varying degrees of freedom. Since only one predictor variable was used in the ANCOVA, it was not necessary to adjust for other predictor variables. Due to the large differences in sample sizes, separate ANCOVAs were also performed as there is a relationship between effect size, number of subjects, and the statistical significance of a test. Furthermore, since the power of a test with unequal samples sizes is primarily determined by the smallest sample size, it was informative to see the how the vast differences in my samples affected the power of the ANCOVA's.

Comparisons of the relationship between teacher demographics and student demographics covariates to 9th grade students with disabilities reading achievement were made through scatter plots and Pearson correlations. In order for the relationship to be

significant, correlations had to be significant at the .01 level using the Bonferroni procedure. Only student 8th grade FCAT scale scores were found to be significantly, linearly related to the dependant variable 9th grade FCAT scale scores. Since Lowe (2005) found that socioeconomic status was a significant predictor of reading achievement, it was hypothesized that some of the variables would be highly correlated to each other. When predictor variables are highly correlated with each other the regression equation is very unstable so Pearson correlations were used instead of multiple regression. In this study, Pearson correlations revealed that economically disadvantaged classification, limited English proficient classification, and student 8th grade FCAT scores were significantly, linearly related to each other resulting in high multicollinearity. With only one covariate, linear regression was used to predict the likelihood of FCAT scores based on 8th grade FCAT scale scores.

Summary

This chapter presented the methods used to carry out the research study on the reading achievement of students with disabilities and the relationship to teacher quality. Using ANOVA, ANCOVA, Pearson correlations, and linear regression procedures helped to mitigate the threats to internal validity that can occur in causal comparative research. The following chapters will present the results and a discussion of the results.

Chapter Four

Results of the Study

As stated in Chapter 1, the study reported here examined factors believed to affect reading achievement of students with disabilities in intensive reading classes. The factors under study were the achievement, as measured by the Florida Comprehensive Achievement Test (FCAT), of students with mild disabilities in classes taught by teachers who were highly qualified in reading (as defined by NCLB legislation), not highly qualified in reading, and teachers who were classified as highly qualified plus or highly qualified alternate plus. In addition, student demographics and teacher demographics were analyzed as covariates to determine their effects on student achievement. This chapter is organized in terms of the five hypotheses posed in Chapter 1.

The assumptions of *ANCOVA*, normality and homogeneity of variance, were assessed. The assumption of normality was assessed by the Shapiro-Wilks *W* test, and the assumption of homogeneity of variance was assessed by Levene's Test for Equality of Error Variances. The *ANCOVA* assumes the dependent variable to be normally distributed for each level of the independent variable. At the 0.05 level of significance, a *W* statistic with a significance of less than 0.05 will indicate a violation of the assumption of normality. The assumption of homogeneity variance means that the levels of the independent variable have approximately the same variance. In the results of Levene's Test for Equality of Error Variances, an *F* statistic with a significance value less than 0.05 will indicate a violation of the assumption of homogeneity of variance. The absence of extreme outliers was assessed by examination of boxplots.

To examine if there is a significant mean difference on FCAT scores by group (NHQ vs. HQ vs. HQAP vs. HQP), an ANOVA was conducted. Prior to analysis, the assumptions of ANOVA were assessed. The assumptions of normality and homogeneity of variance were met. No extreme outliers were found. The results of the ANOVA were not significant, $F(3, 88) = 0.62$, ns , Partial $\eta^2 = 0.02$, Power = 0.18, indicating no significant difference exists on FCAT scores by group (NHQ vs. HQ vs. HQAP vs. HQP). The results are summarized in Table 2 and means and standard deviations are presented in Table 3.

Table 2

ANOVA on FCAT scores by Group (NHQ vs. HQ vs. HQAP vs. HQP)

Source	<i>df</i>	<i>F</i>	Partial η^2	Power
FCAT Scores	3	0.62	0.02	0.18
Error	88	(2,905.90)		
R squared = .021 (Adjusted R squared = .013) $p < 0.0125$				

Table 3

Means and Standard Deviations on FCAT scores by Group (NHQ vs. HQ vs. HQAP vs. HQP)

Group	<i>N</i>	<i>M</i>	<i>SD</i>
NHQ	14	262.07	45.06
HQ	9	279.62	53.14
HQAP	47	252.87	64.12
HQP	24	254.17	32.66

To examine if there is a significant mean difference on FCAT scores by group (NHQ vs. HQ vs. HQAP vs. HQP), after controlling for 8th grade FCAT scores, an

ANCOVA was conducted. Prior to analysis, the assumptions of ANCOVA were assessed. The assumptions of normality and homogeneity of variance were met. No extreme outliers were found. The results of the ANCOVA were not significant, $F(3, 87) = 1.14$, $p = 0.34$, Partial $\eta^2 = 0.04$, Power = 0.30, indicating no significant difference exists on FCAT scores by group (NHQ vs. HQ vs. HQAP vs. HQP) after controlling for Grade 8 Scale scores. The results are summarized in Table 4 and means and standard deviations are presented in Table 5.

Table 4

ANCOVA on FCAT scores by Group (NHQ vs. HQ vs. HQAP vs. HQP) Controlling for Grade 8 Scale Scores

Source	<i>df</i>	<i>F</i>	Partial η^2	Power
Grade 8 Scores	1	63.94	0.42	1.00
THQ	3	1.14	0.04	0.30
Error	87	(1,694.18)		
R squared = 0.436, Adjusted R squared = 0.410, $p < .0125$				

Table 5

Means and Standard Deviations on FCAT scores by Group (NHQ vs. HQ vs. HQAP vs. HQP)

Group	<i>N</i>	<i>M</i>	<i>SD</i>
NHQ	14	262.07	45.06
HQ	9	279.62	53.14
HQAP	47	252.87	64.12
HQP	24	254.17	32.66

Due to the large differences in sample sizes, separate ANCOVAs were also performed as there is a relationship between effect size, number of subjects, and the

statistical significance of a test. The exact level of significance will be somewhat different than the specified level of significance. Additionally, the power of a test with unequal sample sizes is determined primarily by the smallest sample size.

Hypothesis I

The first hypothesis determined if there was a significant difference between the reading achievement of students taught by highly qualified reading teachers and students who were taught by non-highly qualified reading teachers. To examine if there is a significant mean difference on FCAT scores by group (NHQ vs. HQ), after controlling for 8th grade FCAT reading scores, an *ANCOVA* was conducted. Prior to analysis, the assumptions of *ANCOVA* were assessed. The assumptions of normality and homogeneity of variance were met. No extreme outliers were found. The results of the *ANCOVA* were not significant, $F(1, 19) = 4.33, p = 0.05$, Partial $\eta^2 = 0.19$, Power = 0.05, indicating no significant difference exists between NHQ Group and HQ Group 2 on FCAT scores. The results are summarized in Table 4, and means and standard deviations are presented in Table 5. Results revealed that students who were taught by highly qualified reading teachers ($M = 279.63, SD = 53.136$) did not score significantly better on their 9th grade FCAT reading test than students who were taught by non-highly qualified reading teachers ($M = 262.07, SD = 45.06$) after controlling for their 8th grade scores. Since Bonferroni procedures were utilized to control for type 1 global error, the findings would need to be significant at the 0.125 level. Null hypothesis I was accepted.

