

AN ANALYSIS OF HIGHLY QUALIFIED SPECIAL EDUCATION TEACHERS  
AMONG HIGH POVERTY URBAN AND RURAL SCHOOLS

by

Stephen Patrick Campbell

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APPROVED:  
Committee Chair Thomas O. Williams  
David Hicks  
Jeremy Ernst  
Bradley Bowen

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## ABSTRACT

The purpose of this study was to provide a descriptive analysis comparing highly qualified and non-highly qualified special education teachers in the 2011-12 Schools and Staffing Survey. It examined how the qualifications of special education teachers varied among K-12 public schools according to the urbanicity of the school and the proportion of students in poverty within a school. Variables included those related to teacher qualifications, demographic characteristics, and school characteristics.

The findings demonstrated that there were differences in the demographic characteristics of highly qualified and non-highly qualified special education teachers. There were no statistically significant differences found for urbanicity alone. There were statistically significant differences found for poverty levels. Statistically significant differences were also found for both highly qualified and non-highly qualified special education teachers when poverty quartiles were analyzed by urbanity locales.

The findings emphasize the need to provide targeted interventions to promote, retain, and supply all schools with qualified special education teachers. The findings also indicate there is an unequal distribution of highly qualified special education teachers within identified poverty levels and urbanicity.

General Audience Abstract

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## DEDICATION

For all my family, friends, and advisors who were always available throughout this process and their support through this long journey; especially my wife Susan, Dr. Williams for keeping me on track, Magen and Taylor Campbell, Chris and Joie Criscione, Kendall Brent, Bill Mapp, my Emory & Henry family, and the twins Laurie Arthur and Nancy Faris. I never could have completed this without you. In memory of Dr. Lewis Romano, former committee member, for his support and advice towards my dissertation by keeping my feet close to the fire.

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“The path you follow through life is the one dictated by your deepest, most inconspicuous thoughts. Your brain is constantly pushing you along that path, whether it’s the one you consciously choose to take or not.”

- Gary John Bishop

Over the past four years, my wife, Susan, has granted me the ability, both finically and emotionally, to pursue my doctorate. Without her, this could have never happened without her sacrifices and support. My daughters Magen and Taylor have always believed in me in accomplishing my goal. While attending Virginia Tech I had the pleasure of working with many intellectual individuals who afforded me wisdom, encouragement, and humor. I especially want to thank my committee members for their never ending revisions, edits, and feedback. To my mentors I want to thank them for keeping me on track. I want to especially thank my committee members who believed in me and their welcomed and at times their harsh comments for keeping me focused and reminding me for going off on tangents that have no meaning to my dissertation.

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## CHAPTER I

### STATEMENT OF THE PROBLEM

Since its congressional enactment, *The No Child Left Behind Act 2001* (NCLB) has established national educational policy. This legislation set the standards for state and local school accountability and established a national agenda for improving student achievement, maintaining a highly qualified teaching staff, and using assessment as the major tool for accountability. The *Every Student Succeeds Act 2015* (ESSA) was recently signed into law and superseded the NCLB. As future versions of the Schools and Staffing Survey (SASS) databases will be revised to reflect the highly qualified teacher requirements of ESSA, this research effort focused on specific variables associated with the NCLB and SASS.

#### **Defining Teacher Quality**

Teacher quality refers to how effective a teacher is in getting students to meet a standard indicator of educational success. Teacher quality has become an increasingly important topic since the revamping of NCLB to ESSA, with serious repercussions for schools not meeting the state standards. An unequal distribution of highly qualified special education teachers has impacted our nation's ability to create, monitor, sustain, and achieve an equitable educational system for all students.

There have been persistent problems in providing highly qualified special education teachers (HQSETs) to local education agencies (LEAs) serving in districts with high percentages of students from a low socio-economic status (SES), racial minorities, English Language Learners (ELLs), or those that required remediation and special education programs (Darling-Hammond, 2000a, 2000b; National Partnership for

Teaching in At Risk Schools, 2005). The NCLB goal of having highly qualified teachers (HQTs) has been challenging and not all students have had access to such teachers.

Schools with high percentages of low SES students, minority students, and ELLs tended to have less access to HQTs (Clotfelter, Ladd, Vigdor, & Wheeler, 2007a; Goe, 2002; Iatorola & Stiefel, 2003; Lankford, Loeb, & Wyckoff, 2002; Peske & Haycock, 2006).

School administrators from many city and rural schools have indicated concerns relating to the recruitment of HQTs to fill vacant positions. The availability of HQTs is especially problematic in special education where chronic teacher shortages and attrition confound the goal of attracting qualified teachers for students with disabilities (Billingsley, 2004b; Boe & Cook, 2006). Growing research had indicated that schools with the most disadvantaged students were not attracting the most effective teachers (Goldhaber, 2008; Glazerman & Max, 2011; Sass, Hannaway, Xu, Figlio, & Feng, 2012). The question was not simply staffing our highest needs schools with teachers, but staffing them with highly effective teachers that would likely remain in these schools.

Educational researchers have suggested teacher quality as the most important factor in determining student academic success. Goe (2007) classified measures of teacher quality into four factors: (1) qualification (the credentials and resources a teacher delivers to the classroom that include degrees, coursework, experience, subject matter, certification, and credentials), (2) characteristics (teacher's ethnicity, gender, attitudes, and attributes), (3) practice (teacher's instructional methods and classroom management styles), and (4) effectiveness (a statistical method of value-added that contributes towards academic student achievement).

## **Purpose**

The purpose of this study is to expand research on descriptive profiles of highly qualified and non-highly qualified special education teachers with data from the 2011-2012 administration of the School and Staffing Survey (SASS: 12) with high and low poverty demographics and urbanicity. The SASS: 12 is currently in the process of being replaced by the National Teacher and Principal Survey (NTPS). The SASS: 12 is the last survey under this heading and the most recent of the SASS series. The NTPS is slated to be released in late 2018.

The landscape of the teaching force has dramatically changed with increased numbers of men, minorities, and mid-career changers. This research would aid in discovering who is teaching, where they are teaching, how they were prepared, and how the qualifications of special education teachers varied by demographic characteristics, profiles, and teaching positions based on school level. This study would aid administrators in high poverty locales by first addressing the population of highly qualified teachers to non-highly qualified teachers. Secondly, this study provides documentation of the distribution of special education teacher credentials and school localities. Thirdly, it uses nationally representative data from the SASS: 12. Fourth, it updates other studies on the uneven distribution of special education teachers especially in high poverty locales (Boe, Bobbitt, & Cook, 1997; Boe, Bobbitt, Cook, Whitener et al., 1997; Boe et al., 1998; Boe & Cook, 2006; Boe et al., 2007; Mason, 2015).

### ***Data Source***

Data was obtained from a restricted-use data license for the SASS from the Institute of Education Sciences. The Schools and Staffing Survey had four main

elements: the School Questionnaire, the Teacher Questionnaire, the Principal Questionnaire, and the School District Questionnaire. The respondents to these questionnaires are from public, private, charter, and the Bureau of Indian Education/tribal schools (NCES, 2015). This study only used SASS data from public schools.

The SASS classification system enveloped an extensive range of topics ranging from teacher demand, teacher compensation, hiring and retention procedures, general school conditions, principals' and teachers' insight into school climate and difficulties in their schools, and student population characteristics. The sample data was comprised of teachers who designated special education as their primary teaching assignment on the Teacher Questionnaire. This investigation included both full and part-time special education teachers.

### ***Research Questions***

This study analyzed the impact of NCLB's HQSET requirements and distribution among high poverty urban, and rural schools. The following research questions were chosen to illustrate special education teachers' qualifications and their qualifications as they relate to poverty and urbanicity.

**Research Question 1:** To what extent do characteristics of highly qualified special education teachers vary between non-highly qualified special education teachers with respect to profile and demographic traits?

**Research Question 2:** To what extent do the percentages of highly qualified special education teachers compare to non-highly qualified special education teachers between high poverty versus low poverty schools and urbanicity?

### *Summary and Significance of Study*

The effect of NCLB to ESSA places high-stakes accountability pressure on teacher work force dynamics. Uneven distribution of qualified special education teachers could alter decision-making processes of administrators and teachers (Education, 2015). As evidenced from research, problems faced by schools across the nation, are teacher qualifications, equity distribution, and attrition. The vacancies of highly qualified special education teachers in schools and classrooms have had major repercussions for students with disabilities and thus created instability and deficiencies of continuity concerning academic educational achievement and goals.

This issue is particularly pressing in locales of poverty where teacher turnover rates are high. Data from the SASS: 12 provided direction on special education teacher qualifications and distribution among schools across a nationally representative set of data. The data allows for understanding the phenomenon of certification qualifications and positions available among high poverty urban and rural school divisions.

## CHAPTER II

### LITERATURE REVIEW

The purpose of this study is to expand research on descriptive profiles of highly qualified and non-highly qualified special education teachers with data from the 2011-2012 administration of the School and Staffing Survey (SASS: 12) with high and low poverty demographics and urbanicity. The parameters of this study began with what constitutes highly qualified teachers and how we define quality. Determining the competencies, qualities, and dispositions of teachers that can bring academic success for all students is paramount. This review of literature emphasized teacher quality among both general and special education teachers in predominately high-poverty demographics.

#### Research on Teacher Quality

The shortage of highly qualified special education teachers (HQSETs) is a concern for administrators and principals that contributes to the difficulty in hiring and retaining quality special education teachers (SETs). Students were to be taught by HQSETs as required in the *No Child Left Behind Act* (NCLB) and *Individuals with Disabilities Education Act* (IDEA). Because of NCLB and IDEA mandates, SETs must be competent and proficient in student interventions, accommodations, modifications, and pedagogical practices for special education students and knowledgeable in core academic content of the general curriculum (Brownell et al., 2010). However, there is a shortage of HQSETs within high poverty schools.

Research across three states that addressed certification and experience of SETs indicated that fully certified and experienced SETs were “inequitably distributed” with a lower allotment of these HQSETs placed in high-poverty schools (Peske & Haycock,

2006). Thus, HQSETs in more affluent school systems had more credentials and teacher preparation than teachers in high-poverty schools. Administrators in high-poverty schools reported higher teacher attrition, lower teacher tenure, and more vacancies to those in wealthier districts (Fall & Billingsley, 2007a). Additionally, high-poverty schools generally lose one-fifth of their total faculty each year (Ingersoll, 2004).

The American Association for Employment in Education (2003) stated, “in spite of decades-long shortages in the special education fields, *No Child Left Behind* and ‘Highly Qualified Teacher’ requirements have become more demanding” (p. 8). The highest attrition percentage from any main assignment field in K-12 education was among SETs, with annual percentages of 9.8 moving into regular education and 12.3 leaving the profession, with a cumulative total of 22.1 percent of SETs leaving the field each year (Keigher, 2010).

The provisions of NCLB on the quality of teachers were established in two arenas. First, NCLB sets benchmarks on state administered test scores for schools to meet Adequate Yearly Progress (AYP). The accountability for student achievement in schools making AYP was placed upon the HQTs in both general and special education. This accountability of student performance and growth was interlinked to the supply and demand to the distribution of these HQTs within a local education agency (LEA). Second, LEAs must explicitly hire and retain HQTs as mandated by NCLB.

The U.S. Department of Education corroborated information with the National Center for Education Statistics (2015) and showed that nationwide, 98 percent of LEAs have consistently reported a shortage of HQSETs. As of the 2013-2014 academic school year, 47 U.S. states declared a shortage of HQSETs in their K-12 public schools. This has

continually been a struggle for schools throughout the country. The need for HQSETs will increase 17 percent between 2010-2020 based on the Bureau of Labor Statistics (Bureau of Statistics, U.S. Department of Labor, 2009). The biggest projected increase for SETs would be in preschool at a growth of 16 percent from 2012-22 (Bureau of Statistics, U.S. Department of Labor, 2012).

Darling-Hammond (2004) contends that, “Large disparities . . . exist in the educational opportunities available to rich and poor students in most states” (p. 1936). In a 20 year longitudinal study, Elliot (2013) concluded that children in low socio-economic status (SES) schools had lower academic achievement test scores, lower high school graduation rates, lower college enrollment rates, and lower college graduate rates than children in a higher SES school. Under-funding is a major contributing factor to this problem with poverty schools (Darling-Hammond, 2013). Additionally, teachers in high-poverty schools are more inclined to be poorly and inadequately prepared (National Partnership for Teaching in At-Risk Schools [NPTARS], 2005). Administrators and principals need to understand demographic features to determine where special educations migrate to and what supportive measures are needed to determine the characteristics needed to attract highly qualified special education teachers.

### ***Teacher Qualifications and Teacher Quality***

Billingsley (2005) stated that the population of students with disabilities grew at a rate three times faster than the general education population from 1995 to 2005. Local education agencies faced a shortage of HQSETs and had, in some cases, hired unqualified applicants to fill special education positions. Thus, some schools now had

unqualified teachers who have not received appropriate teacher preparation training to meet the diverse needs of students with disabilities.

Cross and Billingsley (1994) stated that, “Teachers with higher levels of education are also likely to feel better qualified for other lines of work than their peers” (p. 419). Conversely, they also reported, “many teachers who are dissatisfied and want to leave cannot, because they do not have the skills necessary for employment elsewhere” (p. 418). As a result, the HQSETs leave and dissatisfied teachers stay.

### ***Alternative Route Certification***

The emergence of alternative teacher licensure (ATL) or alternative route certification (ARC) “now offer teachers alternative routes into the profession” and “alternative routes now prepare nearly one out of every five teachers” (Walsh & Jacobs, 2007, p. 3). In a 2009 report by the United States Government Accountability Office, “alternative routes to certification are gaining in popularity” and “the number of individuals who completed alternative routes to certification programs increased by almost 40%” from 2000-2004 academic school years (p. 8). This was in direct response to NCLB and IDEA mandates for HQTs and HQSETs. Congress appropriated \$41.65 million in 2003 for the Transition to Teaching programs allowing mid-career individuals to pursue alternative routes into the educational system and into the classroom (Mikulecky, Shkodriani, & Wilner, 2004).

There are approximately 485 alternate route programs being implemented for teacher certification in all 50 states and the District of Columbia (Feistritzer, 2008). Alternative route certification differs from traditional teacher certification licensure due to: (a) geographical regions having amplified shortages, (b) the recruiting of diverse

candidates of prospective teachers attempting to enlarge the candidate pool and (c) after an abbreviated preservice training period, from four to eight weeks or up to one year, initial teacher candidates can become full time (Kee, 2012).

Many LEAs have become dependent on ARCs to staff school vacancies nationally (Helig, Cole, & Springel, 2011). Usually, ARC candidates are allotted four to eight weeks training before participating in the teaching profession. As teachers immersed themselves into the classroom environment from an ARC program, their education and training continued during their first year of teaching (Kee, 2012). Studies by Ng and Peter (2009) and Humphrey and Wechsler (2007) state that accelerated admittance into the teacher work force has spawned warranted cause from those questioning the short cut/fast track admittance of the aptitude and ability of ARCs to generate quality teachers. Data regarding retention rates of ARC teachers is inconclusive.

In 2010, the Secretary of Education's 7<sup>th</sup> Annual Report of Teacher Quality stated that approximately 15,267 SETs were "hired pre-license" during the 2006-07 school year. Robertson and Singleton (2010) stressed that the large number of newly hired unlicensed SETs are impacting the instruction of approximately 600,000 children with disabilities each year nationwide.

Demographics for teacher shortages vary broadly within each state and amid geographic regions (Murphy, DeArmond, & Guin, 2003). Research on new teachers show a tendency to apply to positions in LEAs that are close to their hometowns or in communities with demographic similarities (Boyd, Lankford, Loeb, & Wyckoff, 2005a). Demographic compositions of communities and schools play an integral role in teacher recruitment and retention.

In the United States, there was a teaching work force of approximately 3.6 million teachers in roughly 90,000 schools (U.S. Department of Education, 2011). Teacher education programs were offered by approximately 1,400 colleges and universities in the United States. Colleges and universities held a virtual monopoly in teacher education in the United States for a comparatively brief time period (approximately 1960-1990).

There has been an enormous increase in non-college and university sponsored teacher education programs included for new for-profit programs since the 1990s (Baines, 2010). A variety of non-profit and for-profit programs were authorized and were being offered to school districts, which administered programs that prepared one-third of new teachers each year in the nation (National Research Council, 2011).

An increasing number of teacher candidates entering the teacher work force through non-university sponsored routes, alternative route certification (ARC) programs, often with little or no preparation before assuming complete responsibility for classroom students (Grossman & Loeb, 2008). By this route, 62,000 new teachers were certified annually with 600 programs, including school-based programs, college/district institutes, apprenticeships, residencies, internships, charter school training academies, as well as third-party routes such as Teach for America, Teaching Fellows, The New Teacher Project, and the alternative route certification of the American Board for Certification of Teacher Excellence (AACTE, 2010).

