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THE IMPACT OF TEACHER LICENSURE PROGRAMS
ON MINORITY STUDENT ACHIEVEMENT

by

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A Dissertation Submitted to the Faculty of
Old Dominion University in Fulfillment of the
Requirement for the Degree of

DOCTOR OF PHILOSOPHY

EDUCATIONAL LEADERSHIP SERVICES

OLD DOMINION UNIVERSITY

Approved by: _____

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ABSTRACT

THE IMPACT OF TEACHER LICENSURE PROGRAMS ON MINORITY STUDENT ACHIEVEMENT

Rose S. Duke
Old Dominion University, 2012
Chair: Dr. William A. Owings

This research examined the impact of teacher licensure routes, particularly those identified as either traditional or alternative on student achievement by comparing Virginia Standards of Learning (SOL) end of year scores in math and reading for minority students in grades six through eight during the period from 2005 through 2009. To compare the achievement of students taught by either traditionally or alternatively prepared teachers, the Standards of Learning (SOL) scores were calculated for students and then aggregated for types of teacher preparation. The mean values were compared for statistically significant differences as a function of subject, teacher ethnicity, teacher gender, student gender, and for students receiving special education services.

After the implementation of Independent Paired Sample *t-test*, the findings of this study revealed that statistically significant differences occurred in the scores of minority students taught by teachers who were either traditionally or alternatively licensed in several of the analyzed areas. The data did reveal a significant difference in the math scores for gender, where the scores of minority students taught by female teachers with traditional licensure were higher than those scores of students taught by female teachers with alternative licensure. In the category of ethnicity, the data indicated the scores of students taught math by White or Black teachers with alternative licensure were significantly lower than the scores of students taught by White or Black teachers with traditional licensure. The data analysis indicated there was a significant difference in the

math scores of minority students, where the scores of students taught by alternatively licensed teachers were significantly lower than those of students taught by teachers with traditional licensure. Finally, the reading scores of minority students taught reading by Black teachers with a traditional licensure background were significantly higher than students taught reading by alternatively licensed teachers.

There were no significantly significant differences in any of the other data results. Based on this research, this researcher supports the need for further exploration in this area before concrete decisions are made which favor an either or approach to traditional versus alternative teacher licensure programs.

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CHAPTER 1

INTRODUCTION

BACKGROUND OF THE STUDY

Overview

This chapter focuses on those areas that impact the introduction and promotion of alternative teacher preparation programs. Academic administrators are constantly challenged to maintain an effective teacher workforce. The end date for the No Child Left Behind Act (NCLB) and the accountability for all schools to function at 100% proficiency in student achievement is rapidly approaching. It is imperative that those areas such as teacher shortages, teacher attrition, and school climate be addressed to evaluate their roles in attributing to teacher shortages as well as to assist academic officials in eliminating any extrinsic barriers to student achievement. This chapter will also provide the research question, the hypothesis, and a definition and clarification of terms.

Teacher Shortages

According to current research, one of the most critical issues faced by our nation's classrooms is the need to assure they are staffed by highly qualified teachers (Johnson, Birkeland, & Peske, 2005). Johnson also notes from a historical perspective that school districts throughout the country have had trouble finding enough qualified teachers. This shortage may be better understood as a problem within the academic community of maintaining teacher interest, alleviating teacher frustration with school assignments, and increasing teacher retention. In addressing teacher shortages, many public schools also face the difficulty of competing with fields that provide more impressive compensation

packages. For the past two decades our nation has faced an unprecedented shortage of teachers. The United States Department of Education indicated 2.2 million teachers will be required within the next decade, which exceeds the annual hiring rate of new teachers. Subsequently, those districts in “hard to staff” communities will require in excess of 700,000 additional teachers in the next ten years (Johnson et al, 2005). Public schools within the United States experience a greater need for qualified teachers than do private schools (Ingersoll, 2004).

Teacher shortages are notably evident in southern and western states, in urban and rural schools, in special education, and in content areas such as mathematics and science. The deadline to reach the accountability goals of achievement for the No Child Left Behind Act of 2001 is the 2013-2014 school year. One major feature of this accountability for improved student achievement is the inclusion of a “highly qualified teacher” in each classroom. According to Owings and Kaplan (2005), in addition to compliance with federal mandates for accountability in education, recruiting and retaining effective teachers is an essential need because no policies that can improve schools if the people in them are not armed with the knowledge and skills they need. “Rural school districts are going to have just as much difficulty as their urban counterparts placing a highly qualified educator in every classroom,” (McClure, Redfield, & Hammer, 2003, p.1). Within rural communities 43% of United States public schools house 31% of the nation’s school-age children (McClure, Redfield, & Hammer, 2003; Reeves, 2003). Urban districts within the nation are reported to have an immediate need for additional teachers in special education (98%) and at least one high need subject area such as mathematics (99%) or science (98%). There is a disproportionate distribution of