Table 6

ANCOVA on FCAT scores by Group (NHQ vs. HQ)

Source	<i>df</i>	<i>F</i>	Partial η^2	Power
FCAT Scores	1	4.33	0.19	0.51
Error	19	(1,182.47)		
R squared = .529 (Adjusted R squared = .480), $p < .0125$				

Table 7

Means and Standard Deviations on FCAT scores by Group (NHQ vs. HQ)

Group	<i>N</i>	<i>M</i>	<i>SD</i>
NHQ	14	262.07	45.06
HQ	9	279.63	47.68

Hypothesis II

Hypothesis two determined if there was a significant difference between the reading achievement of 9th grade students with disabilities who were taught by highly qualified reading teachers and those taught by highly qualified plus reading teachers. To examine if there is a significant mean difference on FCAT scores by group (HQ vs. HQP) after controlling for 8th grade FCAT scores, an *ANCOVA* was conducted. Prior to analysis, the assumptions of *ANCOVA* were assessed. The assumption of normality was met, as indicated by a non-significant Shapiro-Wilks *W* test. The assumption of homogeneity of variance was met. No extreme outliers were found. The results of the *ANCOVA* were not significant, $F(1, 29) = 3.75$, $p = 0.06$, Partial $\eta^2 = 0.11$, Power = 0.47, indicating no significant difference exists on FCAT scores by group (HQ vs. HQP) after controlling for 8th grade FCAT scores. The results are summarized in Table 6, and means

and standard deviations are presented in Table 7. Results did not indicate a significance difference between the reading achievement of the students taught by highly qualified teachers, and those taught by highly qualified plus teachers. Null Hypothesis II was accepted.

Table 8

ANCOVA on FCAT scores by Group (HQ vs. HQP)

Source	<i>df</i>	<i>F</i>	Partial η^2	Power
FCAT Scores	1	3.75	0.11	0.47
Error	29	(1,102.91)		
R squared = .336 (Adjusted R squared = .290), $p < .0125$				

Table 9

Means and Standard Deviations on FCAT scores by Group (HQ vs. HQP)

Group	<i>N</i>	<i>M</i>	<i>SD</i>
HQ	9	279.62	53.14
HQP	24	254.17	32.66

Hypothesis III

Research hypothesis three determined if there was a significant difference between the reading achievement of 9th grade students with disabilities who were taught by highly qualified alternate plus reading teachers, and those taught by highly qualified plus reading teachers. To examine if there is a significant mean difference on FCAT scores by group (HQAP vs. HQP) after controlling for 8th grade FCAT scores, an ANCOVA was conducted. Prior to analysis, the assumptions of ANCOVA were assessed. The assumption of normality was not met, as indicated by a significant Shapiro-Wilks W

test: meaning an increased probability of a Type I error. The assumption of homogeneity of variance was met. No extreme outliers were found. The results of the *ANCOVA* were not significant, $F(1, 67) = 0.10$, $p = 0.75$, Partial $\eta^2 = 0.00$, Power = 0.06, indicating no significant difference exists between Group HQAP and Group HQP on FCAT scores. The results are summarized in Table 8, and means and standard deviations are presented in Table 9. Results revealed no significant difference between the mean FCAT reading scores of students who were taught by highly qualified plus reading teachers ($M = 254.17$, $SD = 32.657$), and students who were taught by highly qualified alternate plus reading teachers ($M = 252.87$, $SD = 64.123$). Null Hypothesis III was accepted.

Table 10

ANCOVA on FCAT scores by Group (HQAP vs. HQP)

Source	<i>df</i>	<i>F</i>	Partial η^2	Power
FCAT Scores	1	0.10	0.00	0.06
Error	67	(1,864.58)		

R squared = .404 (Adjusted R squared = .386), $p < .0125$

Table 11

Means and Standard Deviations on FCAT scores by Group (HQAP vs. HQP)

Group	<i>N</i>	<i>M</i>	<i>SD</i>
HQAP	47	252.87	64.12
HQP	24	254.17	32.66

Hypothesis IV

Hypothesis IV determined if there was a significant difference between the reading achievement of 9th grade students with disabilities who were taught by highly

qualified plus reading teachers, and those taught by non-highly qualified reading teachers. To examine if there is a significant mean difference on FCAT scores by group (NHQvs. HQ) after controlling for 8th grade FCAT scores, an *ANCOVA* was conducted. Prior to analysis, the assumptions of *ANCOVA* were assessed. The assumption of normality was met, as indicated by a non-significant Shapiro-Wilks *W* test. The assumption of homogeneity of variance was met. No extreme outliers were found. The results of the *ANCOVA* were not significant, $F(1, 35) = 0.05$, $p = 0.83$, Partial $\eta^2 = 0.00$, Power = 0.06, indicating no significant difference exists on FCAT scores by group (NHQvs. HQP after controlling for 8th grade FCAT reading scores. The results are summarized in Table 10, and means and standard deviations are presented in Table 11. Results revealed no significant difference between the mean FCAT reading scores of students taught by highly qualified plus reading teachers ($M = 256.17$, $SD = 32.657$) and students taught by non-highly qualified reading teachers ($M = 262.07$, $SD = 45.063$). Results revealed no significant difference between the mean FCAT reading scores of students taught by highly qualified plus reading teachers ($M = 256.17$, $SD = 32.657$), and students taught by non-highly qualified reading teachers ($M = 262.07$, $SD = 45.063$). Null Hypothesis IV was accepted.

Table 12

ANCOVA on FCAT scores by Group (NHQ vs. HQP)

Source	<i>df</i>	<i>F</i>	Partial η^2	Power
FCAT Scores	1	0.05	0.00	0.06
Error	35	(962.33)		
R squared = .346 (Adjusted R squared = .308), $p < .0125$				

Table 13

Means and Standard Deviations on FCAT scores by Group (NHQ vs. HQP)

Group	<i>N</i>	<i>M</i>	<i>SD</i>
NHQ	14	262.07	45.06
HQP	24	254.17	32.66

Hypothesis V

The last hypothesis determined the relationship between the extraneous variables of teacher demographics and student demographics to 9th grade students with disabilities reading achievement. The assumptions of linearity and multicollinearity were assessed for the proposed covariates in the model. The assumptions were examined through scatter plots and Pearson correlations. To examine the relationship between FCAT scores, the teacher, limited English proficient classification, special education classification economically disadvantaged classification, and 8th grade FCAT reading scores, a Pearson correlation was conducted. The Pearson correlation revealed that there was a significant, linear relationship between limited English proficient classification, economically disadvantaged classification, and 8th grade FCAT reading scores resulting in high multicollinearity of the covariates. There is a significant, linear relationship between FCAT scores and economically disadvantaged classification, such that as FCAT scores increase, economically disadvantaged classification decreases, $r(90) = -0.22, p = 0.03$. There is also a significant, linear relationship between FCAT scores and 8th grade FCAT reading scale scores, such that as FCAT scores increase, 8th grade FCAT reading scores also increases, $r(90) = 0.64, p < 0.01$. Since Bonferroni procedures were used to control

for type I global error, only 8th grade FCAT reading scores were found to be significantly, linearly related to the dependent variable FCAT scores at the 0.01 level of significance. Therefore, only 8th grade FCAT reading scores were used as a covariate in ANCOVA on FCAT scores by Group.