The American Association of Colleges for Teacher Education (AACTE) reported that 540 institutions offered a Masters of Arts program or ARC programs for initial teacher licensure (Ludvig, Kirshstein, Sidana, Ardila-Rey, & Bae, 2010). Teachers attaining their initial licensure through ARC programs constitute an increasing amount of

the teaching work force. Estimates indicate that a half million teachers accomplished licensure through this route (Feistritzer, 2009). The states with the largest ARC programs, in term of number of graduates, are currently in the states where licensure processes are the oldest and most established: California, New Jersey, and Texas (Feistritzer & Haar, 2008).

### ***Teacher Effectiveness in Defining Teacher Quality***

Teacher quality often referred to traits, dispositions, skills, and characteristics gleaned from training experiences. A primary focus on the purpose of teaching was to engage and support student learning and; thereby, demonstrated positive academic growth. To become an effective teacher, one must develop a wide range of behaviors that reflect the strategies, approaches, and processes that positively impact student academic achievement and growth (Darling-Hammond, 2009, 2010, 2012; Gallagher et al., 2011; Goe et al., 2008; National Education Association [NEA], 2011). Credentialed SETs are reported to have a greater impact on students' reading and mathematics academic achievement than when students were taught by uncertified SETs (Feng & Sass, 2010).

### ***Measuring the Quality of Special Education Teachers***

Although the importance of quality teachers has been confirmed by research, studies on teacher evaluation practices have indicated that these systems often fail to differentiate between effective and ineffective teacher performances. Evaluation practices were often unrelated to professional development and did not incorporate information about teacher impact on student performance (Weisberg, Sexton, Mulhern, & Kelling, 2009). Federal incentives have led legislatures to focus more closely on teacher quality.

The importance of performance testing by state legislatures has led to teacher performance on student growth based on end of year core content scores. Policies have shifted from teacher professional requirements such as degrees attained (embraced by NCLB Act “Highly Qualified” standards for educators) to methods that incorporated performance-based evaluations. An important and controversial component of performance-based evaluations was the inclusion of student growth and objective measures to student learning (Holdheide, Goe, Croft, & Reschly, 2010).

Research has not demonstrated that using a teacher evaluation system can successfully measure teacher performance relating to student academic growth (Steele, Hamilton, & Stecher, 2010). Due to federal requirements, state education agencies and LEAs have had to incorporate legislative policy and practice to measure student growth, especially for students with disabilities (Holdheide, Browder, Warren, Buzick, & Jones, 2012).

### ***Summary***

Defining teacher quality and providing qualified teachers to all students is a significant problem faced by state leaders, school administrators, and policymakers. Both NCLB and IDEA mandate that every student should have access to a highly qualified teacher in all core academic subjects. At the same time, stakeholders disagree over the definition of teacher quality and challenge the likelihood that all classrooms can have a teacher who meets the highly qualified standard due to shortages in the supply and high turnover rates. Evidence of the shortfall of highly qualified teachers comes from reports of disproportionate assignment of unqualified teachers to schools with high proportions of poor, minority, and non-English speaking students (Clotfelter Ladd, & Vigdor, 2007;

Clotfelter, Ladd, & Vigdor, 2005). In special education, the dilemma has been impaired by chronic shortages and high turnover rates of teachers prepared to work with students with disabilities (Billingsley, 2004a; Boe, 2006).

The reliance on under-prepared teachers in schools may directly impact the academic outcomes of students in special education. This is especially true in urban schools with high proportions of poor and minority students or in rural areas where administrators note struggles to recruit and retain qualified special educators (National Partnership for Teaching in At-Risk Schools, 2005; Peske & Haycock, 2006; Southeast Center for Teacher Quality, 2004).

### **Policy and Teacher Quality**

#### ***The Influence of Research on Federal Teacher Policies***

In 1983, the National Commission on Excellence in Education sponsored by the U.S. Department of Education released *A Nation at Risk* detailing how poorly American schools were performing compared to other industrialized countries. *A Nation at Risk* cited low national and international student test scores, a weak curriculum primarily in the sciences and mathematics, and other impediments to America's dominance which generated a national panic (Amrein-Beardsley A. , 2014). "They prompted anxiety and alarm about the weakening condition of the American public school system and, consequently, the nation's global supremacy and economic dominance" (p. 57).

In a challenge to the report's conclusions, Berliner and Biddle (1995) published *The Manufactured Crisis* questioning the methods and statistics used in documenting America's educational failures and how politicians used the report as misdirected reforms. The authors alleged that the report was an example of how political leaders

misled the nation about the quality of public schools by “manufactured” social engineering of a “crisis.” John L. Goodlad, a prominent education scholar, concludes that *The Manufactured Crisis* gained national media attention, but failed to focus on its recommendations by spotlighting the “bad news,” and existing problems in schools. Goodlad observed that the link between the national economy and student achievement was overstated in the report (2003). Other criticisms included that the report primarily emphasized high schools and virtually ignored K-8 education (Peterson, 2003) as well as having a lack of citations for the numerous statistics used as evidence of American schools’ low quality (Berliner & Biddle, 1995).

Regardless of the report’s weaknesses, its impact on American education led to comprehensive school reform, an academic-standards movement, increased importance of education policy, and a focus on school accountability (Weiss, 2003). With the genie out of the bottle, *A Nation at Risk* ushered in an era of accountability that resulted in rigorous large scale standardized achievement tests to document student achievement and to hold teachers and students accountable in meeting state standards.

Koretz (1996) observed that nationally, states began relying solely on educational measurement-driven policies that put school accountability in the cross-hairs. To comply with accountability, states that received federal stimulus funds for education had to use state mandated student standard achievement tests and scores for teacher evaluation, compensation and termination. This model was subject to not only the quality of administrators and teachers, but also“(a) students’ level of intelligence, prior academic achievements and experiences, and aptitudes; (b) students’ level of social capital, as first defined by Hanifan (1916) as ‘those tangible substances [that] count for most in the daily

lives of people [social networking]’ (p. 130); and (c) students’ level of risks” (p. 59).

Levels of risk included, but were not limited to socio-economic status (SES) of students with disabilities, English Language Learners (ELLs), race, ethnicity, and cultural segregation.

### ***No Child Left Behind Act of 2001***

The *No Child Left Behind Act of 2001* (NCLB) was a far reaching, broader educational reform law update, with more built-in accountability than the 1965 *Elementary and Secondary Education Act* (ESEA) (PL. 89-10). NCLB’s purpose was to increase accountability for student achievement at both the State Education Agencies (SEAs) and Local Education Agencies (LEAs), that promoted a scientifically based curriculum, expanded parental options of implementing public school choice and supplemental educational services, and increased SEA’s and LEA’s control over educational content (Holcomb & McIntosh, 2011). Title I of NCLB reiterated the original purpose of ESEA to improve equal educational access across socio-economic strata for students attending public schools, directed additional federal funding to schools with large percentages of SES disadvantaged students, required states to develop content and performance standards for K–12 schools, and ensured a HQT in core academic subjects for all students. This law mandated that states set goals and trajectories whereby all students attain ‘proficiency’ in English Language Arts/reading and mathematics by 2014 (Rudalevige, Fall 2003).

The accountability demand on states required monitoring and reporting achievements of all students, including English Language Learners (ELLs) and students with disabilities, and necessitated a system of sanctions for schools and educators based

on student performance. This allowed legislators an elaborate system of rewards and sanctions based primarily on student test scores, directly affecting teachers and schools (Deville & Chalhoub-Deville, 2011). When enacted, “the NCLB Act expanded federal control over what had traditionally been the jurisdiction of state and local governments” (p. 308). Secretary of Education Rod Paige (2001-2005) in a Policy letter dated October 22, 2002 stated:

Unfortunately, some states have lowered the bar of expectations to hide the low performance of their schools. And a few others are discussing how to ratchet down their standards in order to remove schools from their lists of low performers. Sadly, a small number of persons have suggested reducing standards for defining ‘proficiency’ in order to artificially represent the facts....Those who play semantic games or try to tinker with state numbers to lock out parents and the public, stand in the way of progress and reform. They are the enemies of equal justice and equal opportunity. They are apologists for failure.

The *No Child Left Behind Act* of 2001 (NCLB) and the *Every Student Succeeds Act* (ESSA) of 2015 were significant federal law governing U.S. public education. Both acts were intended to increase student academic achievement with key provisions relevant to students with disabilities. Both opened requirements to parental rights that apply to options of schools that receive federal grants under Title I of ESSA. Title I allows provisions for parental choice of schools that implement Title I of ESSA. “Districts could also allow for public school choice out of seriously low-performing schools, but they have to give priority to the students who need it most” (Week, 2016).

Additionally, LEAs must provide transportation for this purpose and dedicate at a minimum five percent of Title I funds (approximately \$500 to \$1,000 per child) to facilitate this option. Schools that have failed to meet Adequate Yearly Progress (AYP) for three of the four most recent school years, in need of “corrective action,” must allow

families to request Title I funds to access supplemental educational services such as tutoring. These measures of accountability were designed to provide incentives for schools not meeting Adequate Yearly Progress (AYP) objectives and standards. If student achievement test scores did not improve, then this could ultimately mean the loss of students and funding (Ravitch, 2010). Additionally, states must “ensure that minority children and children from low-income families are not taught at higher rates than other children by inexperienced, unqualified, or out-of-field teachers” (Title I- Improving the Academic Achievement of the Disadvantaged, Final Rule, 2003).

### ***Meeting the HQT demands of NCLB and ESSA***

As SEAs and LEAs must demonstrate AYP in student test scores, they must ensure HQTs in all core academic subjects by developing standardized tests for teachers or by requiring future teachers to take the Praxis exams designed by the Educational Testing Service (ETS). States must submit a Consolidated State Performance Report (CSPR) annually to the United States Department of Education (USDOE), identifying progress towards meeting the state-defined goals in accordance with NCLB (P.L. 107-110, §9303).

The NCLB defines a highly qualified teacher as an individual who: (a) obtained full state certification (including alternative certification) or has passed the state teacher licensing exam; (b) holds a license to teach in the state; and (c) has not had certification or licensure requirements waived on an emergency, temporary, or provisional basis (P.L. 107-110, §1119.a.2). As described in Title I of No Child Left Behind and the State Education Authority were additionally instructed by the Consolidated State Performance Report (CSPR, 2015) to submit equity plans to the United States Department of

Education on the quandary of disproportionate assignments of novice and out-of-field teachers to minority students (P.L. 107-110, §1112(c)(1)(L); Education Trust). Part I of the CSPR collected data related to the five ESEA Goals, established in the approved June 2002 Consolidated State Application.

Part II of the CSPR collects information related to state activities and outcomes of specific ESEA programs needed for the programs' Government Performance and Results Act (GPRA) indicators or other assessment and reporting requirements. The Department used this data in conjunction with data collected in Part I to monitor States' progress in implementing ESEA. The data also provided identification of technical assistance needs and program management and policy needs (Consolidated State Performance Reports, 2015).

### ***NCLB and Special Education Teachers***

For decades prior to NCLB, the education system did not place a measurable standard for students with disabilities because their success or failure was not counted (Bleiberg & West, 2013). The *Individuals with Disabilities Education Act* changed this by mandating that students with disabilities participate in state assessments. States argued it was unfair for students with severe cognitive disabilities to take a general test because they were unable to achieve proficiency. Advocates for students with disabilities mandated the right to include all students in assessments. The states were correct in noting that some students would struggle to succeed in the new system. This resulted in alternate assessment measures for students with severe cognitive disabilities (Autism Society Organization, 2010).

The United States Department of Education (USDOE) encouraged states to create multi-subject high, objective, uniform state standards of evaluation (HOUSSE) plans for teachers in rural schools and for special educators, permitting greater latitude in these high-need areas (USDOE, 2004). New teachers of two or more academic subjects who are highly qualified in either mathematics, language arts or science, in addition to the general requirements, and had a two-year window to become highly qualified in the other core academic subjects (USDOE, 2004). There was the question of whether SETs would be able to meet state standards for both disability related expertise and in specific core content areas, especially since SETs often teach multiple subjects across several grades. As there is a persistent shortage (Gelman, Pullen, & Kaufmann, 2004), the USDOE encouraged states to create multi-subject HOUSSE plans for teachers in rural schools and for special educators, permitting greater latitude in these high-need areas (USDOE, 2004).

The No Child Left Behind (NCLB) in its power and scope was unprecedented. It influenced education in all areas, but its effect on special education was distinctive. NCLB's stipulations for accountability, Adequate Yearly Progress (AYP), state assessments, along with new curricula standards and objectives to providers, had affected the most changes (Yell, Drasgow, & Lowrey, 2005). Special education in all facets of accountability through NCLB made schools accountable to the educational, social, and emotional needs of struggling students and students with disabilities (Yell, Katsiyannas, & Shiner, 2006). In attempting to align NCLB with civil rights laws, it affected education policy, school reform, and welfare reform (Turnbull, 2005).

***Individuals with Disabilities Education Improvement Act of 2004 (IDEIA or IDEA 2004)***

The main federal law governing special education, after the 1975 Public Law 94-142 *Education for All Handicapped Children Act* (EHA or EAHCA), is the *Individuals with Disabilities Education Act* (IDEA). Amendments to the 2004 IDEA aligned special education guidelines to a greater extent with accountability and standard structures outlined by NCLB. The IDEA in terms of significance and impact was to the education world what Medicare and Medicaid are to health care. In terms of educational spending, it amounts to more than 20% of all education dollars (Levenson, 2012). The basic goal of IDEA was to guarantee disabled students a free appropriate public education (FAPE). IDEA was a federal spending statute and an incarnation of the *Education for All Handicapped Students Act* of 1975, more commonly known as Public Law 94-142.

Because all states accepted federal special education funding, all states were subject to the Act. Under IDEA Part C, Infants and Toddlers with Disabilities program, otherwise known as early intervention (birth-3), and their families were entitled to receive early intervention services. Part B of IDEA focused on services for school-aged children (ages 3-22) receiving special education and related services (Pub. Law No. 94-142, 89 Stat. 773, 1975).

***Meeting the Requirements of IDEA 2004 (IDEIA or IDEA 2004)***

Final IDEA regulations of HQSETs were published by The Office of Special Education and Rehabilitative Services (OSERS) in the U.S. Department of Education [34 CFR 300.18(a)] [20 U.S.C. 1401(10)(A)]. This document established the:

.... requirements for special education teachers in general; describes how a special education teacher can meet the general requirements when participating in an alternative route to certification program; describes how a special education teacher who is not teaching a core academic subject can meet the requirement; establishes requirements for special education teachers teaching to alternate achievement standards; and establishes requirements for special education teachers teaching multiple subjects.

Preceding IDEA 2004, the authority to establish certification standards for special educators and other related service personnel were left to the states (Mandlawitz, 2007). Parallel to general education, standards for special education teachers (SETs) varied among states regarding types of certification offered and the amount of training needed (ECS, 2004). Incongruity between university and college teacher preparation programs and their respective states added to the discord (Krockover, 2011). When teachers first entered the classroom after completing their teacher preparation program they reported on their unpreparedness in meeting the classroom and student challenges. Institutions that prepared teachers lacked the needed feedback to identify where program graduates go to teach, length of stay, and how well they performed in the classroom (USDOE, 2015).

IDEA 2004 required states to report the total number of HQSETs in public schools unlike the monitoring requirements from NCLB which required states to report on the number of classes taught by HQTs (OSEP, 2006). Under IDEA 2004, states are required to report difficulties while ensuring that all SETs meet state certification standards. The Office of Special Education Programs (OSEP, 2006) collects this data to measure SEAs and LEAs progress in providing an ample field of HQSETs, a persistent problem documented by numerous governmental and agency reports (Kozleski, Mainzer, & Deshler, 2000).

The research on teacher quality and student achievement has often removed SETs and students with disabilities due to insufficient outcome measures, variations in the least restrictive environment (LRE), and the variety of teacher roles of SETs in the classroom: self-contained, inclusion, or residential. Thus, identifying teacher quality and qualifications in this field were unclear (Blanton, Sindelar & Correa, 2006). Further, the role of a SET was seen as an educator, a specialist in disabilities, an instructor of core academic subjects, and being highly qualified.

The preparation of special educators has historically been defined by research, policy, or practice (Brownell, Sindelar, Kiely, & Danielson, 2010). Teacher preparation programs in special education can historically be divided into three areas of development: categorical, non-categorical, and integrated. Each area was manipulated by the political climate of that era. Research on disabilities, education, and postulations about teaching and teacher preparation were noted (Brownell et al., 2010).