teachers across geographic areas, student demographics, and subject areas. Too often the most extreme shortages affect those districts with the neediest students (Ingersoll, 2004). Ingersoll (2004) also reports that the lack of highly qualified teachers tends to be concentrated in low-income communities, in schools with high-minority populations, and in certain subjects such as science and math. These demographics will provide policymakers with the opportunity to greatly influence the complexion of the nation's teaching workforce for the next generation. To meet this goal, policy makers will have to develop an elaborate system of training and licensure toward the continued preparation of those entering the field of teaching (Goldhaber & Brewer, 2000). The development of a teacher training system has been piecemeal, often a knee jerk response to a specific need rather than an organized systematic process. Historically, there have been few standards and parameters in the field of education. Most teachers completing a state-approved program in a school of education received a license to teach (Goldhaber & Brewer, 2000).

The National Commission on Teaching and America's Future (NCTAF) states that the literature espousing teacher shortages is a misnomer, and the problem is not an insufficient pool of teachers trained to teach, but an inability to keep teachers in the classroom (National Commission on Teaching and America's Future, 2000). Shortages become evident when there is limited qualified staff available to work under the conditions and for the specified salary offered in a specific area (Feistritzer & Chester, 2000). There appears to be a surplus of teachers in the Northwest, Rocky Mountains, Northeast, and Middle Atlantic regions and shortages in Alaska, the West coast, and the South (AAEE, 2003). Typically, states offering higher salaries, policies supportive of

education and teaching, and a greater number of higher education institutions have fewer problems hiring and retaining teachers (American Association of States Colleges and Universities, 2005). The excessive demand for teacher replenishment is a result of staggering turnover rates, rather than a minimal supply of qualified staff (Ingersoll, 2002). The states with the wealthier districts maintain an adequate and often a surplus supply and those states with fewer resources and inferior working conditions have difficulty hiring and retaining an adequate teacher workforce (National Commission on Teaching and America's Future, 2002). The most qualified teachers are typically recruited to better-funded districts that offer extensive academic support (Ingersoll, 2004). Cuban (2006) notes many districts are improving their recruitment by enhancing their benefits packages.

Teacher Attrition

Since a fundamental role of the educational system is carried out by teachers, there is an abundance of research on teacher attrition and retention. Ingersoll (2001) claimed that more than one-half of all teacher turnover consists of migration from one school to another. Local attrition rates may not, therefore, be reflective of larger attrition rates. Ingersoll (2001) also downplayed the role of retirement in the issue of retention by determining that only 13% of teacher turnover was related to retirement. Whether teachers leave the profession completely or migrate to another school, the same loss of investment in recruiting, developing, and sustaining a sense of school community results (Brown, 2002; Eberhard & Reinhardt-Mondragon, 2000; Ingersoll, 2001b). "High levels of employee turnover are both cause and effect of dysfunction and low performance in organizations" (Ingersoll, 2001b, p.7). This can often result negatively on student

achievement and stifle a school's ability to carry out long-term school improvement and curricular initiatives (Brewster & Railsback, 2001; Theobald & Michael, 2001). Schools need to maintain a sense of community and cohesion to promote school success (Ingersoll & Smith, 2004).

Historically, hiring rates of teachers have fluctuated. Much of this inconsistency is often attributed to the basic law of supply and demand. Student enrollment, class size, and budgetary constraints play a pivotal role in the hiring practices of many school districts. Substantial research is available that explores the employment practices for teachers. The National Center for Educational Statistics (NCES) of the U.S. Department of Education maintains a comprehensive dataset on national teacher employment trends. The research related to teacher recruitment, retention, and attrition, has several general themes which include studies on the characteristics of those entering and remaining in the field of teaching, research exploring school district characteristics and policies, and studies concerning pre-service and in-service policies. The findings confirm that the presence of gender inequities (Broughman & Rollefson, 2000; Henke, Chen, Geis, & Knepper, 2000; Hanushek & Pace, 1995), racial inequities (Broughman & Rollefson, 2000; Rong & Preissle 1997), and out-of-field teaching, strongly impact teacher quality (Ingersoll, 2005, 1999; Bandeira de Mello & Broughman, 1996; Bobbitt & McMillen, 1995).

Substantial research confirms that while salaries are important, intrinsic motivations for entering into the field of teaching do exist (Hanushek, Kain, & Rivkin, 2005; Lankford, Loeb & Wyckoff, 2002; Farkas, Johnson, & Foleno, 2000; Kirby, Berends, & Naftel, 1999). The research provides significant evidence indicating that the

largest group of individuals leaving the teaching profession, are those who quit after their first year in the classroom, (Hanushek, Kain, & Rivkin, 2005; Kirby, Berends, & Naftel, 1999; Adams, 1996).