To examine if 8th grade FCAT reading scores predict FCAT scores, a linear regression was conducted. The linear regression with 8th grade FCAT reading scores predicting FCAT scores was significant, $F(1, 90) = 63.46, p < 0.01$, and accounted for 41.4% percent of the variance in FCAT scores. This means 41.4% of the variability in FCAT scores can be predicted by Grade 8 Scale Scores. The results are summarized and beta coefficients are presented in Table 4, where for every one point increase in Grade 8 Scale Scores, there was an increase in FCAT scores of 0.69 points. Since one of the four student demographic variables was significantly related to FCAT scores, Null hypothesis I was rejected.

Table 14

Linear Regression with Grade 8 Scale Scores Predicting FCAT Scores

Variable	B	SE	β
(Constant)	95.76	20.69	
Grade 8 Scale Score	0.69	0.09	0.64*

Note. * $p < 0.01$

R Squared = .414

Additionally, although none of the teacher variables were significantly, linearly related to FCAT scores, several of the variables were strongly correlated with each other. Specifically, how prepared and competent a teacher felt was positively correlated with

the following teacher variables: certification/endorsement in reading ($r = .50$), a desire to teach reading ($r = .52$), courses taken in reading ($r = .52$), certification in special education ($r = .70$), how often they used the prescribed curriculum ($r = .70$), if they had obtained a graduate degree ($r = .21$), and perception of how much help their reading coach provided ($r = .44$). All the correlations were significant at less than the .0001 level except graduate degree which was significant at the .05 level.

Table 15

Correlation between Teachers' Feelings on Being Competent and Prepared to Teach Reading

Teacher Variables	Pearson Correlation	Significance (p)
Reading certification/endorsement	.50	.0001
Desire to teach reading	.52	.0001
Number of courses taken in reading	.52	.0001
Certification in special education	.70	.0001
Frequency used prescribed curriculum	.70	.0001
Perception of help reading coach provided	.44	.0001
Obtained graduate degree	.21	.05

Summary

The results presented above suggest that there is a relationship between teacher qualifications and 9th grade students with disabilities reading achievement after controlling for 8th grade FCAT scores. A more detailed summary and a discussion of the findings are presented in the next chapter.

Chapter Five

Summary and Discussion

This chapter begins with a review of the research problem and the methodology used in the study. Next, a summary of the results are presented for each research question. The final section of this chapter discusses the results including an interpretation of the findings, relationship of the study to previous research, implications of the study, limitations of the study, and recommendations for further research.

Statement of the Problem

This research study attempted to determine whether the NCLB requirements for highly qualified teachers benefit students in special education. Although NCLB does not require reading teachers to be certified in special education if they teach students with disabilities, this study also examined whether additional teacher qualifications in special education have any effects on students with disabilities achievement in reading as measured by the FCAT reading assessment. The study addressed the following five research questions:

- 1.) Do ninth grade students with disabilities who are taught by highly qualified reading teachers demonstrate greater achievement on the 9th grade FCAT reading test than students with disabilities taught by teachers who are not highly qualified in reading?
- 2.) Do ninth grade students with disabilities who are taught by highly qualified reading teachers and who are also certified in special education through a traditional teacher preparation program (highly qualified plus) demonstrate

greater achievement in reading than students with disabilities who are taught by teachers highly qualified only in reading?

- 3.) Do ninth grade students with disabilities who are taught by highly qualified plus reading teachers demonstrate greater reading achievement than students with disabilities taught by teachers who are highly qualified in reading and certified in special education through an alternate certification program (highly qualified alternate plus)?
- 4.) Do ninth grade students with disabilities who are taught by highly qualified plus reading teachers demonstrate greater reading achievement than students with disabilities who are taught by teachers who are not highly qualified in reading?
- 5.) What is the relationship of the extraneous variables of teacher demographics and student demographics to 9th grade students with disabilities reading achievement?

Review of the Methodology

This casual comparative and correlational study relied chiefly on archived student data and teacher interviews. Data were organized using ANCOVA with the four teacher qualifications of highly qualified, not highly qualified, highly qualified alternate plus, and highly qualified plus as the active independent variables. Attribute independent variables of the subjects were used as covariates to ascertain grouping effects by economically disadvantaged (ED) classification, Limited English Proficient (LEP) classification, Exceptional Student Education (ESE) classification, and 8th grade FCAT reading scale scores. To control for selection and statistical regression internal validity threats, the subjects' 8th grade FCAT reading scores were also analyzed as a covariate. Attribute independent variables of the teachers were also used as covariates to determine effects of

teacher demographics. It was not possible to test all the teacher covariates at once on account of the small sample sizes. Judgments were made as to what covariates to include based on what was found to be statistically significant using Pearson Correlations. Controlling for the teacher allowed the researcher to remove any variance attributed to teacher differences. Statistical procedures utilized included ANOVA, ANCOVA, Pearson correlations, and linear regression.

Summary of the Results

A summary of findings is presented below for each research question. Discussion of the results is located in the final section of this chapter.

Research question one. Do ninth grade students with disabilities who are taught by highly qualified reading teachers demonstrate greater achievement on the 9th grade FCAT reading test than students with disabilities taught by teachers who are not highly qualified in reading?

The results revealed that students who were taught by highly qualified reading teachers ($M = 279.63$, $SD = 53.136$) did not score significantly better on their 9th grade FCAT reading test than students who taught by non-highly qualified reading teachers ($M = 262.07$, $SD = 45.06$) after controlling for their 8th grade scores. Results were not significant at the .0125 level.

Research question two. Do ninth grade students with disabilities who are taught by highly qualified reading teachers and who are also certified in special education through a traditional teacher preparation program (highly qualified plus) demonstrate greater achievement in reading than students with disabilities who are taught by teachers highly qualified only in reading?

The results did not indicate a significant difference at the .0125 level between the two groups after controlling for 8th grade FCAT scores. *ANCOVA* results were not significant at the .05 level after controlling for 8th grade FCAT scores.

Research question three. Do ninth grade students with disabilities who are taught by highly qualified plus reading teachers demonstrate greater reading achievement than students with disabilities taught by teachers who are highly qualified in reading and certified in special education through an alternate certification program (highly qualified alternate plus)?

There was no significant difference between the mean FCAT reading scores of students who were taught by highly qualified plus reading teachers ($M = 254.17$, $SD = 32.657$), and students who were taught by highly qualified alternate plus reading teachers ($M = 252.87$, $SD = 64.123$). *ANCOVA* results were not significant at the .0125 level after controlling for 8th grade FCAT scores.

Research question four. Do ninth grade students with disabilities who are taught by highly qualified plus reading teachers demonstrate greater reading achievement than students with disabilities who are taught by teachers who are not highly qualified in reading?

Results revealed no significant difference between the mean FCAT reading scores of students taught by highly qualified plus reading teachers ($M = 256.17$, $SD = 32.657$), and students taught by non-highly qualified reading teachers ($M = 262.07$, $SD = 45.063$). The mean FCAT reading score of students taught by highly qualified plus reading teachers was lower than the mean FCAT reading scores of students taught by non-highly

qualified reading teachers. ANCOVA results were not significant at the .0125 level after controlling for 8th grade FCAT scores.

Research question five. What is the relationship of the extraneous variables of teacher demographics and student demographics to 9th grade students with disabilities reading achievement?