Special educators were regulated into four distinct types: (a) special educators teaching core academic subjects; (b) special educators in general; (c) special educators teaching to alternate achievement standards; and (d) special educators teaching multiple subjects. The term highly qualified was defined for these regulated types in section 9101 of the ESEA and 34 CFR 200.56 of IDEA 2004. For a teacher in special education to be highly qualified under Sec. 300.18 the requirements state:

The teacher has obtained full State certification as a special education teacher (including certification obtained through alternative routes to certification), or passed the State special education teacher licensing examination, and holds a license to teach in the State as a special education teacher, except that when used with respect to any teacher teaching in a public charter school, highly qualified means that the teacher meets the certification or licensing requirements, if any, set forth in the State's public charter school law; (ii) The teacher has not had special

education certification or licensure requirements waived on an emergency, temporary, or provisional basis; and (iii) The teacher holds at least a bachelor's degree.

The first category, special educators teaching core academic subjects, elucidated that they must meet the requirements of a HQT as legislated by NCLB in those content areas just as their general education colleagues do. For example, a special educator in a self-contained class teaching language arts must be highly qualified in language arts in meeting the HQSET criteria. This provision clarified that special education teachers may become eligible for highly qualified credentials through both ARC programs and HOUSSE standards equivalent to general educators. Additionally, SETs must demonstrate expertise in core subject areas through knowledge, practices, and skills of a special education teacher (Assistance to States for the Education of Children with Disabilities and Preschool Grants for Children with Disabilities, 34 C.F.R. §300.18.a).

The second category, special educators in general, also required a bachelor's degree and full state certification. It prohibited SEAs from waiving certification through emergency and temporary licensure. Indifference to their role in content instruction, these general prerequisites apply to all SETs. Additionally, these requirements may be solely attached to SETs not responsible for delivering instruction in any core content subject, such as a SET delivering only consultative services to a highly qualified general educator. For example, a special educator assisting a highly qualified language arts teacher by modifying lessons or assessments, or providing accommodations, does not need to be highly qualified in language arts, but he/she needed to be highly qualified in special education (Assistance to States for the Education of Children with Disabilities and Preschool Grants for Children with Disabilities, 2006, 34 C.F.R. §300.18.b).

The third category, special educators using an alternate achievement standard, the parameters necessitate the requirements for both special education and content subject certification, but the interpretation of content area may be used to match the instructional-level of the students. This provision also elucidated how special educators new to the profession can accomplish the prerequisites within the first few years of teaching for multiple content subject areas. In the case of a new special education teacher who teaches multiple subjects and who is highly qualified in mathematics, language arts, or science, demonstrate not later than two years after the date of employment, competence in the other core academic subjects in which the teacher teaches in the same manner as is required for an elementary, middle, or secondary school teacher under 34 CFR 200.56(c), which may include a single HOUSSE covering multiple subjects (Assistance to States for the Education of Children with Disabilities and Preschool Grants for Children with Disabilities, 2006, 34 C.F.R. §300.18.b.2).

The last category, special educators teaching multiple core subjects, is responsible in meeting the content area requirement for each subject area of instruction. Parallel to general educators, the requirements further extrapolate how an experienced SET could meet the objectives through HOUSSE guidelines specifically designed for multiple core content subject areas (Assistance to States for the Education of Children with Disabilities and Preschool Grants for Children with Disabilities, 2006, 34 C.F.R. §300.18.d.1; OSEP, 2006).

The alignment of core content standards for Special Education Teachers (SETs) expertise was examined to ensure SETs to be competently prepared to support students with disabilities in meeting state proficiency standards (Yell, Shriner, & Katsiyannis,

2006). Schools have made substantial progress in providing education services to students with disabilities; however, recent studies reveal that many hurdles are evident in fully implementing IDEA 2004. For example, support for inclusive services for students with disabilities by general and special educators and administrators is gaining momentum (Pugash, 2005; Young, 2008), while others do not support this classroom environment citing lack of resources, class size, and inadequate training for teachers (Carlson, Brauen, Klein, Shroll, & Willig, 2002).

### ***American Recovery and Reinvestment Act 2009 - Accountability for Student***

#### ***Achievement***

In an ambitious attempt to help stimulate the economy, support job creation, and invest in critical sectors, including pressure for increased school level accountability in education, President Obama signed into law the *American Recovery and Reinvestment Act* of 2009 (ARRA). This landmark legislation laid the foundation for federal involvement in education reform. Provided \$4.35 billion for the Race to the Top Fund (RttT) designed to encourage and reward States that are actively engaged in creating an environment for education reform and innovation, achieving significant student improvement outcomes, closing the achievement gap, advancing high school graduation rates, preparing students for college and careers in a global market, and educational reform linking federal funds (RttT Executive Summary, USDOE, 2009).

RttT's top priorities mandate standards to State Education Agencies (SEA) and Local Education Agencies (LEA) by: (1) adopting assessments and standards that prepare students to succeed in college and compete in a global economic workplace and applying student performance data when measuring teacher effectiveness and quality; (2)

developing data systems that measure student academic growth and success, and improving instruction based on scientifically based research; (3) brokering the recruiting, then developing, rewarding, and retaining effective teachers and principals where they are mostly needed; and applying student performance data when measuring teacher effectiveness within the “Great Teachers and Leaders” section (RttT Executive Summary, USDOE 2009); and (4) revamping the lowest-achieving schools.

This initiative marked the beginning of unprecedented federal involvement in the administration of SEAs and LEAs linking federal funding to States’ commitment to adopt comprehensive accountability systems (Hess & Kelly, 2011; Hout & Elliott, 2011; RttT Executive Summary, USDOE, 2009; Steele et al., 2010). However, researchers and scholars of education continue to struggle and debate over policy with student performance and teacher quality due to the absence of empirical evidence or agreement defining teacher quality and applied student performance data to measuring teacher effectiveness (Amrein-Beardsley, 2009; Hout & Elliott, 2011; Steele et al., 2010).

### ***Summary***

From *A Nation at Risk* in 1983, to the present, teacher quality has remained a central issue of national and state education agendas. Attaining equitable distribution of the strongest, most effective teachers required sound measures and sound policies including inducements, rewards, and support. This would require being armed with the right tools and data to make the most-informed judgments about the placement, responsibilities, and compensation for those educators.

Provisional mandates for HQTs and HQSETs under NCLB and IDEA 2004 stressed the importance of all educators to possess content expertise and certification in

their current field. Annual reports from LEAs to SEAs must monitor and report progress towards these goals and provide evidence of uneven distribution of HQSETs and shortages. State educational agencies and academic institutions have increased the requirements for teacher qualification, including establishing or increasing minimum grade point average (GPA) requirements for acceptance into teacher education programs and licensure. The process for accreditation has become increasingly demanding with focus on student academic achievement congruent with state mandates of licensure. Policies have also established alternative certification routes (ACR) into the teacher work force; thereby, encouraging admittance of more academically qualified individuals into the profession.

### **The Distribution of Teachers**

#### ***Measuring School Equity***

The relationship between academic achievement and equity in education was reflected by students SES and the school level of socio-economic factors. The term “equity” could be defined as “social justice and fairness” (Braveman & Gruskin, 2003). Differences in students’ ownership of and commitment to their learning environment also existed based on student characteristics such as racial and ethnic background, SES, and gender (Wiess, Carolan, & Baker-Smith, 2010). Additionally, students’ relation to teachers, staff, and school commitment were significant fundamentals that were often targeted to improve student achievement and promote school equity (USDOE, 2009).

In reference to school context and education, equality did not signify treating all students in precisely the same way. However, all students must be treated justly; thereby, ensuring that each student received what is needed to be successful. Additionally, an

effort should be made to ensure that students of different backgrounds are able to participate in the school environment (Debnam, Johnson, Waasdrop, & Bradshaw, 2013). A school's ability to create an environment conducive to academic success, regardless of the student's gender, ethnicity, race, and SES was the hallmark of public education (National School Boards Association, 2012). Diversity of schools not only impacted school composition, but may also altered students' perceptions of each other and helped to distinguish their role or status in their learning environment (Crouch, 2012).

Public education is inherently linked with income inequality, ethnic/racial divisions, and societal urban environments. Our federal system of government has had a pervasive impact on poverty and racial/ethnic inequalities in public schools. The decentralization of our government has a negative impact on social redistributive needs in our nation's high-poverty educational areas (Wong, 2008). Thus, differences in educational outcomes must not be dependent upon wealth, income or power.

“Assumptions underlying the pedagogical or organizational interactions as well as curricular decisions cannot be ignored. Moreover, if diversity is given relevance and recognition, school justice must emphasize equity” (Seiça & Sanches, 2014, p.2017).

Because of low student academic achievement, politicians have interceded and advocated for students. All students must be proficient in language arts and mathematics, as highlighted by NCLB, and the United States must have the highest proportion of high school graduates in the world by 2020 (Duncan, 2010). This mandate by NCLB governed the laws and rules that helped SEAs, the custodian over teachers, administrators, schools, and LEAs. To close the achievement gap, federal standards, legislative bills, and

assessments have and are currently being written with the anticipation SEAs and LEAs will begin to implement these mandates.

Theoretical models using labor economics and sociology in general education account for the qualifications, characteristics, and distribution of teachers (Boyd et al., 2005a; Boyd et al., 2005b). This brought about concern that students from a low SES and minority environments have relatively less access to HQTs (Goldhaber, 2008; Haycock & Peske, 2006). Documentation has been well noted that schools with higher disadvantaged students have a propensity to have teachers with weaker qualifications in terms of experience, teacher test scores, post-baccalaureate coursework, and certification (EducationTrust, 2008). Teacher qualifications, with the exception of having two years of teaching experience, were shown to be inequitably distributed and were further weakened if associated with classroom teacher performance (Buddin & Zamarro, 2008; Rockoff, Jacob, Kane, & Staiger, 2008).

The targets of equity were often concerned with children who spent a vast amount of time in educational settings and countless others deemed that their education experiences be distributed equitably. Taxpayers judged concerns related to school finance if they share the burden of supporting education (Sherman & Poirier, 2007). Educational finance can be divided by horizontal, vertical and equal opportunity distribution of wealth. Horizontal equity demands that citizens give the same treatment to people in an identical situation. Citizens should then both pay the same amount of income tax, regardless of their income tax bracket. Meeting a standard of horizontal equality, in reference to teachers, would necessitate all students be provided with HQTs meeting the

same prerequisites and being of uniform levels of quality, otherwise known as “equal treatment of equals” (Berne & Stiefel, 1994, p. 406; Pettinger, 2008).

Vertical equity entails that citizens with higher income tax brackets pay more, seeking to tax in a percentage or progressive way; people with more ability to pay should pay more tax which is important for redistributing income wealth within society (Pettinger, 2008). This second principle, in contrast to horizontal equity, refers to the “appropriately unequal treatment of unequals” (Berne & Stiefel, 1994, p. 406). This objective assumes some students need additional or alternative resources to encounter the same objectives for academic achievement i.e., students from high-poverty environments, students who are ELLs, or highly mobile. This was relevant because the intensity of poverty in our nation’s public schools was increasing. In 2009, approximately 40% of all American students were enrolled in districts with concentrated poverty (Baker, Sciarra, & Farrie, 2014).

Equal opportunity, the last principle, examined the correlation between school traits and other variables, such as resources and student academic achievement, where “the absence of a relationship signifies equal opportunity,” (Berne & Stiefel, 1994, p. 405). Researchers recognized school traits comprised of geography, resources, minority enrollment, wealth, and poverty; such research aims to identify the allocation of resources such as per pupil expenditures, to be equally distributed for all students despite school traits. Clotfelter et. al. (2007), used this last principle in their study to provide an outline to investigate the distribution of SETs’ qualifications. In this study, their analysis was used to assess the distribution of teachers and principals throughout schools in North Carolina. This study, measuring qualifications of teachers and principals, used aggregated

data measuring school levels to identify dissimilarities based on poverty frequency distributions. This study uncovered, as evidenced by other researchers, inequitable distribution of teachers and principals established on the concept of equal opportunity to high-poverty schools did not have adequate certified experienced teachers.

In an attempt to replicate and broaden the research design used by Clotfelter et al. (2007), Hanushek et al., (2005), Mason, (2015), and Rockoff, (2004) investigated the distribution and qualifications of SETs in their study. This principle correlated to research performed in the literature of general education on the distribution of teachers. Mason (2008) stated:

To date, no similar research has been undertaken in special education regarding the distribution of special educators. Uncertainty regarding which qualifications matter and how to define teacher quality forces researchers rely on the qualifications available in state and district datasets, such as certification, experience, and preparation (p. 57).

This study expanded on previous research identifying equity of SETs. The use of the equal opportunity principle in this study quantifies as a starting point for assessing the degree to which qualified teachers are equitably distributed among schools.

### ***Research on the Uneven Distribution***

Former U.S. Secretary of Education Margaret Spellings, referred to inequitable distribution as education's "dirty little secret," that can take place between regions, districts, schools, and classrooms (Imazeki & Goe, 2009). Equity provisions must ensure that poor students, students of color, and students with disabilities are not taught by inexperienced, ineffective, or out-of-field teachers at higher rates than other students. States must validate that they were using stringent systems of teacher evaluation centered on multiple measures, including student academic achievement, to address inequities to maintain federal funding support (Partee, 2014).

Education advocates Peske and Haycock (2006) reported that students in high-poverty schools and schools with a high percentage of students with color were disproportionately assigned to teachers new to the profession and more likely to be taught by out-of-field teachers – teachers without a major or minor in the subject they taught. This was predominately apparent in high-poverty high schools, where one out of three core academic classes were taught by out-of-field teachers, compared to one out of five core academic classes in low-poverty schools.

The U.S. Department of Education (2009) with NCLB's implementation of teacher-quality provisions report of SEAs and LEAs discovered that by the 2006-2007 academic school year, all teachers were to have a highly qualified teacher status. Traditionally, disadvantaged schools had higher percentages of teachers who were not highly qualified than did other schools. Just one percent of teachers in low-poverty schools were reported as not highly qualified compared to five percent of teachers in high-poverty schools. Moreover, HQTs in high-poverty schools and schools with a high percentage of students of color were more likely to be new to the profession. Also HQTs in high-poverty schools were less likely to have degrees in their fields of teaching than were HQTs in low-poverty schools.

A study examining 29 diverse school districts used value-added quantitative analyses to determine teacher effectiveness in grades four through eight. A majority of socially disadvantaged students, those eligible for free or reduced lunches, received less access to HQTs than their more advantaged peers. Additionally, over a three-year period the study found that access to effective teaching for disadvantaged students did not change for either math or English Language Arts (ELA) (Isenberg, et al., 2013).

Hahnel and Jackson (2012) conducted a three-year study using student test scores to calculate the value-added to thousands of educators in the Los Angeles Unified School District. Teachers in the first quartile with the highest effectiveness scores were deemed “high value-added.” Teachers in the bottom quartile were deemed “low value-added” and the remainder was deemed “average.” The results determined that low-income students are more than twice as likely to have a low value-added English Language Arts (ELA) teacher as a higher-income peer and 66% more likely to have a low value-added math teacher. This trend was most pronounced with African American and Latino students, who are two and three times more likely – in English Language Arts (ELAs) and math, respectively- to have bottom quartile teachers than their White and Asian American peers. The researchers concluded that the difference in average teacher effectiveness between the top-poverty quartile and bottom-poverty quartile equated to about 14 weeks of student academic achievement and four weeks in math. The challenges pursuant to the discrepancies of academic achievement for a child in poverty are paramount.

Regardless of the measure used, the evidence suggested that teacher quality is not distributed equitably across schools and districts. Students of color and students in poverty are less likely to get HQTs than students who are White or from higher-income families. The liability of this problem of uneven distribution falls disproportionately on the backs of children who were poor and a minority (Imazeki & Goe, 2009).

### ***The Distribution of Teachers among Schools and School Districts***

As demonstrated by the reviewed research, teachers were not equitably distributed among schools within districts and among districts within states, suggesting that state legislators and LEA superintendents should monitor teacher workforce placement and

assignment and take necessary action. Focused research has been limited on the issue of inequitable teacher distribution between classroom environments in a given school, but studies indicated that social norms and bureaucratic procedures can create staffing inequalities within schools.

Educational leaders, most notably administrators and principals in at-risk schools, played a pivotal role in improving teacher distribution (Behrstock & Clifford, 2009). Educational leaders vastly affected the working environment in a school; notably the working conditions that particularly affect teachers' decisions about where to work – parental engagement, student behavior, and social economic conditions as factors to administrators and principals in determining qualified candidates based on research.

### ***Possible Explanations for the Uneven Distribution***

As research has shown, the equitable distribution of teachers in school districts across the country was a concern across the full spectrum with lower-performing schools, often most notably in poor urban and rural districts, experienced greater difficulty in the recruitment and retention of HQTs than more effective wealthier districts or even within the same district (Lankford, Loeb, & Wycoff, 2002; Loeb, Kalogrides, & Beteille, 2011).

Studies in education have been critical signifying reflections, interventions, and proposals of change within the role of and value placed on education. A perspective of social apartheid and new legislative policies in education fostering “inclusive exclusion” reflects societal realms of a class struggle reflecting class inequalities (Gentili & Alencar, 2012, p. 33). Comprehensive critical pedagogy and critical education must be explored in multiple dynamics of supporting redistributive strategies. Legislative policies need to mirror the cultural angst for recognition in terms of SES, gender, and race/ethnicity

(Apple, Au, & Gandin, 2011). Recruiting, hiring, and retention of effective teachers were a primary motivation to improve student academic achievement.

Another possibility for uneven distribution of teachers was mobility. Research on teacher mobility was evident in schools and Local Education Agencies (LEA) where parent and low community involvement correlated to increased percentages of poverty and crime (Allensworth, Ponisciak, & Mazzeo, 2009). Researchers had established that the tracking movements of teachers across schools are particularly relevant among teachers with more experience and in schools with low student achievement. Teachers would move to higher achieving schools, thus leaving LEAs that experience high percentages of low-income ethnic minorities with unqualified teachers and vacancies (Hanushek, Kain, & Rivkin, 2004, 2005).

### ***Distribution Among Urban Schools***

In today's urban school environment, the plight of Black children is that they continue to perform lower academically when compared to White peers and are three times more likely to quit school and are twice as likely to be suspended. Of our nation's total school population, Black students represented 17% of the student population and 41% of these students received special educational services. Additionally, one out of two Black students resided in poverty (Ladson-Billings, 2009).

Urban communities that have high poverty schools will, on average, lose more than 20% of their faculty annually, potentially allowing for an entire staff of a school to change within a few years (Ingersoll, 2004). The disruptive effect of teacher turnover hurts staff unity and a shared sense of communal cohesion in schools. Its negative effect

on student achievement was more pronounced in larger schools with increased low-performing students and students of color (Ronfeldt, Loeb, & Wycoff, 2013).

Lack of classroom autonomy, significant student behavioral problems, excessive intrusions on teaching time, and lack of input from faculty in decision processes all related to teacher dissatisfaction. On top of all this, teachers in these schools were all too often paid less than their peers in other schools. These factors, more than compensation, attributed to teacher-of-color turnover rates (Ingersoll, 2004). The relationship among African American teacher turnover rates and job satisfaction have substantial associations with resources, disciplinary support, and power in decision making process within the school environment.

Finally, maintaining SETs of students with disabilities attending urban schools, has challenged staffing and resources at prevalent levels. This resulted in untrained paraprofessionals to assist students with disabilities, a limited number of service providers who have large caseloads, and limited resources for technology (i.e., computers or assistive devices for students); resulting in additional challenges facing SETs within urban school districts (Partee, 2015).

### ***Distribution Among Rural Schools***

In our nation's public school student population, rural students surpassed 9.7 million representing 20% of all students and indicated one-third or more of public school enrollments in 16 states (Johnson, Showalter, Klein, & Lester, 2014). Recognizing that rural student growth rates have eclipsed that of their non-rural peers over several years, as Johnson et al., concluded "the scale and the scope of rural education in the United States continues to grow" (p. 27).

Dramatic changes in southern rural communities were précised by racial, cultural, and economic characteristics. The South, for the first time in 40 years, was the only region in the nation where low-SES children comprised a majority that was 54% of public school students (Suits, Sabree, & Dunn, 2013). In 2011, the South was the singular region in our nation where 51% of public school children resided in low-income households. Comparatively, in the West, Midwest, and Northeast percentages comprised 44%, 36%, and 26%, respectively. This was significant in our nation's economic shift that slightly more than half, 51.4% of the U.S. population (2000-09) growth was massed in the South (Johnson & Kasadra, 2011; Parrado & Kandel, 2010).

Mitchem, Kossar, & Ludlow (2006) noted the struggles for rural schools in educating students with disabilities due to inadequate funding and increased costs employing services in rural LEAs. Too often, SETs are positioned to teach outside their licensure and professional preparation (Berry A. , Petrin, Gravelle, & Farmer, 2011) and have limited access to instructional resources and assistive technologies available to their non-rural peers (Ault, Bausch, & McLaren, 2013). Additional duties of special education teachers (SETs) may require expertise assisting families in locating and/or providing support services not easily accessible in rural areas (Carr, 2000). The availability and retention of HQSETs was extremely difficult in rural and low-income wealth areas (Dadisman, Gravelle, Farmer, & Petrin, 2010).

### ***Providing Highly Qualified Special Educators to All Schools***

Requirements for HQTs from NCLB and IDEA have come under criticism due to the lack of extent and narrowness of focus (Gelman et. al., 2004). This was evident in the varied strategies implemented by states to credential, certify, and license teachers,

determining whether candidates met HQT status. Subject content and specialty certification competence relative to candidates' abilities to pass standardized multiple choice tests were determined by nearly all states (Burdette, 2011). The comparative merits of these tests as standards for professional competence have come under scrutiny because no nationally accepted or standard cut off scores were incorporated when calculating pass rates. Additionally, states allow teacher candidates to repeat licensure tests multiple times to obtain passing scores without reprimand (Feng & Sass, 2010; The Secretary's Eighth Annual Report on Teacher Quality, 2011). This equated to inconsistent and relatively easy mechanisms by which states and teachers comply with federal mandates (Amrein-Beardsley, 2009; Gelman et al., 2004).

### ***The Shortage of Special Educators***

Headlines have been made of the recent decline in teacher demand. New York City Public Schools, reported by the New York Times in May 2009, halted outside hiring of new teachers after employing 5,725 teachers from the previous year, many of which were SETs (Hernandez, 2009). In 2010, the Philadelphia School District anticipated hiring 1,261 fewer teachers for the 2011-2012 academic school year, than in 2010-2011, with 232 being SETs (Graham, 2010). Prevalent employment trends may be evidenced in recent surveys administered by the Center of Education Policy (CEP) (Kober & Rentner, 2011) and the American Association of School Administrators (AASA) (McCord & Ellerson, 2009). District administrators noted cuts in all teaching positions in 2009-2010, and predicted an 83 percent elimination of positions in 2010-2011.

In 2009-2010 the prospect of large-scale layoffs again became reality. The American Recovery and Reinvestment Act (ARRA) allotted stimulus funding, allowing

many Local Education Agencies (LEA) to postpone or minimize layoffs starting with the academic school year 2009-2010. Although, the allotment of such funds would decrease as they are expended at the end of the 2011-2012 academic school year. An AASA (The School Superintendents Association) 2010 study estimated that 275,000 positions would be eliminated from the education system nationally in the 2010-2011 academic school year (Vogt, 2010). The Executive Office of the President (2012) reported that 300,000 educational jobs, a substantial but ambiguous percentage, were teaching positions that were cut in the three academic school years following the end of the recession in June 2009, and substantially increased layoffs were expected for the 2012-2013 academic school year.

Special education teachers had met similar declines in employment. The Lansing School District in Michigan, for example, proposed a 14% layoff of SETs who provided daily instruction, accommodations, and modifications in special education classrooms (Thomas, 2010). The Superintendent of Schools in New Haven, Connecticut propositioned increasing caseloads so that the LEAs special education needs could be accomplished with 25% fewer SETs (Dematteo, 2011).

Categorical indexing of students with disabilities has decreased nationally. The percentage of 6- to 21-year-old students with disabilities dropped from 9.15% in 2005 to 8.80% in 2008 to 8.43% in 2011, equating a decrease of almost 3/4ths of a percent (IDEA data, 2013). Students with learning disabilities (LD) dropped from 4.14% in 2005, to 3.77% in 2008, and to 3.43% in 2011. Students diagnosed as Emotionally Disturbed (ED) fell from 0.72% in 2005 to 0.62% in 2008 and 0.54% in 2011. Students identified with

intellectual disabilities (ID) also decreased from 0.81% in 2005 to 0.71% in 2008 and then to 0.63% in 2011 (IDEA data, 2013).

A reason for this decline was improvement in preventative services; especially as represented by response to intervention (RTI) or instruction methods. In 2004, IDEA amendments specifically provided that SEAs may no longer require a severe discrepancy between ability and achievement and must permit LEAs to use “a process that determines if the child responds to scientific, research-based intervention,” thus, RTI (§ 1414(b)(6)). Etscheidt (2012) stated:

“Political pressure to reduce the number of children in special education led to an endorsement of a response-to- intervention (RTI) approach for the identification of students with [SLD] in the IDEA.”

### ***Retaining Special Educators***

Approximately 17% of teachers leave the teaching profession each year and SETs left the profession more frequently than general education teachers (Houchins, et al., 2010). A consistent pattern has existed, between 2000-2010, where in the first five years of teaching at least 50% of teachers left their teaching careers (Waddell, 2010).

Futernick (2007) designated that SET shortages were explained by a need for improvement in negative conditions confronted in the instructional and learning environment in schools. Clarifying further, Futernick indicated if these circumstances were corrected many educators who migrated away from special education may return. The long history of addressing teacher shortage and retention focused primarily on attrition, but the teacher shortage has remained unchanged and this persistent pattern may be the lack of clarity regarding the definition of leaving the profession. Although some teachers left the education field completely, others simply changed roles from teacher to

administrator or changed from one school site or area of the district to another (Schaefer, Long, & Clandinin, 2012). Additionally, they advocate that future research should be redirected, targeting teachers who remained in the education profession.

As pressure to correlate student achievement with test scores intensifies, legislatures and researchers have turned their attention to the role of school leaders in successfully executing new reforms, instituting and retaining increased expectations for students, and holding teachers accountable for student progress. Increasingly, researchers recognized the critical role leadership plays in determining the implementation and effect of reforms (Clifford, Behrstock-Sherratt, & Feters, 2012). Supplying individual support to faculty and staff referred to a leaders' ability to "understand, recognize, and satisfy followers' concern and needs while treating each follower uniquely" (Thoonen, Slegers, Oort, Peetsma, & Geijsel, 2011, p. 508).

The role of an administrator's support was essential in preventing SET attrition and is the largest controllable variable influencing attrition (Billingsley, 2004a). Unfortunately, most states do not require administrators to take course work in special education as part of their licensure (Kaye, 2002). Consequently, many administrators report an unpreparedness in knowledge and issues in special education to support SETs (Wakeman, Browder, Flowers, & Ahlgrim-Delzell, 2006).

### ***Summary***

Administrators must evaluate teaching staff to make sure they were effective in meeting state content standards for core academic progress for all the students and that they are highly qualified in their content area. Recommendations to personnel who fail to meet state standards of demonstrating students' growth and mastery of the content and of

being highly qualified, put students at a disadvantage. The lives that this teacher will affect, multiplied by the number of years this teacher will teach, should be a rude awakening. Administrators must evaluate all teachers and then strive to change the behavior of the teachers that do not meet expectations.

The plethora of research on the disproportionality assignments of unqualified teachers to schools were associated with high percentages to poor, minority, and ELLs and students with disabilities (Clotfelter et al., 2007; Clotfelter, Ladd, & Vigdor, 2005, ; Lankford, Loeb, & Wyckoff, 2002). The dependence on unqualified and unprepared teachers in the special education work force may directly affect student academic results associated to students with disabilities. As noted, this greatly impacted schools in urban and rural locales and students who were from a low SES, minorities, and ELLs and their ability to recruit and retain HQSETs educators (National Partnership for Teaching in At-Risk Schools, 2005; Peske & Haycock, 2006; Southeast Center for Teacher Quality, 2004).

### **Definition of Terms**

***Alternative Route to Certification*** (ARC) teachers typically possess a bachelor's degree from an accredited college or university and are completing (or have completed) an alternative route certification program while teaching full-time. Other state certification requirements, such as the type of education coursework or the length of practice teaching, may be modified or waived. In the United States, alternative certification is offered in all states and the District of Columbia.

***Attrition*** is the loss of teachers from their original classroom, possibly by moving to other classrooms, other roles (such as an administrator or a guidance counselor), other

professions, or due to changes in life circumstances (e. g., retirement, illness, or pregnancy).

***Descriptive Research*** describes the characteristics of a particular population or phenomenon being studied. This method addresses what is occurring in the data.

***Highly Objective Uniform Standards of State Evaluation*** (HOUSSE) are the plans NCLB encourages states to create so current teachers can demonstrate content area expertise in one or more subject areas by means other than standardized tests and additional coursework (though these may be included).

***Highly Qualified Teacher*** (HQT) is the provision within NCLB setting national standards for teachers; these include that all teachers must hold a bachelor's degree, meet full state certification, and demonstrate content area expertise.

***Highly Qualified Special Education Teacher*** (HQSET) is the provision within IDEA 2004 setting national standards for special educators; these include all special education teachers must hold a bachelor's degree, meet full state certification in special education, and demonstrate content area expertise for the courses in which they are the primary teacher.

***Local Education Agency*** (LEA) is a commonly used synonym for a school district, an entity which operates local public elementary and secondary schools in the United States.

***Retention*** relates to those teachers choosing to remain in the same classroom role from one year to the next.

***Schools and Staffing Survey: 2011-2012*** (SASS) is conducted by the National Center for Education Statistics every four to five years to provide national-level data on the characteristics, experiences, and teacher preparation.

**State Education Agency (SEA)** are the branches or divisions within a state responsible for setting standards for teacher preparation, issuing initial and advanced licensure or certification, monitoring compliance with NCLB, and state policies.

**Special Education** – Instruction provided for students with disabilities according to the requirements of the federal Individuals with Disabilities Education Act (IDEA).

**Scientifically-based Research (SBR)** – Research about educational programs and activities that uses systemic and objective procedures that provide results considered reliable and valid.

**Teacher certification or teacher licensure** are state-determined standards for new and current teachers to maintain consistency. Throughout this study I used the term teacher certification to represent both since states use the terms interchangeably.

**Teacher qualifications** include variables that researchers use as indicators of teacher quality; examples include type of preparation, years of experience, scores on standardized tests, attainment of advanced degrees, and certification; studies have tried to demonstrate relationships between these characteristics with student achievement.

**Teacher quality** refers to how effective a teacher is in getting students to meet some indicator of educational success (such as graduation, performance on an assessment, and attendance); the possible teacher traits and their measurement are highly contested.

**Title I** –A federal program that provides funds to improve the academic achievement for educationally disadvantaged students who score below the 50th percentile on standardized tests.

## **CHAPTER III**

### **METHODOLOGY**

The objective of this study was to compare special education teachers who were highly qualified to those who were not highly qualified. Qualification status and its association to urbanicity and the poverty levels of schools were also examined. This was accomplished by examining teacher characteristics through a secondary data analysis of a restricted-use data license for the 2011-2012 Schools and Staffing Survey Teacher Questionnaire (SASS TQ) (see Appendix A,B,C). The following two research questions were investigated.

**Research Question 1:** To what extent do characteristics of highly qualified special education teachers vary between non-highly qualified special education teachers with respect to profile and demographic traits?

**Research Question 2:** To what extent do the percentages of highly qualified special education teachers compare to non-highly qualified special education teachers between high poverty versus low poverty schools and urbanicity?

#### ***Identifying Special Education Teachers***

The population examined in this study was full and part-time special education teachers. The SASS TQ variable teaching assignment was used to identify special education teachers. Special education teachers consisted of teachers who selected code 110 (special education) for SASS TQ question 16, “This school year, what is your MAIN teaching assignment field at THIS school?” Code 110 was special education (see Appendix D). The weighted sample size was 430,600 teachers for this group. The

unweighted sample size was 4,940. Data from special education teachers were used to answer research questions one and two.

### ***2011-2012 Schools and Staffing Survey (SASS)***

The National Center for Education Statistics (NCES) and Institute for Educational Sciences (IES) provided restricted-use access to the SASS which required institutional licensure. Initial data set access was applied for and authorized by the NCES. This access provided members of the research team with designated single-site user admittance. Specific NCES reporting protocols were followed and all findings were submitted to the IES for approval and were authorized for release.

The 2011-2012 SASS consisted of five categories of the questionnaires: a school district questionnaire, principal questionnaires, school questionnaires, teacher questionnaires, and a school library media center questionnaire. This study employed the SASS teacher questionnaire (SASS TQ). The SASS TQ included: (a) General Information – full-time, part-time, itinerant, or long-term substitute, (b) Class Organization – number of students with an IEP, class size, English Language Learners (ELL), teaching assignment, and subject matter, (c) Education and Training – type of degree (undergraduate and/or graduate), major field of study (special education or other), amount of teacher preparation, support (teachers and/or administrators), type of preparation program, (d) Certification – special education or general education, (e) Professional Development, (f) Working Conditions, (g) School Climate and Teacher Attitudes, (h) General Employment and Background Information – teaching experience, and, (i) Contact Information (Tourkin et al., 2010).