Results revealed that out of the 15 teacher demographic variables (years taught, years taught in reading, courses taken in reading, how often prescribed curriculum was used, how often small group rotation was used, how prepared/competent they felt to teach reading, perception of how much reading coach helped, college major, college minor, graduate degree, certifications/endorsements, other curriculum used, other instructional formatting used, and their desire to teach reading) and the 4 student demographic variables (LEP status, SES status, ESE classification, 8th grade FCAT reading scores), the only variable found to be significantly, linearly related to FCAT scores was student grade 8 FCAT scores. Grade 8 FCAT scores had a Pearson correlation of 0.64, significant at < 0.01 level indicating that higher grade 8 FCAT scores were correlated with higher grade 9 FCAT scores. Although economically disadvantaged classification had a correlation of -0.22, indicating as free/reduced lunch eligibility decreased, FCAT scores increased, this was significant at the 0.03 level. Since Bonferroni procedures were used to control for type 1 global error, only Grade 8 FCAT scores was significantly, linearly related to FCAT scores at the 0.01 level.

Additionally, although none of the teacher variables were significantly, linearly related to FCAT scores, several of the variables were strongly correlated with each other. Specifically, how prepared and competent a teacher felt was positively correlated with

the following teacher variables: certification/endorsement in reading ($r = .50$), a desire to teach reading ($r = .52$), courses taken in reading ($r = .52$), certification in special education ($r = .70$), how often they used the prescribed curriculum ($r = .70$), if they had obtained a graduate degree ($r = .21$), and perception of how much help their reading coach provided ($r = .44$). All the correlations were significant at less than the .0001 level except graduate degree which was significant at the .05 level.

Discussion of the Results

This section discusses the results including an interpretation of the findings, relationship of the study to previous research, implications of the study, limitations of the study, and recommendations for further research.

Interpretation of the findings.

On the basis of this study alone, it appears that No Child Left Behind definition for a highly qualified reading teacher may not accurately identify the teacher quality variables that make a difference in the reading achievement of students with disabilities. Students with disabilities who were taught by highly qualified reading teachers did not score significantly better than students who were taught by non-highly qualified teachers. Furthermore, the results appear to suggest that having certification in special education and being highly qualified in reading does not make a difference in the reading achievement of students with disabilities. Student with disabilities who were taught by highly qualified plus reading teachers did not score significantly better than students who were taught by highly qualified reading teachers or even by non-highly qualified reading teachers. In addition, the results suggest that obtaining certification in special education through a college of education preparation program, as compared to an alternate

certification program, does not make a difference in the reading achievement of students with disabilities. Students with disabilities who were taught by highly qualified plus reading teachers did not score significantly better than students who were taught by highly qualified alternate plus reading teachers.

These results may cause one to suggest that the pedagogy of teaching students with disabilities has little effect on increased student reading scores. In addition, one might also question if the additional coursework and practicum, required by the state of Florida to become highly qualified in reading, has little impact on students' reading achievement. Although the literature implies that there should be differences, they were not found in this study. However, more research should be performed with a larger sample to determine if there are other variables which were not controlled for in this study, which may significantly affect student achievement in reading. One variable not controlled for in this study was the number of students with disabilities that each teacher instructed.

Looking closer at the total sample in this study of 94 students with disabilities, the majority of the students (75%) were taught by one of the four highly qualified plus teachers or a highly qualified alternate plus teachers. The remaining 25% of the sample were taught by one of the six either non-highly qualified or highly qualified teachers. Teachers who had both reading endorsement and ESE certification had more students with disabilities placed in their classes as compared to the reading teachers who did not have ESE certification. Of the ten teachers involved in this study, four were classified as not highly qualified, two were classified as highly qualified, two were classified as highly qualified plus, and two were classified as highly qualified alternate plus. The average

number of students with disabilities that non-highly qualified teachers taught was 3.5. This increased to an average of 5 students with disabilities for teachers who were highly qualified. Highly qualified plus teachers taught an average of 12 students with disabilities. Of the two highly qualified alternate plus teachers, one taught 42 students and the other taught 4 students. This discrepancy between the two highly qualified alternate plus teachers is understood by realizing that the teacher who taught 4 students worked in a separate wing of the school for students with severe emotional disturbances and thus had a much lower teacher to student ratio in all her classes.

To further examine this variable of number of students with disabilities assigned to each teacher and reading gains, another variable was created categorizing the highly qualified, the highly qualified plus, and the highly qualified alternate plus reading teachers by the number of students taught. The average mean gain in FCAT scale scores from student's 8th grade year to their 9th grade year for students who were taught by a teacher who was assigned five or fewer students with disabilities was a 43.05 point increase. Students who were taught by a teacher who was assigned 12 or more students with disabilities had an average mean gain of a 21.96 increase. An ANCOVA was performed using 9th grade FCAT scores as the dependent variable, number of students taught as the independent variable, and 8th grade FCAT scores as the covariate. Results indicated a significant difference between the means of students who were taught by teachers who were assigned 5 or fewer students with disabilities ($M = 292.62$, $SD = 51.540$) as compared to the means of students who were taught by teachers assigned 12 or more students with disabilities ($M = 249.20$, $SD = 53.007$). The F value of 5.251 was

significant at the .025 level, and 42% of the variance in FCAT scores could be accounted for by number of students with disabilities each teacher instructed.

Relationship of the current study to prior research.

This study expanded on the study by Lowe (2005) which focused on the reading achievement of 5th grade economically disadvantaged students and minority students. Results indicated that fifth grade students of highly qualified teachers did not outperform fifth grade students of qualified teachers in reading achievement for both the economically disadvantaged students and the minority students. Additionally, the study showed that economically disadvantaged and minority student achievement decreased with the increased percentage of minority/economically disadvantaged enrollment regardless of teacher quality. This current study also found that as the number of students with disabilities assigned to each teacher increased, student achievement decreased. This dissertation made clear distinctions between four levels of teacher qualifications and did not find a statistical significance between any of the levels. This distinction was a suggestion which Lowe (2005) had made for further studies on the distinctions between qualified and highly qualified teachers. He also suggested studies examining the relationships between the reading achievement of students with disabilities and the highly qualified teacher. This study expanded on Lowe's by examining the relationship between students with disabilities reading achievement and the qualifications of their reading teacher.

Kauffman (2005) argues that comparing the achievement of students in special education with the achievement of students in general education is not appropriate; furthermore, the achievement of students with disabilities should be analyzed by

comparing those who receive special education services and those who do not, while controlling for extraneous variables. This current study examined the reading achievement of students with disabilities by comparing them with other students with disabilities based on teacher quality and controlling for extraneous variables.