The SASS TQ is the most comprehensive and largest set of data available on the staffing, occupational, and managerial aspects of our nation's elementary and secondary schools addressing personnel characteristics, job attributes, and attitudes of educators on the characteristics within a varied range of districts and schools across the country (Tourkin, et al., 2007). The design of the SASS TQ was to provide national and state approximation for public schools and national level affiliation estimates. The National Center for Education Statistics (NCES), since the 1980s, has conducted the SASS series to present an inclusive portrait of schooling in the United States. The time frames for the SASS administrations were 1987-1988, 1990-1991, 1993-1994, 1999-2000, 2003-2004, 2007-2008, 2011-2012 school years.

### ***Sampling Plan***

The SASS TQ used established methodology from previous SASS series, consisting of a mail-based survey, with telephone and field follow-up. A letter was mailed in advance to sampled schools during the summer of 2011 verifying school addresses. Afterward, a parcel containing all surveys and explanatory information was mailed to the sampled schools. A computer-assisted telephone-interviewing (CATI) instrument was used to verify school information, to establish a survey coordinator at the school, and to follow-up on the Teacher Listing Form (TLF), serving as the teacher roster. Sampled teachers were mailed questionnaires on a flow basis.

Field follow-up was administered for schools that had not returned the TLF. Census telephone centers called schools to remind the survey coordinator to have staff complete and return all forms. Individual survey respondents (e.g. principal, teacher, and librarian) were contacted from the telephone centers to attempt to complete the

questionnaire over the phone. Field follow-up was conducted for schools and teachers that had not returned their questionnaires (NCES, 2015). In districts with only one school, respondents were asked to complete the Unified School Questionnaire, combining questions from both the District Questionnaire and the School Questionnaire to reduce redundancy of questions.

### ***Sampling Weights***

The SASS survey design required sampling weights allowing researchers to generalize data to the sampled population (Thomas, Heck, & Bauer, 2005). The sampling weights for elementary, secondary schools, and teachers used in the SASS were provided “to take into account the school's selection probability, to reduce biases that may result from unit non-response, and to make use of available information from external sources to improve the precision of sample estimates” (NCES, 2015) and to help estimate national public school teacher populations and maintain the original sample sizes.

Due to the complexity of the SASS survey design, it employs stratification of data (sampling each subpopulation independently), clustering (teacher selection within schools), and oversampling (over selection of educators containing certain characteristics (e.g. urbanicity of schools and special education teacher qualifications). Direct estimates of sampling errors, in this type survey, will characteristically “underestimate the sampling variability in the summary statistics and distort test of statistical significance” (Finster, 2013, pp. 78-79; Hahs-Vaughn, 2005; Thomas & Heck, 2001). The National Center for Education Statistics (NCES) developed replicate weights to balance this bias and replicate weights for the SASS design to be incorporated in a study to construct unbiased population assessments. Fundamentally, these weights help to summarize and

correct “for the probability of selection and are inversely proportional to the probability of selection” (Finster, 2013, pp.79; Tourkin et al., 2010).

## **Variables**

The SASS TQ variables used in this study were placed under the headings of teacher qualifications, teacher characteristics, teacher position, and school characteristics. A brief description of each variable is provided below. Table 1 provides a more detailed explanation for each variable.

### ***Teacher Qualifications***

Teacher qualifications included degree level, certification status, highly qualified status, certification route, teaching experience, and whether the teacher was a new teacher. For degree level, respondents were asked to provide input concerning associate’s degrees, bachelor’s degrees, master’s degrees, and other advanced degrees earned. Certification status identified the certification status of the respondent in their content area. Highly qualified status indicated their current qualification status.

Alternative certification route (ACR) determined whether certification was traditional or alternative. Years of teaching experience was teaching experience as either full time or part time in the public school system. New teachers were those who had three or fewer years of experience including full- and part-time teaching experience.

### ***Teacher Characteristics***

Teacher characteristics included age, gender and race/ethnicity. Age represents the respondents age in years. Gender indicates whether they were male or female. Race/Ethnicity requested respondents to designate their ethnic group, to indicate their race, allowing the respondent to denote one or more races from the following five options

(White, Black or African American, Asian, Native Hawaiian or Other Pacific Islander, and American Indian or Alaskan Native).

***Teacher Position***

Teacher characteristics included assignment and school level. Assignment shows whether the respondent was teaching full-time or part-time in the 2011-2012 school year. School level divided teachers into elementary or secondary based on a combination of the grades taught, main teaching assignment, and the structure of their classes.

***School Characteristics***

This study presents two variables characterizing schools’ poverty and urbanicity. The first variable represents the percentage of students in public schools who participated in the National School Lunch Program (NSLP), a federally assisted meal program providing low-cost or free meals operating in public, nonprofit private schools, and residential child care institutions (NSLP, 2013). This is a gauge commonly utilized in research as an alternative for student poverty. The second variable commenced with the urbanicity of the school correlating to data from the Decennial Census of 2000 and incorporated into the SASS TQ dataset. Respondents were classified as working in a city, suburb, town or rural environment.

Table 1.  
Variables used in study.

Variable	SASS TQ Questionnaire Item
Teacher assignment	SASS TQ item: This school year, what is your MAIN teaching assignment field at THIS school? Special education teachers (SASS TQ Code 110). General education (All other general education and subject-matter codes).
Highly qualified status	This school year, are you a Highly Qualified Teacher (HQT) according to your state’s requirements? (Generally, to be Highly Qualified, teachers must meet requirements related to 1) a bachelor’s degree, 2) full state certification, and 3) demonstrated competency in the subject

area(s) taught. The HQT requirement is a provision under the No Child Left Behind (NCLB) Act of 2001.)

- 1 HQT in all subjects taught
- 2 HQT in at least one subject taught
- 3 Not HQT in any subject taught
- 4 I don't know my HQT status

Early Career Teachers	NEWTCH is defined as teachers who have three or fewer years of experience teaching experience in public schools.
Race/Ethnicity	RACETH_T is an unduplicated count by race and incorporates the Hispanic/Latino variable with the race codes. Teachers identifying with more than one race/ethnicity are defined in the category two or more. RACETH_T variables include: White, non-Hispanic (referred to as "White"); White-Hispanic/Latino (referred to as "Hispanic"); Black, non-Hispanic (referred to as "Black") Asian, non-Hispanic (referred to as "Asian"); American Indian or Alaskan Native, non-Hispanic (referred to as "American Indian/Alaskan") Native Hawaiian or Other Pacific Islander, non-Hispanic (referred to "Hawaiian/ Pacific Islander"); Two or more (includes two or more race/ethnicity).
Age	AGE_T is the participants age in years.
Gender	SASS TQ item: Are you a male or female?
Degrees	HIDEGR is the highest degree held by the teacher. Categories include: 1 = Associate's degree or no college degree; 2 = Bachelor's degree; 3 = Master's degree; 4 = Education specialist or Certificate of Advanced Graduate Studies; 5 = Doctorate or Professional degree.
Teaching Status	FTPT is two-level teaching status variable that shows whether respondent is teaching full-time or part-time.
Teaching level	TLEV2_03 divides teachers into elementary or secondary based on a combination of the grades taught, main teaching assignment, and the structure of their classes.
Certification route	Did you enter teaching through an alternative certification program? (Explanation provided: An alternative program is a program that was designed to expedite the transition of non-teachers to a teaching career; for example a state, district, or university alternative certification program.)
Certification status	Which of the following describes the teaching certificate you currently hold that certifies you to teach in THIS state? 1 Regular or standard state certificate

- 2 All requirements except completion of probationary period
- 3 Some additional requirements
- 4 Must complete certification program to continue
- 5 No certification in THIS state

Urbanicity

URBANS12 is urbanicity: City, Suburb, Town, or Rural.

Poverty

NSLAPP\_S is the percent of students approved for the National School Lunch Program (NSLP) at school. This study defined 75% or greater as high poverty. The remaining three quartiles were deemed to be low poverty.

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### Data Analysis

**Research Question 1:** To what extent do characteristics of highly qualified special education teachers vary between non-highly qualified special education teachers with respect to profile and demographic traits? This question will be analyzed through various descriptive analyses. The IBM Statistical Package for the Social Sciences (SPSS 22) software program and AM Statistical Software were employed to conduct the research analysis. This analysis compared highly qualified special educators to non-highly qualified special educators on a variety of demographic features. Cross tabulation were used to compare highly qualified to non-highly qualified special education teachers. Frequency counts were equated to percentages.

**Research Question 2:** To what extent do the percentages of highly qualified special education teachers compare to non-highly qualified special education teachers between high poverty versus low-poverty schools and urbanicity? This question will be analyzed through descriptive analyses. The IBM Statistical Package for the Social Sciences (SPSS 22) software program, AM Statistical Software, was employed to conduct the research analysis.

Cross tabulations were used to compare highly qualified special educators to non-highly qualified special educators on poverty levels of the schools and urbanicity. A two-way contingency table was created to evaluate whether highly qualified SETs and non-highly qualified SETs taught in low-poverty schools compared to high-poverty schools.

A two-way contingency table was created to evaluate whether urbanicity was a factor in determining where highly qualified SETs and non-highly qualified SETs taught. Lastly, a layered contingency table, where highly qualified status was compared to poverty levels by urbanicity was examined to determine if there was an association between the three measures. All associations between the qualifications of the sampled SETs with school poverty levels and urbanicity were examined using cross-tab analyses procedures. Tests of statistical significance were the chi-square statistic.

In addition to testing for statistical significance, the Cramér's V statistic was examined. The Cramér's V statistic measures the strength of the association between variables. It can be interpreted as a strong association if the statistic is 0.5 or higher. A statistic of 0.1 to 0.4 is considered to be a moderate association and less than 0.1 is considered weak (Blaikie, N., 2003; Green, S. B., & Salkind, N. J., 2005).

## CHAPTER IV

### RESULTS

The results for this chapter were linked to each of the research questions. A descriptive analysis provided demographic characteristics of special education teachers from a national sample. The weighted sample size was 430,600 teachers for this group. The unweighted sample size was 4,940. The analyses compared a nationally representative sample of highly qualified special education teachers to non-highly qualified special education teachers. Characteristics of the sample examined were gender, age, race/ethnicity, master's degree, grade level, traditional or alternative certification route, full or part time, beginning teacher status (three or less years) certification status (fully qualified or other certification), highest degree earned, and urbanicity (City, Suburban, Town, and Rural) of special education teachers across differing levels of poverty.

#### Research Question 1

To what extent do characteristics of highly qualified special education teachers vary between non-highly qualified special education teachers with respect to demographic traits? Table 2 shows the demographic features comparing highly qualified and non-highly qualified teachers.

Table 2  
Description of Highly Qualified Special Education Teachers (HQSET, N = 291,740) to non-Highly Qualified Special Education Teachers (non-HQSET, N = 138,860) from the School and Staffing Survey Teacher Questionnaire with respect to demographic traits.

	HQSET Percentages	Non-HQSET Percentages
Gender		
Male	12.5	17.0

Female	87.5		83.0	
Total	100.0		100.0	
Race/Ethnicity				
White	88.6		85.4	
Minority	11.4		14.6	
Total	100.0		100.0	
Master's Degree				
	Yes	No	Yes	No
	66.4	33.6	60.8	39.2
Total	100.0		100.0	
Grade Level				
Elementary	60.1		46.1	
Secondary	39.9		53.9	
Total	100.0		100.0	
Certification Route				
Formal	84.8		80.0	
Alternative	15.2		20.0	
Total	100.0		100.0	
Teaching Status				
Full Time	93.6		88.6	
Part Time	6.4		11.4	
Total	100.0		100.0	
Beginning Teacher Status				
Experienced	90.4		81.2	
Beginning	9.6		18.8	
Total	100.0		100.0	
Certification Status				
Fully Qualified	90.4		85.0	
Any Other Status	9.6		15.0	
Total	100.0		100.0	
Teachers Age				
Mean	42.19		42.7	
Std. Dev	11.31		12.0	

The race and ethnicity of highly qualified special education teachers were predominately White and non-Hispanic at 88.6%. Non-highly qualified special education teachers were also predominately White, non-Hispanic at 85.4%. The gender of highly qualified special education teachers was primarily female at 87.5% and that of non-highly qualified special education teachers was also primarily female at 83.0%. The age of highly qualified special education teachers had a mean of 42.19 with a standard deviation

of 11.31. Non-highly qualified special education teachers had a mean age of 42.7 with a standard deviation of 12.00.

Highly qualified special education teachers with a master's degree represented 66.4% of the teachers. Non-highly qualified special education teachers with a master's degree represented 60.8% of the teachers. Highly qualified special education teachers were primarily elementary teachers at 60.1% and non-highly qualified special education teachers were primarily secondary teachers at 53.9%. The traditional certification route of highly qualified special education teachers was at 84.8% as was that of non-highly qualified special education teachers at 80.0%.

The teaching status of highly qualified special education teachers was that most were employed primarily full time at 93.6% as was that of non-highly qualified special education teachers at 88.6%. Experienced teacher status for highly qualified special education teachers was at 90.4% and was 81.2% for non-highly qualified special education teachers. Teacher certification status of fully highly qualified special education teachers was at 90.4% and that of non-highly qualified special education teachers was at 85.0%.

### **Summary**

Based on the variables analyzed, the percentage differences between highly qualified special education and non-highly qualified special education teachers were minimal on most variables. However, compared to the general population, the variables that presented the most differences were race/ethnicity and gender. The vast majority of highly qualified special education teachers were White at 88.6% and female at 87.5%.

Non-highly qualified special education teachers were also predominately White at 85.4%, and female at 83.0%.

### **Research Question 2**

To what extent do the percentages of highly qualified special education teachers compare to non-highly qualified special education teachers between high-poverty versus low-poverty schools and urbanicity? Tables 3, 4 and 5 address the relationships between qualification status, urbanicity, poverty levels, and urbanicity by poverty levels.

The National Council of Educational Statistics recommended the use of free/reduced lunch data as a proxy to classify the poverty levels of schools. High-poverty schools were equated to 75% or more of the students in the school receiving free/reduced lunch. Approximately 25% of the students in US schools are in high-poverty schools; therefore, poverty rates were divided into quartiles for this study. High-poverty equates to the 4<sup>th</sup> quartile. Lower poverty rates were represented by the remaining three quartiles; with the first quartile being the lowest level of poverty.

Table 3 shows the proportions of highly qualified special education teachers to non-highly qualified special education teachers with regards to poverty quartiles. The proportion of special education teachers who were highly qualified in special education in Q1, Q2, Q3, Q4 schools is slightly higher than those for non-highly qualified special education teachers. Compared with the lesser proportion of non-highly qualified special education teachers this difference was statistically significant; Pearson  $\chi^2(3, N = 4,800) = 14.29, p = .003$ , but with a weak association (Cramér's  $V = .05$ ).

Table 3

Qualification status by poverty quartile.

STATUS	POVERTY QUARTILE			
	Q1 LOW	Q2	Q3	Q4 HIGH
NOT-HQT	497 41.8%	560 37.1%	439 35.8%	302 34.6%
HQT	692 58.2%	950 62.9%	787 64.2%	572 65.4%

Table 4 shows the proportions of highly qualified special education teachers to non- highly qualified special education teachers with respect to urbanicity (City, Suburban, Town, and Rural). The proportion of special education teachers who were highly qualified in city, suburban, town, and rural schools were not statically significantly different from that of special education teachers who were not highly qualified; Pearson  $\chi^2(3, N = 4,940) = 3.54, p = .316$ .

Table 4

Qualification status by urbanicity.

STATUS	UBANICITY			
	URBAN	SUBURBAN	TOWN	RURAL
NOT-HQT	410 35.9%	547 39.2%	302 36.3%	591 37.8%
HQT	732 64.1%	849 60.8%	531 63.7%	973 62.2%

Table 5 shows the proportions of highly qualified and non-highly qualified special education teacher by poverty quartile and by urbanicity. The proportion of special education teachers who were highly qualified in special education in urban, suburban, town and rural areas by poverty quartiles (Q1-Low, Q2, Q3, Q4-High) is statistically significant, Pearson  $\chi^2(9, N = 4,800) = 242.48, p < .001$ , with a moderate association (Cramér's V = .16). The proportion of special education teachers who were non-highly

qualified in special education in urban, suburban, town and rural areas by poverty quartiles (Q1-Low, Q2, Q3, Q4-High) was also statistically significant, Pearson  $\chi^2(9, N = 4,800) = 168.75, p < .001$ , and had a moderate association (Cramér's  $V = .18$ ). Non-highly qualified special education teachers in urban areas were more likely to be in high poverty areas while those in suburban, town, and rural areas they were more likely to be in lower poverty areas.

Table 5.  
Qualification status by poverty level and urbanicity.