Due to NCLB's highly qualified requirements, there has been a change from pedagogy to content knowledge and verbal ability (Rosenber, Sindelar, & Hardman, 2004). Although some studies (Ferguson & Womack, 1993) have found that pedagogy coursework has a larger impact on teaching performance and student achievement in math and science (Monk, 1994) than subject matter courses, other studies have shown a correlation between the number of subject matter courses teachers have taken and student achievement in secondary mathematics (Monk & King, 1994) and science (Druva & Anderson, 1983). Nowhere is this emphasis on subject matter felt more than in the field of special education. Special education teachers must now demonstrate subject matter competence for every academic subject they teach to be considered highly qualified (Rosenberg, Sindelar, & Hardman, 2004). Although it is true that subject matter competence may be demonstrated by passing state-administered tests (Yell, Drasgrow, & Lowrey, 2005), this is not true to demonstrate subject matter competence for reading. In Florida, to demonstrate subject matter competence in reading and be considered a highly qualified teacher, one must have either a master's degree in reading or have completed the five required courses for a reading endorsement. Some researchers have stated that there is less of a consensus on what defines teacher competence with the implementation of the highly qualified requirements of NCLB (Lewis, 2005), and that a teacher who is highly qualified is not necessarily a highly effective teacher (Kane, 2007). Furthermore,

some feel that effective personnel practices would be more effective at raising teacher quality than raising certification standards and education levels (Rivkin, Hanushek, & Kain, 2005).

However, other researchers have found that students taught by teachers holding subject-specific certification achieve more than those who are taught by teachers who do not hold subject-specific certification (Darling-Hammond, 2000). In addition, Darling-Hammond found that the percentage of teachers with full certification, and the percentage of teachers with a subject major predicted higher mathematic and reading achievement. Rice (2003) found that subject-specific certification matters in secondary schools, but not in elementary schools.

Additionally, the New York City Board of Education (2000) reported a positive correlation between higher percentages of certified teachers and the percentage of students showing high achievements in reading and math. The results of this current study appear to indicate that the new highly qualified requirements that teachers must demonstrate subject matter competence in reading by taking additional coursework is correlated to increased student reading achievement.

The results of this study do not appear to support other research which has found that subject-specific certification is important for increasing student achievement; however, other variables such as the number of students per class were not controlled for in this study and the sample size was small. In addition, the results are unclear about the importance of special education pedagogy in teaching reading to students with disabilities. This finding could be due to the increased number of students with disabilities taught by teachers who were highly qualified with additional special

education certification, as compared to the few students with disabilities taught by teachers who were highly qualified.

When students with disabilities are placed in disproportionate numbers in a few specific classes, instead of placing a few students in many classes, tracking is occurring. Ansalone (2004) reported that tracking has been justified as a managerial strategy since it limits the wide range of academic diversity in the classroom. He also reported that lower tracked students sense a differential attitude towards themselves and consequently lower their own expectations. Noguera (2003) expanded on this finding by adding that belief in personal efficacy diminishes and students have little incentive to persevere in the face of difficulties. Lowe's (2005) study also showed the correlation between increased numbers of economically disadvantaged and minority students and decreased student achievement. This current study points to the need for more research exploring this correlation between increased numbers of students with disabilities and decreased student achievement.

Bandura and Glasser's theories both emphasize the importance of self-efficacy, which is defined as an individual's belief about their competence on a prospective task. Schmidt, Rozendal, and Greenman (2002) found that teacher attitude and teacher-student collaboration were essential components to successful reading instruction for students with disabilities in an inclusion classroom. Kozol (2005) and Noguera (2003) described the motivation and beliefs of effective urban educators. Their description of these effective educators clearly depicts individuals who have a high sense of self-efficacy. Kozol (2005) described effective urban teachers as “. . . affectionate, confident, morally committed with a fascination and delight with growing children and are thoroughly convinced that each and every one of them, has an inherent value to begin with” (p.286).

Noguera (2003) described effective urban educators as . . . “highly dedicated and skilled professionals who demonstrate commitment, effort, will, enthusiasm, compassion, solidarity, and love” (p. 21). Zientek (2007) found that a teacher’s perception of overall preparedness was predicted mostly by having prior classroom experience, positive school district mentoring experiences, or by participating in a program that contained specific components including curriculum design, lessons, evaluations and assessments, review of state’s AYP assessment, multicultural training, and classroom management. Results of the current study found that there was a direct positive correlation between how prepared and competent the reading teachers felt and how many courses in reading they had taken, their desire to teach reading courses, their perception of how much help their reading coach provided, how often they used the prescribed curriculum, possession of a graduate degree, certification in special education, and certification/endorsement in reading.

Another factor of teacher quality that this study controlled for was teaching experience. Previous studies have found that teaching experience is only correlated with increased student achievement during the first three years of teaching (Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2006; Rice, 2003; Rivkin, Hanushek, & Kain, 2005). The current study found no significant correlation between years of teaching and student achievement in reading. Additionally, the ten teachers in the study had been teaching for at least 5 years and up to 39 years. This study supports other research findings that teaching experience is not an effective indicator of teacher quality.

Implications of the study.

Are students with disabilities making reading gains now that they are receiving reading instruction in the same classes as their non-disabled peers and receiving access to

the same curriculum? While a single study cannot provide a sound basis for the most effective way to increase the reading gains of students with disabilities, this study (and other studies with similar findings) would suggest that it is important that these students are included in classrooms where the ratio of non-disabled student to student with disability equals that of the student population. Placing these students in classrooms taught by a highly qualified reading teacher with a proportionate ratio appears to increase student reading achievement more than by placing these students in a classroom with a disproportionate ratio but with a highly qualified teacher who also has special education certification. Administrators should consider these results when making decisions about how to allocate school resources so that students with disabilities can make the reading gains required by NCLB legislation.

Additionally, is it important for teachers to be highly qualified in reading and certified in special education? The results of this study are unclear if reading subject matter knowledge is more important than special education pedagogy in the reading outcomes of students with disabilities. Although there was a strong correlation between teachers' feelings on being competent and prepared to teach reading, if they had special education certification, if they were highly qualified in reading, and the number of courses they had taken in reading, it was not clear if this impacts student reading achievement. Furthermore, a teacher's feeling on being prepared and competent to teach reading was also significantly correlated with a desire to teach reading, frequent use of the prescribed curriculum, perception of help their reading coach provided, and whether they had obtained a graduate degree. Due to the limitations of this study, it was unclear if

any of these factors which are related to a teacher's sense of self-efficacy in teaching reading have any influence on teaching performance.

Limitations of the study.

Interpretation of this study's results and conclusions should be considered in the context of a few limitations. First, this study was limited due to the fact that data collection only took place in one school district. Obtaining scores from randomly selected multiple school districts would have allowed for generalization of the findings.

In addition, the study's small sample sizes made it difficult to accurately determine relationships between teacher qualifications and achievement levels by the 15 teacher demographic variables. A much larger sample size would be needed to control for this many covariates. One might question if the lack of statistically significant relationships found between achievement levels and the various teacher demographic covariates was a result of a small samples size in relation to the number of teacher variables used in the study.

Furthermore, the unequal sample sizes weakened the power of the test. The power of a test is calculated primarily by the size of the smallest sample. Since my largest sample was 47 and my smallest sample was 9, this significantly weakened the power of the ANCOVA. This increased the probability of committing a type II error and accepting the null hypothesis when it is false. The separate ANCOVAs which were performed show how the tests comparing unequal sample sizes have much weaker power than the test comparing similar sample sizes.

Another limitation of this study was due to the small size for the highly qualified teacher sample ($N = 9$), the lack of response on several of the questions by one of the two

teachers for this sample, created an even smaller amount of data on several of the teacher demographic variables. One might question if this lack of data also contributed to the lack of statistically significant relationships found between student achievement levels and teacher demographics.

Recommendations for further research.

Additional research seems needed on the between class grouping practices of students with disabilities in remedial reading classes. As noted by this study, the number of students with disabilities per class may be a strong predictor of student reading achievement. More research should be performed controlling for this variable and looking at teacher qualifications in reading and special education and student's reading achievement. Furthermore, research on grouping of students with disabilities should also examine the effects of grouping on a student's sense of self-efficacy and how this relates to student reading achievement. Since all students are expected to achieve the reading gains that NCLB requires, there needs to be more scientifically based research to support school administrators in making decisions about student placement and teacher assignment.

This study also indicated a need for additional studies examining if special education certification combined with reading certification produces increased reading gains in students with disabilities. Additionally, more research should be performed on the factors which are related to a teacher's sense of self-efficacy in teaching reading, and how this impacts teaching performance and student achievement. Due to the limitations of this study, this finding was not clear. Further research should be performed to support universities and state education departments with scientifically based research so they can

determine how best to develop programs to train teachers who will teach students with disabilities. Since there is a shortage of special education teachers it is important to know how best to prepare them in both traditional teacher training programs and alternate certification training programs.

Conclusion

This dissertation focused on examining factors believed to affect reading achievement of students with disabilities in intensive reading classes. It is hoped that the results of this study will provide insight and recommendations for future research on how to best educate students with disabilities so they will make the reading gains required of them. By examining reading achievement differences for students with disabilities taught by teachers with varying levels of qualifications and controlling for multiple teacher demographics and student demographics, learning environments can be designed to maintain continued success for all schools that are held accountable by NCLB.

References

- Akiba, M., LeTendre, G.K., & Scribner, J.P. (2007). Teacher quality, opportunity gap, and national achievement in 46 countries. *Educational Researcher*, 36(7), 369-387.
- American Educational Research Association. (2004). English language learners: Boosting academic achievement. *Research Points: Essential Information for Education Policy*, 2(1), 1-4.
- Anderson, D. (2006). In or out: Surprises in reading comprehension instruction. *Intervention in School & Clinic*, 41(3), 175-179. Retrieved March 04, 2007, from the Academic Search Premier database.
- Ansalone, G. (2004). Educational opportunity and access to knowledge: Tracking in the US and Japan. *Race, Gender, & Class*, 11(3), 140-152.
- Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, 52, 1-26.
- Bandura, A., & Locke, E.A. (2003). Negative self-efficacy and goal effects revisited. *Journal of Applied Psychology*, 88(1), 87-89.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W.H. Freeman and Company.
- Bender, W., & Wall, M. (1994, September). Social-emotional development of students with learning disabilities. [Electronic Version]. *Learning Disability Quarterly*, 17(4), 323-341.

- Birman, B., Le Floch, K., Klekotka, A., Ludwig, M., Taylor, J., & Walters, K. (2007, August 1). State and Local Implementation of the No Child Left Behind Act. Volume II--Teacher Quality under NCLB: Interim Report. *US Department of Education*, (ERIC Document Reproduction Service No. ED497970) Retrieved September 24, 2008, from ERIC database.
- Bouck, E. (2007). Lost in translation? Educating secondary students with mild mental impairments. *Journal of Disability Policy Studies*, 18(2), 79-87.
- Boyd, D., Grossman, P., Lankford, H., Loeb, S., & Wyckoff, J. (2006). How changes in entry requirements alter the teacher workforce and affect student achievement. *Education Finance and Policy*, 1(2), 176-215.
- Carnine, D., & Others, A. (1997, January 1). *Direct instruction reading (3rd edition)*. (ERIC Document Reproduction Service No. ED401519) Retrieved September 24, 2008, from ERIC database.
- Chard, D. (2004). Toward a science of professional development in early reading instruction. *Exceptionality*, 12(3), 175-191.
- Chatterji, M. (2006). Reading achievement gaps, correlates, and moderators of early reading achievement: Evidence from the Early Childhood Longitudinal Study (ECLS) kindergarten to first grade sample. *Journal of Educational Psychology* 98(3), 489-507. Retrieved Sunday, September 23, 2007, from the Academic Search Premier database.
- Coleman-Martin, M., Hellar, K., Cihak, D., & Irvine, K. (2005). Using computer-assisted instruction and the non verbal reading approach to teach decoding. *Focus on Autism and Other Developmental Disabilities*, 20(2), 80-90. Retrieved October 21, 2007, from the Academic Search Premier database.

- Darling-Hammond, L., & Youngs, P. (2002). Defining highly qualified teachers: What does scientifically-based research actually tell us? *Educational Researcher*, 31(9), 13-25. (ERIC Document Reproduction Service No. EJ662187). Retrieved October 21, 2007, from ERIC database.
- Darling-Hammond, L. (2000). *Solving the dilemmas of teacher supply, demand, and standards: How we can ensure a competent, caring, and qualified teacher for every child*. New York: National Commission on Teaching's Future. Retrieved March 04, 2007, from the ERIC database. (ERIC Document Reproduction Service No. ED 463337).
- Deshler, D., & Schumaker, J. (1986, April). Learning strategies: An instructional alternative for low-achieving adolescents. *Exceptional Children*, 52(6), 583-590. Retrieved September 24, 2008, from Academic Search Premier database.
- Dieker, L., & Ousley, D. (2006). Speaking the same language: Bringing together highly qualified secondary English and special education teachers. *TEACHING Exceptional Children Plus*, 2(4). Retrieved October 20, 2007, from the Academic Search Premier database.
- Druva, C., & Anderson, R. (1983). Science teacher characteristics by teacher behavior and by student outcome: A meta-analysis of research. *Journal of Research in Science Teaching*, 20(5), 467-479.
- Eisenberger, J., Cont-D'Antonio, M., & Bertrando, R. (2000). *Self-efficacy: Raising the bar for students with learning needs*. Larchmont, NY. Eye on Education, Inc.
- Elbaum, B., Vaughn, S., Hughes, M., Moody, S., & Schumm, J. (2000). How reading outcomes of students with disabilities are related to instructional grouping

- formats: A meta analytic review. In Gersten, R., Schiller, E., & Vaughn, S. (Eds.), *Contemporary special education research: Synthesis of the knowledge base on critical educational issues* (pp.105-136). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Ferguson, R.F., & Womack, S.T. (1993). The impact of subject matter and education coursework on teaching performance. *Journal of Teacher Education*, 44(1), 55-63.
- Fidler, P. (2002). *The relationship between teacher instructional techniques and characteristics and student achievement in reduced size classes*. Los Angeles: Los Angeles Unified School District, California, Program Evaluation and Research Branch.
- Florida Department of Education. (2004). *Assessment and accountability briefing book*. Retrieved June 9, 2008, from <http://fcad.fldoe.org/pdf/BriefingBook07web.pdf>.
- Florida Department of Education. (2007). *No child left behind school public accountability reports*. Retrieved March 19, 2008, from http://doeweb-prd.doe.state.fl.us/eds/nclbpar/nclb0607.cfm?dist_schl=31_291.
- Gehrke, R. (2005). Poor schools, poor students, successful teachers. *Kappa Delta Pi Record*, 42(1), 14. Retrieved Sunday, March 04, 2007, from the ERIC database.
- Gibson, S. (2003). An investigation of the relationship between sustained teacher professional development and student achievement in the school district of Palm Beach County. (Doctoral dissertation, Barry University, 2003). Dissertation Abstracts International, 65 (01A). (UMI No. 3119091).