STATUS	POVERTY QUARTILE	UBANICITY			
		URBAN	SUBURBAN	TOWN	RURAL
NOT-HQT	Q1 LOW	74 18.6%	223 42.3%	52 17.7%	148 25.6%
	Q2	102 25.6%	148 28.1%	117 39.8%	193 33.3%
	Q3	92 23.1%	104 19.7%	90 30.6%	153 26.4%
	Q4 HIGH	130 32.7%	52 9.9%	35 11.9%	85 14.7%
HQT	Q1 LOW	110 15.5%	295 36.1%	100 19.0%	187 19.7%
	Q2	165 23.3%	243 29.7%	188 35.8%	354 37.3%
	Q3	190 26.8%	179 21.9%	160 30.5%	258 27.2%
	Q4 HIGH	244 34.4%	101 12.3%	77 14.7%	150 15.8%

### *Summary*

Based on the percentages of low, middle, and high poverty there were weak, but statistically significant differences in the percentages between highly qualified and non-highly qualified special education teachers. With respect to urbanicity (city, suburban, town, rural) for highly qualified and non-highly qualified special education teachers, there were small percentage differences but none were statistically significant. When

poverty levels and urbanicity were examined together there were moderately strong statistically significant differences found.

## **CHAPTER V**

### **CONCLUSIONS**

This dissertation investigated a comparative descriptive and quantitative analysis between highly qualified to non-highly qualified special education teachers in the public school domain based on the 2011-2012 Schools and Staffing Survey (SASS) between high-poverty urban and rural areas. This study examined characteristics comparing highly qualified special education teachers to non-highly qualified special education teachers among K-12 public schools. It also examined highly qualified status in relation to urbanicity and school poverty level.

The findings of this research supported the research of Billingsley (2002) and Boe (2006) which concluded that the majority of special education teachers were White women. In this study, the gender make-up for highly qualified special educators was predominately female at 87.5%, non-highly qualified special educators was at 83%. Ethnicity of highly qualified educators was predominately White at 88.6% and that of non-highly qualified special educators was also White at 85.4%. While special education classroom student demographics have significantly changed, teacher demographics have remained constant. Tyler et al. (2004), elaborated on special education teacher shortages stated, "the field of special education continues to struggle with the challenges inherent in recruiting and retaining diverse teachers" (p.22).

This is important because of extensive demographic segregation between students and teachers. This is a national concern for public education. Racial and ethnic minority students are now the "demographic majority of urban school students" (U.S. Department of Education, 2013). Racial and ethnic minority teachers, by contrast, comprised less than

20% (Goldring, Gray, & Bitterman, 2013). A major concern for this demographic divide is that minority students tend to favor the views of minority educators (Auerbach, 2007; Quioco & Rios, 2000; Shipp, 1999). This was important because the more positive the students' views of teachers are, the higher the results in academic areas such as interest, motivation, and grades (Midgley, Feldlaufer, & Eccles, 1989; Teven & McCrosky, 1997; Wentzel, 2002).

While more diverse teachers have entered the profession in recent years, their numbers have not kept pace with the PK–12 population shift. An analysis of the National Center for Education Statistics (2012) data showed that students of color made up more than 45% of the PK–12 population, whereas teachers of color made up only 17.5% of the educator workforce (Deruy, 2016). A major barrier facing minorities entering into the teaching field lies within the pipeline to teacher supply. Fewer minorities enter college and complete their degree. Those who do enter colleges and universities have a vast array of career opportunities and employment other than teaching and may choose other fields. However, the minority candidates entering the teaching profession experience lower pass rates on entry tests, which often results in shortages of minority teachers (Ingersoll & May, 2011).

With regard to gender and the predominance of female teachers, research by Gosse (2011b), Skelton (2003), and Martino (2008) found that male teachers were needed as a positive role model as some male students struggle in a classroom environment devoid of male role models (Carrington et al., 2007; Spence, 2008). Research has shown male teachers to have a positive influence on boys' classroom environment.

With regard to poverty and urbanicity, this study found mixed results. There were no statistically significant results for urbanicity alone. Poverty levels were shown to have differences between highly qualified and non-highly qualified special education teachers, but the association was weak.

Regarding poverty and urbanicity, there were some differences noted. The collapsed urban-centric scale developed by the National Center of Economic Statistics (NCES) was used to identify the location of a school spanning from city to rural locales. This data consists of city, suburban areas and towns, and rural locales. The findings from this research showed a higher percentage of teachers possessing less preparation and qualifications in high-poverty schools in urban areas and towns.

### ***Recruiting and Retaining Special Education Teachers***

The supply and demand of highly qualified teachers in elementary and secondary schools in the United States are of major concern. Through the past decades, supply and demand for teachers is a topic of increasing concern, ambiguity, and debate among legislators and education researchers. The question of concern stems from the ability whether the United States public school system will encounter shortages of highly qualified teachers as student enrollment increases in the coming years. The uncertainty surrounding teacher shortages is a factor of supply and demand. Quantity verses quality engulfs this controversy.

Students with disabilities attending high poverty urban and rural schools have challenged both school staff and resources at prevalent resource levels. Due to the high rate of attrition of special education teachers (SETs) it is necessary to deal with the retention of SETs. Retaining SETs is difficult due to the demanding responsibilities of

special education students, the labor intensive tasks, and demands in implementing and creating Individual Education Plans (IEPs) that correlate to that specific student based upon his/her disability (Cancio et al., 2013; Christle & Yell, 2013).

The Learning First Alliance (2005) advocated, “We must create a better flow of highly qualified candidates into high-poverty schools at the same time that we stem the flow of good staff *out* of those schools” (p. 5). Efforts aimed at attracting highly qualified staff to address competition in recruitment have been attempted by numerous Local Education Agencies (LEAs); however, the problem remained since high-poverty schools were still challenged by competition to more affluent schools to successfully attract highly qualified staff within competing school districts.

Events that led to attrition and high teacher turnover in high-poverty, low-performing schools resulted from three factors: (1) attracting, hiring, and retaining of sufficient numbers of experienced teacher applicants in high poverty and low performing schools which corresponded to teacher performance regarding evaluation, (2) higher turnover rate because of low performing schools, and (3) schools that were disadvantaged being forced to hire inexperienced teachers according to the Learning First Alliance (2005).

Research has indicated that aggressive recruitment from Local Education Agencies (LEAs) across the country to hire teachers in an ever increasing demand to meet population increases and increased retirement, still resulted in our most susceptible students in high poverty and low performing schools being less likely to attend schools with the most qualified staff than their wealthier peers (Lankford, Loeb & Wyckoff, 2002; Learning First Alliance, 2005). The composition of our nation’s underrepresented

groups was at 31%, resulting in a national concern for linguistically and culturally diverse special education teachers (SETs). Underrepresented special education students continued to rise; however, LEA's recruitment and retention of SETs to meet underrepresented groups has been unsuccessful (Boe & Cook, 2006; Tyler et al., 2004). Decreased academic and social achievement was a primary result due to a shortage of competent and experienced SETs (Feng & Sass, 2009).

The loss of highly qualified special education teachers equates to high attrition (Morrison, 2012; Loeb & Stempien, 2002), that may have negative impacts to college and university institutes and predominantly for the educational knowledge and experience of special education students. Researchers have indicated that motivation, job satisfaction, and student caseload may perhaps be associated to the retention of highly qualified special education teachers (HQSETs), but researchers to these attributes are not certain to the factors that will best predict HQSETs (Boeddeker, 2010; Rhodes, 2012; Sheldrake, 2013). "More research was needed to determine if job satisfaction, motivation, and caseload predict retention among special education teachers so that administrators can more effectively target those areas in their efforts to retain special education teachers" (Hawks, 2016, p.72).

Additionally, the U.S. Bureau of Labor Statistics noted that employment of highly qualified special education teachers is anticipated to increase through 2014 faster than the average occupation (U.S. Department of Labor, 2008-09). Significant reasons for this are twofold: 1) increases in the number of students with special needs requiring services and 2) opening positions that are expected, resulting of highly qualified special education teachers switching to general education, entirely changing careers or retiring (Friend,

2011; Payne, 2005; Zascavage, V., Winterman, K., Armstrong, P., & Schroeder-Steward, J. 2008).

The high rate of attrition among special education teachers equates to a loss of qualified teachers (Morrison, 2012; Loeb & Stempien, 2002). Additional research was needed in determining if occupational motivation, satisfaction, and caseload can predict teacher retention; especially among special education teachers (SETs) so administrators may be more effective targeting high need areas to recruit and retain qualified special education teachers.

Although the majority of highly qualified special education teachers entered through a formal education college or university program, there are a number of situations in which special education relies on a large number of individuals with training in other fields. “Special education annually relies on a large number of individuals with training in other fields who enter special education classrooms until a vacancy opens in a general education classroom and the dependence in special education on individuals without any preparation at all” (Mason, 2008, p.129) (Boe, Bobbitt, & Cook (2006); Boe, Bobbitt, Cook, Whitener et al.(1997). This could potentially have a detrimental impact on the quality of services provided to students receiving special education services.

### ***Recommendations for Further Research***

Further research into the attrition rates of highly qualified special education teachers should be conducted to determine which factors cause these teachers to leave the field. Comparing characteristics of highly qualified teachers and non-highly qualified teachers across waves of SASS data could help determine if the demographic traits of

highly qualified teachers are becoming more or less diverse and could help target recruiting efforts for colleges and school divisions.

*Limitations*

This study was conceptualized and approved while the notion of highly qualified teachers was defined at the federal level of the NCLB. Since the passing of ESSA, the definition of highly qualified is being left to each state to define. Therefore the results in this study should be interpreted with caution and with this limitation in mind.

## REFERENCES

- Allensworth, E., Ponisciak, S., & Mazzeo, C. (2009). *The Schools Teachers Leave*. Chicago, IL: Consortium on Chicago Research at the University of Chicago, Urban Education Institute.
- American Association of Colleges for Teacher Education. (2010). Retrieved from *The Clinical preparation of teachers: A policy brief*: <http://aacte.org/research-policy/clinical-preparation/the-clinical-preperation-of-teachers-a-policy-brief.html>
- American Association for Employment in Education. (2003). Executive summary. Columbus, OH: American Association for Employment in Education.
- Amrein-Beardsley. (2009). The Unintended Pernicious Consequences of "Staying the Course" on the United States' No Child Left Behind Policy. *International Journal of Educational Policy and Leadership* 4(6), 1-3.
- Amrein-Beardsley, A. (2014). *Rethinking Value-Added Models in Education: Critical Perspectives on Tests*. Hoboken, NY: Taylor and Francis.
- Apple, M., Au, W., & Gandin, L. (2011). The Mapping of Critical Education. *Critical Education: International Analysis*, 14-16.
- Auerbach, S. (2007). From moral supporters to struggling advocates. *Urban Education*, 42, 250-283.
- Ault, M., Bausch, M. E., & McLaren, E. M. (2013). Assistive technology service delivery in rural school districts. *Rural Special Education Quarterly*, 32(2) , 15-22.
- Ascher, C., & Fruchter, N. (2001). Teacher quality and student performance in New York City's low-performing schools. *Journal of Education for Students Placed At Risk*, 6(3), 199-214.

Assistance to States for the Education of Children with Disabilities and Preschool Grants  
For Children with Disabilities, Final Rule, 34 C.F.R. §300.18 et seq. (2006).

Auerbach, S. (2004). Engaging Latino parents in supporting college pathways: Lessons  
from a college access program. *Journal of Hispanic Higher Education*, 3, 125-  
145.

Autism Society Organization (2010) Improving the lives of all affected by autism.

Retrieved from *Autism Society Organization*: Retrieved from [http://www.autism-  
society.org/](http://www.autism-society.org/)

Baines, L. (2010). *The teachers we need vs. the teachers we have*. Lanham, MD: Roman  
& Littlefield.

Baker, B. D., Sciarra, D. G., & Farrie, D. (2014). *Is School Funding Fair? A National  
Report Card*. Retrieved from *School Funding Fairness*: Retrieved from  
[http://www.schoolfundingfairness.org/National\\_Report\\_Card\\_2014.pdf](http://www.schoolfundingfairness.org/National_Report_Card_2014.pdf)

Behrstock, E., & Clifford, M. (2009, February). *Leading Gen Y teachers: Emerging  
strategies for school leaders*. Washington DC: National Comprehensive Center for  
Teacher Quality. Retrieved from  
<http://www.tqsource.org/publications/February2009Brief.pdf>

Berliner, D., & Biddle, B. (1995). *The Manufactured Crisis: Myths, Fraud, and the  
Attack on America's Public Schools*. Reading, Mass.: Addison-Wesley Publishing  
Co.

Berne, R. & Stiefel, L. (1994). Measuring equity at the school level: The finance  
perspective. *Educational Evaluation and Policy Analysis*, 16(4), 405-421.

- Berry, A., Petrin, R. A., Gravelle, M. L., & Farmer, T. W. (2011). Issues in special education teacher recruitment, retention, and professional development: Considerations in supporting rural teachers. *Rural Special Education Quarterly*, 30(4), 3-11.
- Billingsley, B. (2004a). Special education retention and attrition: A critical analysis of Research literature. *Journal of Special Education*, 38(1), 39-55.
- Billingsley, B. (2004b). Special Education teacher retention and attrition: A critical analysis of the research literature. *The Journal of Special Education*, 38(1), 39-55.
- Billingsley, B. (2005). Cultivating and keeping committed special education teachers: What principals and district leaders can do. Thousand Oaks, CA: Corwin Press.
- Blaikie, N. (2003). *Analyzing quantitative data*. London, England: SAGE.
- Blanton, L., Sindelar, P. T., & Correa, V. I. (2006). Models and measures of beginning teacher quality. *The Journal of Special Education*, 40(2), 115-127.
- Bleiberg, J., & West, D. M. (2013). Special Education: The Forgotten Issue in No Child Left Behind Reform. Retrieved from The Brookings Institution: Retrieved from <http://www.brookings.edu/blogs/up-front/posts/2013/06/18-special-education-no-child-left-behind-bleiberg-west>
- Boe, E.E. (2006). Long-term trends in the national demand, supply, and shortage of special education teachers. *The Journal of Special Education*, 40(3), 138-150.
- Boe, E.E., Bobbitt, S.A., & Cook, L.H. (1997). Whither didst thou go? Retention, reassignment, migration, and attrition of special and general education teachers from a national perspective. *The Journal of Special Education*, 30(4), 371-389.

- Boe, E.E., Bobbitt, S.A., Cook, L.H., Whitener, S.D., Weber, A.L. (1997). Why didst thou go? Predictors of retention, transfer, and attrition of special and general education teachers from a national perspective. *The Journal of Special Education*, 30(4), 390-411.
- Boe, E.E., & Cook, L.H. (2006). The chronic and increasing shortage of fully certified teachers in special and general education. *Exceptional Children*, 72(4), 443-460.
- Boe, E.E., Cook, L.H., Bobbitt, S.A., & Terhanian, G. (1998). The shortage of fully certified teachers in special education and general education. *Teacher Education and Special Education*, 21(1), 1-21.
- Boe, E.E., Shin, S., & Cook, L. (2007). Does teacher preparation matter for beginning teachers in either special or general education? *Journal of Special Education*, 41(3), 158-170.
- Boe, E.E., Bobbitt, S.A., Cook, L.H., Whitener, S.D., Weber, A.L. (1997). Why didst thou go? Predictors of retention, transfer, and attrition of special and general education teachers from a national perspective. *The Journal of Special Education*, 30(4), 390-411.
- Boe, E.E., Shin, S., & Cook, L. (2007). Does teacher preparation matter for beginning teachers in either special or general education? *Journal of Special Education*, 41(3), 158-170.
- Boyd, D., Lankford, H., Loeb, S., & Wyckoff, J. (2005a). The draw of home: How teachers' preferences for proximity disadvantage urban schools. *Journal of Policy Analysis and Management*, 24, 113-132.