- Goldhaber, D. (2003). *Indicators of teacher quality* (Report No. ED478408-2003-07-00). New York: ERIC Clearinghouse of Urban Education (ERIC Document Reproduction Service No. ED478408).
- Goldhaber, D., & Brewer, D. (2000). Does teacher certification matter? High school teacher certification status and student achievement. *Educational Evaluation and Policy Analysis*, 22(2), 129-146.
- Goldhaber, D., & Brewer, D. (1997). Evaluating the effects of teacher degree level on educational performance. In W. J. Fowler (Ed.), *Developments in School Finance*, 1996 (pp.197-210). Washington, DC: National Center for Education Statistics, U.S. Department of Education.
- Graham, S., Harris, K., MacArthur, C., & Schwartz, S. (1991, March). Writing and writing instruction for students with learning disabilities: Review of a research program. [Electronic Version]. *Learning Disability Quarterly*, 14(2), 89-114.
- Graham, S., & Harris, K. (1989, November). Improving Learning Disabled Students' Skills at Composing Essays: Self-Instructional Strategy Training. *Exceptional Children*, 56(3), 201-214. Retrieved September 24, 2008, from Academic Search Premier database.
- Harris, K., & Graham, S. (1992). *Helping young writers master the craft: Strategy instruction and self-regulation in the writing process*. Cambridge, MA: Brookline Books.
- Harry, B., & Klinger, J. (2006). *Why are so many students in special education? Understanding race and disability in schools*. New York: Teachers College Press.

- Hertert, L. & Teague, J. (2003). *Narrowing the achievement gap: A review of research, policies, and issues*. Palo Alto, CA: EdSource. Retrieved September 2, 2007, from the ERIC database (ERIC Document Reproduction Service No. ED 473 724).
- Ingels, S. (1996). Sample exclusion in NELS: 88: Characteristics of base year ineligible students; Changes in eligibility status after four years (NCES Tech. Rep. No. 96-723). Washington, DC: U.S. Department of Education, Institute of Education Sciences.
- Jacobson, L. (2004, March 17). First major study suggests worth of national seal. *Education Week*, 23(27). (ERIC Document Reproduction Service No. EJ755605) Retrieved September 23, 2007, from ERIC database.
- Joftus, S., & Maddox-Dolan, B. (2003). Left out and left behind: NCLB and the American high school. Every child a graduate. Washington, DC: Alliance for Excellent Education. Retrieved Sunday, March 04, 2007 from the ERIC database. (ERIC Document Reproduction Service No. ED 476303).
- Kane, T. (2007). Photo finish: Certification doesn't guarantee a winner. *Education Next*, 60-67.
- Kauffman, J.M. (2005, March). Waving to Ray Charles: Missing the meaning of disabilities. *Phi Delta Kappan*, 520-524.
- King-Sears, M.E. (2005). Are you highly qualified? The plight of special educators for students with learning disabilities. *Learning Disability Quarterly*, 28, 187-188.
- Koppich, J., & Practices., N. (2004). Developing state policy to ensure a "highly qualified" teacher in every classroom. Issue brief. *National Governors*

- Association*, Retrieved March 04, 2007, from the ERIC database. (ERIC Document Reproduction Service No. ED 489212).
- Kozol, J. (2005). *The shame of the nation: The restoration of apartheid schooling in America*. New York: Crown Publishers.
- Lee, S. (2003, March 23). No Child Left Behind and students with disabilities. PowerPoint presentation at the Office of Special Education Programs in the U.S. Department of Education. Retrieved March 6, 2007, from <http://www.ed.gov>.
- Leonard, D. (2002). *Learning theories, A to Z*. Westport, CT: Greenwood Publishing Group.
- Lewis, A. (2005). Washington commentary: Highly qualified teachers--we know 'em when we see 'em. *Phi Delta Kappan*, 86(8),. Retrieved March 04, 2007, from the ERIC database.
- Lewis, L., Parsad, B., Carey, N., Bartfai, N., Farris, E., & Smerdon, B. (1999). *Teacher Quality: A Report on the Preparation and Qualifications of Public School Teachers*. National Center for Education Statistics NCES 1999-080. Washington, DC: U.S. Department of Education.
- Lowe, M. (2005). The effects of teacher quality by race and socioeconomic status on fifth grade reading achievement. (Doctoral dissertation, Union University, 2005). Dissertation Abstracts International, 66(11A). (UMI No.3197281).
- Malone, Y. (2002). Social cognitive theory and choice theory: A compatibility analysis. *International Journal of Reality Therapy*, 22(1), 10-13.
- Martin, J. (2004). Self-regulated learning, social cognitive theory, and agency. *Educational Psychologist*, 39(2), 135-145.

- Mastropieri, M., & Scruggs, T. (Eds.). (2007). *The inclusive classroom: Strategies for effective instruction (3rd ed.)*. Upper Saddle River, NJ: Pearson.
- McDonnel, L., McLaughlin, M., & Morrison, P. (Eds.). (1997). *Educating one and all: Students with disabilities and standards based reform*. Washington, D.C.: National Academies Press.
- McGrew, K., Vanderwood, M., Thurlow, M., & Ysseldyke, J. (1995). *Why we can't say much about the status of students with disabilities during educational reform (Synthesis Rep. No. 21)?* Minneapolis: University of Minnesota, National Center on Educational Outcomes.
- Miller, S., & Mercer, C. (1997, January). Educational aspects of mathematical disabilities. *Journal of Learning Disabilities*, 30(1), 47. Retrieved September 24, 2008, from Academic Search Complete database.
- Monk, D. (1994). Subject area preparation of secondary mathematics and science teachers and student achievement. *Economics of Education Review*, 13(2), 125-145.
- Monk, D., & King, J. (1994). Multilevel teacher resource effects in pupil performance in secondary mathematics and science: The case of teacher subject-matter preparation. In R.G. Ehrenberg (Ed.), *Choices and consequences: Contemporary policy issues in education* (pp. 29-58). Ithaca, NY: ILR Press.
- Morton, B., Hurwitz, M., Strizek, G., Peltola, P., and Orlofsky, G. (2008). *Education and Certification Qualifications of Departmentalized Public High School-Level Teachers of Core Subjects: Evidence from the 2003–04 Schools and Staffing*

Survey (NCES 2008-338). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC.

Newcomer, P., & Barenbaum, E. (1991, December). The written composing ability of children with learning disabilities: A review of the literature from 1980-1990. *Journal of Learning Disabilities*, 24(10). Retrieved September 24, 2008, from Academic Search Complete database.

New York City Board of Education, Brooklyn Division of Assessment and Accountability. (2000). Impact of teacher certification on reading and mathematics performance in elementary and middle schools in New York City schools. New York: Author.

Nicholas, K. (2002) The effects of structured writing strategy training on expository compositions produced by African-American college students with learning disabilities. Ph.D. dissertation, The Florida State University, United States -- Florida. Retrieved September 24, 2008, from Dissertations & Theses: Full Text database. (Publication No. AAT 3072009).

Noguera, P. (2003). City schools and the American dream: Reclaiming the promise of public education. New York: Teacher College Press.