- Boyd, D. Lankford, H., Loeb, S., & Wyckoff, J. (2005b). Explaining the short careers of high-achieving teachers in schools with low-performing students. *The American Economic Review*, 95(2), 166-171.
- Braveman, P., & Gruskin, S. (2003). Defining equity in health. *Journal of Epidemiology and Community Health*, 54, 254-258.
- Brownell, M., Sindelar, P. T., Kiely, M. T., & Danielson, L. C. (2010). Special education teacher quality and preparation: Exposing foundations, constructing a new model. *Exceptional Children*, 76, 357-377.
- Buddin, R., & Zamarro, G. (2008). Teacher Quality, Teacher Licensure Tests, and Student Achievement. Retrieved from IDEAS:  
<https://ideas.repec.org/p/ran/wpaper/555.html>
- Burdette, P. (2011). Special Education Value-Added Performance Evaluation Systems: A State-level Focus. In Forum - An Analysis of the Critical Issues in Special Education, 1-5.
- Carlson, E., Brauen, M., Klein, M., Shroll, K., & Willig, S. (2002). SPeNSE: Study of personnel needs in special education. Key findings. Retrieved from U.S. Department of Education Office of Special Education Programs: Retrieved from  
<http://spense.education.ufl.edu.ezproxy.lib.vt.edu/>
- Carr, S. (2000). Preparing rural special educators to collaborate with exceptional families. *Rural Special Education Quarterly*, 19(3-4), 55-64.
- Carrington, B., Francis, B., Hutchins, M., Skelton, C., Read, B., & Hall, I. (2007). Does The gender of the teacher really matter? Seven- to eight-year-olds' accounts of their Interactions with their teachers. *Educational Studies*, Vol 33, 397-415.
- Cassidy, M. (2015, August 18). School Funding Crusade. (S. Hausman, Interviewer)

- Center for Innovative Thought. (2006). Teachers and the Uncertain American future. The College Board. Retrieved from:  
[http://www.collegeboard.com/prod\\_downloads/press/teachers-and-uncertain-american-future.pdf](http://www.collegeboard.com/prod_downloads/press/teachers-and-uncertain-american-future.pdf)
- Clifford, M., Behrstock-Sherratt, E., & Fetters, J. (2012). The Ripple Effect: A synthesis of research on principal influence to inform performance evaluation design. Washington, DC: American Institute for Research.
- Clotfelder, C., Ladd, H., & Vigdor, J. (2009). The academic achievement gaps in grades 3-8. *The Review of Economics and Statistics*, 91(2), 398-419.
- Clotfelter, C. T., Ladd, H. F., & Vigdor, J. F. (2007). Teacher credentials and student achievement: Longitudinal analysis with student fixed effects. *Economics of Education Review* 26, 673–682.
- Clotfelter, C. T., Ladd, H. F., & Vigdor, J. (2005). Who teaches whom? Race and the distribution of novice teachers. *Economics of Education* 24 , 377-392.
- Consolidated State Performance Reports. (2015, August 11). Retrieved from United States Department of Education: Retrieved from  
<http://www2.ed.gov/admins/lead/account/consolidated/index.html#info>
- Corcoran, S. (2007). Long-run trends in the quality of teachers: Evidence and implications for policy. *Education Finance and Policy*, 2(4), 395-407.
- Cortese, A., & von Kastrow, C. (2006). Closing the staffing gap and ensuring effective teaching for the students who need it most. *Education Week*, 45(19), 34-35.

- Crouch, R. (2012). *The United States of education: The changing demographics of the United States and their schools*. Alexandria, VA: The Center for Public Education.
- Cross, L., & Billingsley, B. (1994). Testing a model of special educators' intent to stay in teaching. *Exceptional Children*, 60, 411-421.
- Dadisman, K., Gravelle, M., Farmer, T., & Petrin, R. (2010). *Grow your own and other alternative certification programs in rural school districts*. Chapel Hill, NC: National Research Center on Rural Education Support.
- Darling-Hammond, L. (2000a). 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 and America's Future.
- Darling-Hammond, L. (2000b). Teacher quality and student achievement: A review of state Policy evidence. Retrieved from Education Policy Analysis Archives, 8(1): Retrieved from <http://epaa.asu.edu/epaa/v8n1>
- Darling-Hammond, L. (2004). Inequality and the right to learn: Access to qualified teachers in California's public schools. *Teachers College. Record*, 106, 1936–1966.
- Darling-Hammond, L. (2009). Recognizing and enhancing teacher effectiveness. *The International Journal of Educational and Psychological Assessment*, 3, 1-24.
- Darling-Hammond, L. (2010). *Evaluating teacher effectiveness: How teacher performance assessments can measure and improve teaching*. Washington, DC: Center for American Progress.
- Darling-Hammond, L. (2012). *Creating a comprehensive system for evaluating and*

- supporting effective teaching. Stanford, CA: Stanford Center for Opportunity Policy in Education.
- Darling-Hammond, L. (2013). Diversity, equity, and education in a globalized world. *Kappa Delta Pi Record*, 49(3), 113-115.
- Data Accountability Center. (2013). IDEA data: Part B data and notes. Retrieved from <http://www.ideadata.org/PartBdata.asp>
- Debnam, K., Johnson, S., Waasdrop, T., & Bradshaw, C. (2013). Equity, Connection, and Engagement in the Social Context to Promote Positive Youth Movement. *Journal of Research on Adolescence*, 24(3), 447-459.
- Dematteo, A. (2011). The ranks may be thinned in New Haven. Retrieved from Post Chronicle: <http://www.ctpostchronicle.com/articles/2011/06/14/news/doc4df746c8af2ec714514159.prt>
- Deruy, E. (2016). *American Association of Colleges for Teacher Education*. Retrieved March 30, 2017, from Students' Up But Teachers Are Mostly White: Retrieved from <https://aacte.org/news-room/aacte-in-the-news/347-Students-Up-But-Teachers-Are-Mostly-White->
- Deville, C., & Chalhoub-Deville, M. (2011). Accountability-assessment under No Child Left Behind: Agenda, practice, and future. *Language Testing*, 28(3), 307-321.
- Duncan, A. (2010). International Engagement Through Education. Council on Foreign Relations Meeting (p. Remarks). Washington, DC: United States Department of Education.

Education, U. D. (2009). Safe and supportive schools. Retrieved from

<http://safesupportativeschools.ed.gov/index.php?id=33>

Education, U. D. (2015, December 10). *Every Student Succeeds Act (ESSA)*. Retrieved

April 15, 2017, from U.S. Department of Education: Retrieved from

<https://www.ed.gov/essa?src=rn>

Education, U. S. (2011). Digest of Educational Statistics. Washington, DC: National Center for Education Statistics.

Education, U. S. (2012). Thirty-first annual report to Congress on the implementation of the Individuals with Disabilities Education Act, 2009. Washington DC: Office of Special Education and Rehabilitation.

Elliott, W. (2013). The effects of economic instability on children's educational outcomes. *Children & Youth Services Review*, 35(3), 461-471.

Etscheidt, S. (2012). Truly disabled? An analysis of LD eligibility issued under the Individuals with Disabilities Education Act. *Journal of Disability Policy Studies*, Advance online publication.

Executive Office of the President. (2012). Investing in our future: Returning teachers to the classroom. Washington, DC: Author

Fall, A.M., & Billingsley, B.S. (2007a, April). Structural inequalities in education: A study of teachers in Texas reveals that working conditions matter more than salary. *Education Next*, 1, 77-82.

- Fall, A., & Billingsley, B. S. (2007b). Structural inequalities in special education: A comparison of special educators' qualifications, working conditions and local policies. *American Education Research Association*, (p. Poster Session). Chicago, IL.
- Fall, A.-M., & Billingsley, B. (2008). "Some benefit" or "maximum benefit": Does the No Child Left Behind Act render greater educational entitlement to students with disabilities. *Journal of Law and Education*, 38, 347–365.
- Fall, A.-M., & Billingsley, B. (2011). Disparities in work conditions among early career special educators in high- and low-poverty districts. *Remedial and Special Education*, 32, 64-78.
- Feistritzer, C. (2008). Building a quality teaching force: Lessons learned from alternative routes. Boston: Allyn & Bacon.
- Feistritzer, C. (2009). Teaching while learning: Alternate routes fill the gap. *Phi Delta Kappa International*, 5(2), 2-15.
- Feistritzer, E., & Haar, C. K. (2008). Alternative routes to teaching. Upper Saddle River, NJ: Pearson.
- Feng, L., & Sass, T. R. (2009). Special education teacher quality and student achievement. Unpublished manuscript.
- Feng, L., & Sass, T. R. (2010). What makes special education teachers special? Teacher training and achievement of students with disabilities. Washington, DC: Center for Analysis of Longitudinal Data in Educational Research, Urban Institute.

Finster, M. P. (2013). *Teachers' job satisfaction, organizational commitment, turnover intentions, and actual turnover: a secondary analysis using an integrative structural equation modeling approach*. Retrieved April 14, 2017, from Teachers' job satisfaction, organizational commitment, turnover intentions, and actual turnover: a secondary analysis using an integrative structural equation modeling approach:

[https://scholar.google.com/citations?view\\_op=view\\_citation&hl=en&user=oHb9mCYAAAAJ&citation\\_for\\_view=oHb9mCYAAAAJ:2osOgNQ5qMEC](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=oHb9mCYAAAAJ&citation_for_view=oHb9mCYAAAAJ:2osOgNQ5qMEC)

Futernick, K. (2007). *A possible dream: Retaining California teachers so all students learn*. Sacramento, CA: Retrieved from <http://scholar.google.com>

Gallagher, C., Rabinowitz, S., & Yeagley, P. (2011). *Key considerations when measuring teacher effectiveness: A framework for validating teacher's professional practices*. San Francisco, CA: Assessment and Accountability Comprehensive Center.

Gelman, J., Pullen, P. L., & Kaufmann, J. M. (2004). The meaning of highly qualified and a clear road map to accomplishment. *Exceptionality*, 12(4), 195-207.

Gentili, P., & Alencar, C. (2012). *Educating in the Hope in Times of Disenchantment*. Petrópolis: Vozes.

Glazerman, S., & Max, J. (2011). *Do Low-Income Students Have Equal Access to the Highest-Performing Teachers? NCEE Evaluation Brief*. Washington, D.C.: U.S. Department of Education, Institute of Education Sciences.

- Glazerman, S., Protik, A., Teh, B., Bruch, J., & Max, J. (2013). *Transfer Incentives for High-Performing Teachers: Final Results from a Multisite Experiment*. Washington, D.C.: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.
- Goe, L. (2002, October 14). Legislating equity: The distribution of emergency permit teachers in California. *Education Policy Analysis Archives*, *10*(42). Retrieved from <http://epaa.asu.edu/epaa/v10n42/>
- Goe, L., Bell, C., & Little, O. (2008). *Approaches to evaluating teacher effectiveness: A Research synthesis*. Washington, DC: National Comprehensive Center for Teacher Quality.
- Goldhaber, D. (2008). *Addressing the Teacher Qualifications Gap: Exploring the Use and Efficacy of Incentives to Reward Teachers for Tough Assignments*. Washington, D.C.: Center for American Progress.
- Goldring, R., Gray, L., & Bitterman, A. (2013). *Characteristics of Public and Private Elementary and Secondary School Teachers in the United States: Results From the 2011–12 Schools and Staffing Survey*.
- Goodlad, J. (2003). A Nation in Wait. *Education Week* *22* (32), 36, 24, 25.
- Gosse, D. (2011). Race, sexual orientation, culture and male teacher role models: Will any teacher do as long as they are "good"? *The Journal of Men's Studies*, Special Issue on Men and Teaching, *19*(2), 116–137.
- Graham, K. (2010). Philly school agrees to settlement on teacher layoffs. Retrieved from <http://www.philly.com/philly/bogs/Philly-Schools-District-agrees-to-settlement-on-teacher-layoffs.html>

- Green, S. B., & Salkind, N. J. (2005). *Using SPSS for Windows and Macintosh: Analyzing and understanding data* (4th ed.). Upper Saddle River, NJ: Pearson-Prentice Hall.
- Grossman, P., & Loeb, S. (2008). *Alternative routes to teaching: Mapping the new landscape of teacher education*. Cambridge, MA: Harvard Education Press.
- Hanifan, L. J. (1916). The Rural School Community Center. *The Annals of the American Academy of Political and Social Science* , 130-138.
- Hahnel, C., & Jackson, O. (2012). Learning Denied: The Case for Equitable Access to Effective Teaching in California's Largest School District. *The Education Trust-West*, 3-20.
- Hahs-Vaugh, D. L. (2005). A Primer for Using and Understanding. *The Journal of Experimental Education*, 73(3) , 221-248.
- Hanushek, E. A., & Rivkin, S. G. (2010). The Quality and Distribution of Teachers under the No Child Left Behind Act. *Journal of Economic Perspectives*, Volume 24, Number 3, 133-150.
- Hanushek, E. A., Kain, J., & Rivkin, S. (2004). Why public schools lose teachers. *Journal of Human Resources*, 39(2), 326-354.
- Hanushek, E. A., Kain, J., & Rivkin, S. (2005). Teachers, schools, and academic achievement. *Econometrica*, 73(2), 417-458.
- Hawks, C. R. (2016). *The relationship between satisfaction, motivation, and caseload and teacher retention* (Doctoral dissertation, Liberty University).
- Haycock, K., & Peske, H. G. (2006). *Teaching Inequality: How Poor and Minority Students Are Shortchanged on Teacher Quality*. The Education Trust, 1-18.

- Heilig, J., Cole, H. A., & Springel, M. A. (2011). Alternate certification and Teach for America: The search for high quality teachers. *Kansas Journal of Law & Public Policy*, 20(3), 388-412.
- Hernandez, J. (2009). For many teachers, a famously fertile market dries up overnight. Retrieved from The New York Times:  
<http://www.nytimes.com/2009/05/11/nyregion/11teachers.html>
- Hess, F., & Kelly, A. p. (2011). Carrots, sticks, and the bully pulpit: Lessons from a half-Century of federal efforts to improve America's schools. Cambridge, MA: Harvard Education Press.
- Holcomb, M. H., & McIntosh, D. E. (2011). No Child Left Behind Act of 2001. In R. J. Levesque, *Encyclopedia of Adolescence* (p. 1779). New York, NY: Springer-Verlag.
- Holdheide, L. R., Goe, L., Croft, A., & Reschly, D. J. (2010). Challenges in evaluating special education teachers and English Language Learner specialists. Washington, DC: National Comprehensive Center for Teacher Quality.
- Holdheide, L., Browder, D., Warren, S., Buzick, H., & Jones, N. (2012). Using student growth to evaluate educators of students with disabilities. Washington, DC: National Comprehensive Center for Teacher Quality.
- Holdheide, L., Goe, L., Croft, A., & Reschly, D. J. (2010). Challenges in evaluating special education teachers and English language learner specialists. Washington DC: National Comprehensive Center for Teacher Quality.

- Houchins, D. E., Shippen, M. E., McKeand, K., Viel-Ruma, K., Jolivette, K., & Guarino, A.J. (2010). Juvenile justice teachers' job satisfaction: A Comparison of teachers in three states. *Education & Treatment of Children*, 33(4), 623-646.
- Hout & Elliot. (2011). Incentives and Test-Based Accountability in Public Education. Washington, DC: Board on Testing and Assessment. Division of Behavioral and Social Sciences and Education.
- Humphrey, D., & Wechsler, M. E. (2007). Insights into alternative certification: initial findings from a national study. *Teachers College Record*, 109(3), 483–530.
- Iatorola, P., & Stiefel, L. (2003). Intra-district equity of public education resources and performance. *Economics of Education Review*, 22, 69-78.
- Imazeki, J., & Goe, L. (2009). The Distribution of Highly Qualified, Experienced Teachers: Challenges and Opportunities. Washington, DC: National Comprehensive Center for Teacher Quality.
- Ingersoll, R. (1995). Teacher supply, teacher quality, and teacher turnover. Washington, DC: National Center for Education Statistics.
- Ingersoll, R. (2004). Why do high-poverty schools have difficulty staffing their classrooms with qualified teachers? Washington, D.C.: Center for American Progress, 9.
- Ingersoll, R. M., May, H. (2011). Recruitment, retention and the minority teacher shortage (Research Report No. RR-69). Philadelphia, PA: Consortium for Policy Research in education. Retrieved from <http://dx.doi.org.ezproxy.lib.vt.edu/10.12698/cpre.2011.rr69>

- Isenberg, E., Max, J., Gleason, P., Potamites, L., Santillano, R., Hock, H., Angelo, L. (2013). *Access to Effective Teaching for Disadvantaged Students*. Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.
- Johnson, J., & Kasadra, J. (2011). *Six disruptive demographic trends: What census 2010 will reveal*. Chapel Hill, NC: Kenan-Flagler Business School, The University of North Carolina.
- Johnson, J., Showalter, D., Klein, R., & Lester, C. (2014). *Why rural matters 2013-2014: The condition of rural education in the 50 states*. Washington, DC: Rural School and Community Trust.
- Katsiyannis, A., Zhang, D., & Conroy, M. (2003). Availability of special education teachers: Trends and issues. *Remedial and Special Education, 24*(4), 246-253.
- Kaye, E. (2002). *Requirements for certification of teachers, counselors, librarians, Administrators for elementary and secondary schools*. Chicago, IL: University of Chicago Press.
- Kee, A. (2012). Feelings of preparedness among alternatively certified teachers: What is the role of program features? *Journal of Teacher Education, 63*(1), 23-38.
- Keigher, A. (2010). *Teacher attrition and mobility: Results from the 2008-2009 teacher follow-up survey (NCES 2010-353)*. Washington, D.C.: Government Printing Office.
- Kober, N., & Rentner, D. S. (2011). *Strained schools see bleak future: Districts for see budget cuts, teacher layoffs, and a slowing of education reform efforts*. Retrieved from Center on Education Policy: Retrieved from <http://cep-dc.org>

- Koretz, D. (1996). Limitations in the Use of Achievement Tests. *The Journal of Human Resources* , 1-42.
- Kozleski, E., Mainzer, R., & Deshler, D. (2000). Bright futures for exceptional learners: An action agenda to achieve quality conditions for teaching and learning. *Teaching Exceptional Learners*, 32(6), 56-69.
- Krockover, G. H. (2011). Using Action Based Research Teams to Reform Undergraduate Science Courses. *Research Based Undergraduate Science Teaching: Investigating Reform in Classrooms* (p. Background Research Paper No. 26). Tuscaloosa, AL: National Study of Education in Undergraduate Science.
- Ladson-Billings, G. (2009). *The Dreamkeepers: Successful Teachers of African American Children*, 2nd Edition. San Francisco, CA: Jossey-Bass.
- Lankford, H., Loeb, S., & Wyckoff, J. (2002). Teacher sorting and the plight of urban schools: A descriptive analysis. *Educational Evaluation and Policy Analysis*, 24(1), 37-62.
- Learning First Alliance (2005). A shared responsibility: Staffing high-poverty, low-Performing schools with effective teachers and administrators. A framework for action. Retrieved from <http://www.learningfirst.org/publications/staffing/>
- Levenson, N. (2012). *Boosting the Quality and Efficiency of Special Education*. Washington, DC: Thomas B. Fordham Institute.
- Loeb, S., Kalogrides, D., & Beteille, T. (2011). *Effective schools: Teacher hiring, assignment, development and retention*. Cambridge, MA: The National Bureau of Economic Research.

- Loeb, R., & Stempien, L. (2002). Differences in job satisfaction between general education and special education teachers: Implications for retention. *Remedial and Special Education, 23*, 259-267.
- Ludvig, M., Kirshstein, R., Sidana, A., Ardila-Rey, A., & Bae, Y. (2010). An emerging picture of the teacher preparation pipeline. Washington, DC: American Association of Colleges for Teacher Education and the American Institutes for Research.
- Mandlawitz, M. (2007). What every teacher should know about IDEA 2004 laws and regulations. Boston, MA: Pearson Education Inc.
- Martino, W. J. (2008). *Male Teachers as Role Models: Addressing Issues of Masculinity, Pedagogy and the Re-Masculinization of Schooling*. Malden, MA: Blackwell Publishing.
- Max, J., McKie, A., & Glazerman, S. (2007). Feasibility of a Star Teacher Demonstration. Washington, D.C.: Mathematica Policy Research.
- McCabe, K. (2010, February 17). *AACTE to Present Major Forum on Improving Teacher Effectiveness at 2010 Annual Meeting*. Retrieved April 14, 2017, from American Association of Colleges for Teacher Education: Retrieved from <https://aacte.org/news-room/13-press-releases-tatements/68-aacte-to-present-major-forum-on-improving-teacher-effectiveness-at-2010-annual-meeting>
- McCord, R., & Ellerson, N. M. (2009). Looking back, looking forward: How the economic downturn continues to impact school districts. Arlington, VA: American Association of School Administrators.

- Midgley, C., Feldauer, H., & Eccles, J. S. (1989). Change in Teacher Efficacy and Student Self- and Task-Related Beliefs in Mathematics During the Transition to Junior High School. *Journal of Educational Psychology, Vol. 81, No. 2* , 247-258.
- Mikulecky, M., Shkodriani, G., & Wilner, A. (2004). Alternative certification: A growing trend to address the teacher shortage. Education Commission of the States. Retrieved on May 20, 2008 from <http://www.ecs.org/clearinghouse/57/12/5712.pdf>
- Mitchem, K., Kossar, K., & Ludlow, B. L. (2006). Finite resources, increasing demands: Rural children left behind? Educators speak out on issues facing rural special education. *Rural Special Education Quarterly, 25*(3), 13-23.
- Morrison, J. (2012). The principal's role in teacher retention: Keeping new teachers. Newberry, SC: Newberry College.
- Murphy, P., DeArmond, M., Guin, K. (July 31, 2003). A national crisis or localized problems? Getting perspective on the scope and scale of the teacher shortage. *Education Policy Analysis Archives, 11*(23). Retrieved from <http://epaa.asu.edu/epaa/v11n23/>
- National Commission on Excellence in Education. (1983). A Nation at Risk: The Imperative for Educational Reform. Washington, DC: U.S. Government Printing Office.
- National Education Association (2011). Teacher evaluation: A resource guide for national education association leaders and staff. Washington, DC: National Education Association.

- National Partnership for Teaching in At-Risk Schools. (2005). Qualified teachers for at risk schools: A national imperative. Washington, DC: Author. Retrieved from <http://www.learningpt.org/pdfs/tq/partnership.pdf>
- Ng, J., & Peter, L. (2009). Should I stay or should I go? Examining the career choices of alternatively licensed teachers in urban schools. *Urban Review*, 42, 123-214.
- No Child Left Behind Act of 2001, 20 U.S.C. 70 § 6301 et seq. (2002).
- Office of Special Education and Rehabilitative Services, D. o. (1999). Assistance to States for the Education of Children With Disabilities and the Early Intervention Program for Infants and Toddlers With Disabilities. Federal Register/Rules and Regulations, Vol. 64, No. 48, 12406-12454.
- Parrado, E., & Kandel, W. A. (2010). Hispanic population growth and rural income inequality. *Social Forces*, 88(3), 1421-1450.
- Partee, G. L. (2015). Attaining Equitable Distribution of Effective Teachers in Public Schools. Washington, DC: Center for American Progress. Retrieved from Center for American Progress: Retrieved from <https://www.americanprogress.org/wp-content/uploads/2014/04/TeacherDistro.pdf>
- Peske, H., & Haycock, K. (2006). Teaching inequality: How poor and minority students are Short-changed on teacher quality. A report and recommendations by the Education Trust. Retrieved from Washington, D.C. Education Trust: Retrieved from <http://www.edtrust.org/sites/edttust.org/files/publications/files/TQReportJune2006.pdf>

Peterson, P. (2003). *Our Schools & Our Future ... Are We Still at Risk?* Stanford, CA: Hoover Institution Press.

Pettinger, T. (2008). Horizontal and Vertical Equity Definition. Retrieved from Economics Help: Retrieved from <http://www.economicshelp.org/blog/935/economics/horizontal-and-vertical-equity/>

Public Law, No. 94-142, 89 Stat. 773 (1975).

Pugash, M. (2005). Research on preparing general education teachers to work with students with disabilities. In M. Cochran-Smith, & K. M. Zeichner, *Studying teacher education: The report of the AERA panel on research and teacher education* (pp. 549-590). Mahwah, NJ: Erlbaum.

Quiocho, A., & Rios, F. (2000). The power of their presence: Minority group teachers and schooling. *Review of Educational Research*, 70(4), 485–528.

Race to the Top (2009). RTTT Executive Summary. Washington, DC: United States Department of Education.

Ravitch, D. (2010). *The death and life of the great American school system: How testing and choice are undermining education*. New York, NY: Basic Books.

Robertson, J., & Singleton, J. D. (2010). Comparison of traditional versus alternative preparation of special education teachers. *Teacher Education and Special Education*, 33, 213-224.

Rockoff, J. (2004). The Impact of Individual Teachers on Student Achievement: Evidence from Panel Data. *American Economic Review Papers and Proceedings*, 247-252.

- Rockoff, J. E., Jacob, B. A., Kane, T. J., & Staiger, D. O. (2008). Can You Recognize an Effective Teacher When You Recruit One? Cambridge, MA: National Bureau of Economic Research.
- Ronfeldt, M., Loeb, S., & Wyckoff, J. (2013). How teacher turnover harms student achievement. *American Educational Research Journal*, 50(1), 4-36.
- Rudalevige, A. (Fall 2003). The Politics of No Child Left Behind. *Education Next*, 63-69.
- Sass, T., Hannaway, J., Xu, Z., Figlio, D., & Feng, L. (2012). Value Added of Teachers in High-Poverty Schools and Lower-Poverty Schools. *Journal of Urban Economics*, vol. 72, nos. 2-3, 104-122.
- Seiça, Aline and Sanches, Maria de Fátima Chorão (2014). *Procedia - Social and Behavioral Sciences*, 116, 2015-2022.
- Schaefer, L., Long, J., & Clandinin, D. (2012). Questioning the research on early career teacher attrition and retention. *Alberta Journal of Educational Research*, 58(1), 106-121.
- Sheldrake, A. D. (2013). A comparative study of administrator and special education teacher perceptions of special education teacher attrition and retention (Doctoral dissertation). 89 Retrieved from PDX Scholar Dissertations and Theses database. (Paper 1499)
- Sherman, J. D., & Poirier, J. M. (2007). Educational Equity and Public Policy: Comparing Results From 16 Countries. Montreal, Quebec, Canada: United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics.

- Shipp, V. H. (1999). Factors Influencing the Career Choices of African American Collegians: Implications for Minority Teacher Recruitment. *Journal of Negro Education, 68(3)* , 343-351.
- Skelton, C. (2003). Male Primary Teachers and Perceptions of Masculinity. *Educational Review, Vol. 55, No. 2* , 195-209.
- Southeast Center for Teaching Quality. (2004). Unfulfilled promise: Ensuring high quality teachers for our nation's schools. Retrieved from [www.teachingquality.org/pdfs/NCLB\\_PublishedReport.pdf](http://www.teachingquality.org/pdfs/NCLB_PublishedReport.pdf)
- Statistics, B. o. (2009). Washington, D.C.: U.S. Department of Labor.
- Statistics, B. o. (2012). Occupational Outlook Handbook, 2014-15 Edition, Special Education Teachers. Retrieved from U.S. Department of Labor: Retrieved from <http://www.bls.gov/ooh/education-training-and-library/special-education-teachers.htm>
- Statistics, N. C. (2015). *The Condition of Education 2015*. Retrieved April 16, 2017, from National Center for Education Statistics: Retrieved from <https://nces.ed.gov/pubs2015/2015144.pdf>
- Steele, J. L., Hamilton, L. S., & Stecher, B. M. (2010, December 1). *Incorporating Student Performance Measures into Teacher Evaluation Systems*. Retrieved April 14, 2017, from Center for American Progress: Retrieved from <https://www.americanprogress.org/issues/education/reports/2010/12/01/8721/incorporating-student-performance-measures-into-teacher-evaluation-systems/>
- Suitts, S., Sabree, N., & Dunn, K. (2013). *A new majority: Low income students in the South and nation*. Atlanta, GA: Southern Education Foundation.

- Teven, J. J., & McCrosky, J. C. (1999). Goodwill: A Reexamination of the Construct and Its Measurement. *COMMUNICATION MONOGRAPHS, VOLUME 66* , 90-103.
- Thomas, R. (2010). Teacher layoffs hit special education. Retrieved from WILX:  
Retrieved from  
[http://www.wilx.com/news/headlines/Teacher\\_Layoffs\\_Hit\\_Special\\_Education\\_12103834.html](http://www.wilx.com/news/headlines/Teacher_Layoffs_Hit_Special_Education_12103834.html)
- Thomas, S.L. & Heck, R.H. (2001). Analysis of large-scale secondary data in higher education research: Potential perils associated with complex sampling designs. *Research in Higher Education*, 42(5). 517-540.
- Thoonen, E., Slegers, P. J., Oort, F. J., Peetsma, T. T., & Geijsel, F. P. (2011). How to improve teaching practices: The role of teacher motivation, organizational factors, and leadership practices. *Educational Administration Quarterly*, 47, 496-536.
- Title I- Improving the Academic Achievement of the Disadvantaged, Final Rule (Part II), 34 C.F.R. § 200.56 et seq. (2003).
- Tourkin, S., Thomas, T., Swaim, N., Cox, S., Parmer, R., Jackson, B., Cole, C., and Zhang, B. (2010). Documentation for the 2007–08 Schools and Staffing Survey (NCES 2010-332). U.S. Department of Education. Washington, DC: National Center for Education Statistics.
- Tourkin, S.C., Warner, T., Parmer, R., Cole, C., Jackson, B., Zukerberg, A., Cox, S., and Soderborg, A. (2007). Documentation for the 2003–04 Schools and Staffing Survey (NCES 2007-337). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

- Treasury, U. D. (2014). Office of Minority and Women Inclusion (OMWI). Retrieved from Office of the Controller of the Currency: <http://www.occ.gov/about/who-we-are/careers/omwi.html>
- Turnbull, H. (2005). Individuals with Disabilities Education Act Reauthorization: Accountability and Personal Responsibility. *Remedial and Special Education*, 26(6), 320-326.
- Tyler, N., Yzquierdo, Z., Lopez-Reyna, N., & Flippin, S. (2004). Cultural and linguistic diversity and the special education workforce: Critical Review. *Journal of Special Education* 38 (1), 22-38.
- U.S. Government Accountability Office (2009, July). Teacher preparation. Washington, D.C.: Available at <http://www.gao.gov/new.items/d09573.pdf>
- U.S. Department of Education. (2004, March). Fact sheet: New No Child Left Behind Flexibility: Highly qualified teachers. Retrieved from <http://www.ed.gov/nclb/methods/teachers/hqtflexibility.pdf>
- U.S. Department of Education (2009). State and local Implementation of the No Child Left Behind Act: Volume VIII-Teacher Quality. Retrieved from <http://www2.ed.gov/rschstat/eval/teaching/nclb-final/index.html>
- U.S. Department of Education (2010). The secretary's seventh annual report on teacher quality: A highly qualified teacher in every classroom. Washington, DC: Author.
- U.S. Department of Education, National Center for Education Statistics (2011). Digest of Education Statistics, 2010. Author, Washington, D.C

- U.S. Department of Education. National Commission on Excellence in Education. *A Nation at Risk: the Imperative for Educational Reform* : a Report to the Nation and the Secretary of Education, United States Department of Education. Washington, D.C. The Commission: [Supt. of Docs., U.S. G.P.O. distributor], 1983. Print.
- U.S. Department of Education, Office of Special Education Programs. (n.d.) IDEA Regulations: Highly Qualified Teachers. Available from <http://IDEA.ed.gov>
- U.S. Department of Education. (2007, June). A summary of highly qualified teacher data Retrieved from <http://www.ed.gov/programs/teacherqual/data2007.doc>
- U.S. Department of Education, Office of Special Education Programs. (n.d.) IDEA Regulations: Highly Qualified Teachers. Available from: <http://IDEA.ed.gov>
- U.S. Office of Special Education Programs. (2002). Twenty-fourth annual report to Congress on the implementation of the Individuals with Disabilities Education Act. Washington, DC: U.S. Department of Education.
- Vogt, A. (2010). New AASA survey finds 275,000 jobs in peril. Arlington, VA: *American Association of School Administrators*.
- Waddell, S. (2010). Public-sector project management: Meeting the challenges and achieving results. *Project Management Journal*, Volume 41, Issue 3 , 102-117.
- Wakeman, S., Browder, D. M., Flowers, C., & Ahlgrim-DeLzell, L. (2006). Principals' knowledge of fundamental and current issues in special education. *NASSP Bulletin*, 90, 153-174.
- Walsh, K., & Jacobs, S. (2007). Alternative certification isn't alternative. Retrieved from Thomas B. Fordham Institute: <http://www.edexcellence.net/institute/publication/order.cfm>

- Weisberg, D., Sexton, S., Mulhern, J., & Keeling, D. (2009). *The widget effect: Our national failure to acknowledge and act on differences in teacher effectiveness*. Brooklyn, NY: The New Teacher Project. Retrieved from <http://widgeteffect.org/downloads/TheWidgetEffect.pdf>
- Weiss, S. (2003). Highlights from the 2003 National Forum on Education Policy: Nation at Risk Continues to Affect Education System. Washington, DC: Education Commission of the States.
- Wentzel, K. R. (1997). Student motivation in middle school: The role of perceived pedagogical caring. *Journal of Educational Psychology*, 89(3), 411-419.
- White, R. (2004). The recruitment of paraeducators into the special education profession: A review of progress, select evaluation outcomes, and new initiatives. *Remedial and Special Education*, 25(4), 214-218.
- Wiess, C., Carolan, B. V., & Baker-Smith, E. C. (2010). Big school, small school: (Re)testing assumptions about high school size, school engagement and mathematics achievement. *Journal of Youth and Adolescence*, 39, 163-176.
- Wong, K. K. (2008, December). Federalism revised: The promise and challenge of the No Child Left Behind Act. *Public Administration Review*, 68 (Suppl.), S175-S1
- Yell, M., Drasgow, E., & Lowrey, K. A. (2005). No Child Left Behind and Students with Autism Spectrum Disorders. *Focus on Autism and Other Developmental Disabilities*, 20(3), 130-139.
- Yell, M., Katsiyannas, A., & Shiner, J. G. (2006). The No Child Left Behind Act. Adequate Yearly Progress and Students with Disabilities. *Teaching Exceptional Children*, 38(4), 32-39.

Young, K. (2008). An alternative model of special education teacher socialization.

*Teacher and Teacher Education*, 24, 901-914.