Pearson, P., Barr, R., Mosenthal, P., & Kamil, M. (Eds.). (2000). *Handbook of reading research* (vol. 3). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Penuel, W., Fishman, B., Yamaguchi, R., & Gallagher, L. (2007). What makes professional development effective? Strategies that foster curriculum implementation. *American Educational Research Journal*, 44(4), 921-958.

- Petrilli, M., & Finn, C. (2006). A new, new federalism: The case for national standards and tests. *Education Next*, 48-51.
- Pogorzelski, S., & Wheldall, K. (2002). Do differences in phonological processing performance predict gains made by older low-progress readers following intensive literacy intervention? *Educational Psychology*, 22(4), 413-427. Retrieved March 04, 2007, from the PsycINFO database.
- Reese, S. (2004). The highly qualified teacher under NCLB. *Techniques: Connecting Education and Careers*, 79(8), 33. Retrieved March 04, 2007, from the ERIC database.
- Reid, D. (1988). Teaching the learning disabled: A cognitive developmental approach. Boston: Allyn & Bacon, Inc.
- Rice, J. (2003). *Teacher quality: Understanding the effectiveness of teacher attributes*. Washington, DC: Economic Policy Institute.
- Rivkin, S., Hanushek, E., & Kain, J. (2005). Teachers, schools, and academic achievement. *Econometrica*, 73(2), 417-458.
- Rockoff, J. (2003). *The impact of individual teachers on student achievement: Evidence from panel data*. Cambridge, MA: Harvard University, Kennedy School of Government.
- Rosenberg, M., Sindelar, P., & Hardman, M. (2004). Preparing highly qualified teachers for students with emotional or behavioral disorders: The impact of NCLB and IDEA. *Behavioral Disorders*, 29(3), 266-278.

- Rowan, B., Chiang, F., & Miller, R. (1997). Using research on employees' performance to study the effects of teachers on students' achievement. *Sociology of Education*, 70(4), 256-284.
- Seastrom, M., Gruber, K., Henke, R., McGrath, D., & Cohen, B. (2002). Qualifications of the Public School Teacher Workforce: Prevalence of Out-of-Field Teaching 1987-88 to 1999-2000 (NCES 2002-603). U.S. Department of Education. Washington, DC: National Center for Education Statistics.
- Schmidt, R., Rozendal, M., & Greenman, G. (2002). Reading instruction in the inclusion classroom: Research-based practices. *Remedial and Special Education*, 23(3), 130. Retrieved March 04, 2007, from the ERIC database.
- Scruggs, T., & Mastropieri, M. (1993, June). Special education for the twenty-first century: Integrating learning strategies and thinking skills. *Journal of Learning Disabilities*, 26(6). Retrieved September 24, 2008, from Academic Search Complete database.
- Shen, J., Mansberger, N., & Yang, H. (2004). Teacher quality and students placed at risk: Results from the baccalaureate and beyond longitudinal study, 1993-97. Educating students placed at risk. *Educational Horizons*, 82(3), 226. Retrieved March 04, 2007, from the ERIC database.
- Shippen, M., Houchins, D., Calhoon, M., Furlow, C., & Sartor, D. (2006, November). The Effects of Comprehensive School Reform Models in Reading for Urban Middle School Students With Disabilities. *Remedial & Special Education*, 27(6), 322-328. Retrieved November 4, 2008, from Academic Search Complete database.

- Smith, J., Lee, V., & Newman, F. (2001). *Instruction and achievement in Chicago elementary schools: Improving Chicago's schools*. Chicago: Consortium on Chicago School Research. Retrieved August 26, 2007, from the ERIC database. (ERIC Document Reproduction Service No ED 470298).
- Strauss, R., & Sawyer, E. (1986). Some new evidence on teacher and student competencies. *Economics of Education Review*, 5(1), 41-48.
- Stroud, L. (2002). To group or not to group: A qualitative study of middle school principals decision making processes concerning ability level grouping. (Doctoral dissertation, East Tennessee State University, 2002). *Dissertations Abstracts International*, 63 (02A), 457.
- Taylor, B., Pearson, P., Clark, K., & Walpole, S. (2000). Effective schools and accomplished teacher: Lessons about primary grade reading instruction in low-income schools. *The Elementary School Journal*, 101(2), 121-165.
- Torgesen, J., & Wagner, R. (1994, May). Longitudinal studies of phonological processing and reading. *Journal of Learning Disabilities*, 27(5), 276. Retrieved September 24, 2008, from Academic Search Complete database.
- Torgesen, J. (1988, December). The cognitive and behavioral characteristics of children with learning disabilities: An overview. *Journal of Learning Disabilities*, 21(10), 587. Retrieved September 24, 2008, from Academic Search Complete database.
- Tralli, R., & Colombo, B. (1996, July). The strategies intervention model: A model for supported inclusion at the secondary level. *Remedial & Special Education*, 17(4), 204. Retrieved September 24, 2008, from Academic Search Complete database.

- VanTassel-Baska, J., & Stambaugh, T. (2006). Project Athena: A pathway to advanced literacy development for children of poverty. *Gifted Child Today*, 29(2), 58-63.
- Wayne, A. & Youngs, P. (2003). Teacher characteristics and student achievement gains: A Review. *Review of Educational Research*, 73(1), 89-122. Retrieved September 23, 2008, from ProQuest Psychology Journals database. (Document ID: 350470711).
- Weinstein, C., Ridley, D., Dahl, T., & Weber, E. (1988, December). Helping students develop strategies for effective learning. *Educational Leadership*, 46(4), 17. Retrieved September 24, 2008, from Academic Search Complete database.
- Williams, S. (1993). A comparison of student achievement under two Georgia remedial education program delivery models. (Doctoral dissertation, University of Georgia, 1993). *Dissertation Abstracts International*, 55 (01A), 4643.
- Xin, T., Xu, Z. & Tatsuoaka, K. (2004). Linkage between teacher quality, student achievement, and cognitive skills: A rule-space model. *Studies in Educational Evaluation*, 30, 205-223.
- Yell, M., Drasgow, E., & Lowrey, K. (2005). No child left behind and students with autism spectrum disorders. *Focus on Autism and Other Developmental Disabilities*, 20(3), 130-139.
- Zientek, L. (2007). Preparing high-quality teachers: Views from the classroom. *American Educational Research Journal*, 44(4), 959-1001.

Appendix A

Teacher Demographic Questionnaire

- 1.) How many years have you been teaching?
- 2.) How many years have you been teaching reading?
- 3.) What was your major/minor in college and where is it from?
- 4.) What is your highest level of education and what is it in?
- 5.) What are you certified/endorsed to teach?
- 6.) If not in reading, how many courses have you taken in reading?
- 7.) On a scale of 0-4, how often did you use the Read 180 curriculum, or other curriculum given by the reading coach, until the FCAT was administered?
- 8.) If not, what curriculum did you use?
- 9.) On a scale of 0-4, how often did you utilize small group rotational cycles for the class sessions until the FCAT was administered?
- 10.) If not, what instructional group formatting did you use?
- 11.) Given a choice, would you have selected to teach an intensive reading course?
- 12.) On a scale of 0-4, please rate how prepared and competent you felt you were to teach intensive reading courses during the 2006-2007 school year?
- 13.) On a scale of 0-4, please rate how you feel the reading coach helped to prepare you by providing materials, guidance, and mentoring.
- 14.) What were your scores on your college entrance exam or on the FTCE?