During the late 1970s and early 1980s, the number of college graduates who chose education as their career declined. Between 1971 and 1981, respectively, the percentage of students majoring in education dropped from 20% to 12% (NCES, 1983). During this period, a decline from 36% to 18% was also reported in the number of women receiving their undergraduate degrees in education. Gender has consistently been associated with the teaching profession as a career choice. Broughman and Rollefson (2000), using data from the 1987-1989 and 1993-1994 Schools and Staffing Survey, reported that 73% of new teachers were female. Darling-Hammond (1984) contributed to research that reported the 1970s provided an expansion of career opportunities for professional women. In a longitudinal analysis of data from 11,000 students who graduated from college in the classes of 1991-1993, women were more likely than men to pursue a career in teaching (Henke, Chen, Geis, & Knepper, 2000).

Because of the pivotal role gender plays in the educational profession, this change in the career focus of women may have also contributed to the decline of teachers during this and subsequent time periods. The variable of racial inequality was included in a study of High School and Beyond, where 1,325 1980 high school graduates were followed through their 1986 college matriculation. Historically, for those who received their bachelor's degree, white females were 10% more likely to get a degree in education than white males (Hanushek & Pace, 1995).

Teacher quality has been negatively correlated with the concept of out-of-field teaching. Ingersoll (2005, p.113) reported an increase in this concept in recent years. Several studies (Ingersoll, 1999; Bandeira de Mello & Broughhman, 1996; Bobbitt & McMillen, 1995) have indicated that out-of-field teaching is a major source of under qualified teaching in schools. During the 1980s, the National Center for Education Statistics (NCES) in its publication of *The Condition of Education* (NCEE, 1983), noted that of the approximate 200,000 secondary mathematics and science teachers, 9% left during the 1982 academic year, 30% were not qualified to teach their assigned courses, and over 40% were expected to retire. Additionally during this period, the Association for School, College, and University Staffing published findings highlighting the number of states reporting shortages in math and science teachers. Ingersoll (2005) claimed the stipulation in the NCLB legislation that planned to eliminate out-of-field teaching by the end of the 2005-2006 school year, is a direct consequence of the focus on out-of-field teaching.

Several studies in the literature refer to a relationship between teachers' experience and attrition, with the highest rates of attrition attributed both to teachers with one year of experience and to those approaching retirement age. In their analysis of over 300,000 Texas teachers during the period between 1993 through 1996, Hanushek, Kain, & Rivkin (2005) concluded that those teachers leaving the profession had little experience or were in the retirement age. Ingersoll (2001) has coined the phrase "U-Shape Pattern" to explain the relationship between attrition and teacher experience, and this pattern is consistent with the majority of the research findings in this area.

These data are quite revealing when comparing the concept of teacher attrition with attrition rates in other professional fields. Ingersoll (2001) found that a 14% turnover rate for teachers in the Schools and Staffing Survey of the early 1990s was relatively high as compared with the 11% national turnover rate for employees in all occupations, as published by the Bureau of National Affairs. Harris and Adams (2005) analyzed the 1992-2001 Current Population Survey and concluded that the probability of teachers leaving their profession was 1.16% higher than that for accountants and 2.01% higher than for nurses, another historically female profession.

Alternative Teacher Licensure

Alternative teacher licensure (ATL) programs were developed as a vehicle to maintain adequate teaching staff as well as to continue to provide quality education for students. One of the initial reasons for their creation was widely publicized dissatisfaction with teacher quantity and quality. The desire for more equity of academic resources along with persistent challenges in meeting the goals of the academic community also contributed to the formation of ATL programs. Although alternative teacher licensure programs were introduced to the United States over two decades ago, there is still skepticism from opponents regarding their effectiveness. The proponents of this teacher preparation process are constantly under the educational microscope. In an effort to address the twenty-first century educational need for accountability with the federally mandated No Child Left Behind Act (NCLB), increased academic pressures on teachers have exacerbated the problem of teacher shortages and highlighted the need to have qualified teachers in every classroom. The goal of NCLB is for every child to be at

grade level in mathematics, science, and reading by the end of the school year 2013-2014 (Myer, 2004).

Research is available to support the benefits of ATL programs and the teachers who complete them (Dial & Stevens, 1993; Dill, 1996; Wilson, Floden & Ferrini-Mundy, 2001). Rod Paige, former Secretary of Education, stated that broadening the means by which individuals enter the teaching profession and challenging existing practices of teacher preparation, are “not the entire solution to our nation’s teacher quality challenge, but...an important part of the solution” (Paige, 2004. p. 3).

There is a need for more empirical studies related to alternatively prepared and practicing teachers. This study will continue to explore the work completed by a Ph. D. student at Old Dominion University and will follow-up on some of his recommendations (Smith, 2008). The aim of this study will be to examine whether there is a positive or negative correlation between teacher preparation type and student achievement of minority students as measured by the Virginia Standards of Learning (SOLs) end of year tests.

The rationale for some of the opponents of alternative teacher licensure has included concerns about the minimal requirements for admission standards and questioned whether the fact that they were too low would compromise professional teacher preparation programs. Linda Darling-Hammond and Peter Young (2002) are critics of the Teach for America program, a popular alternative licensure route. They argued that these programs are lacking in curricular knowledge, pedagogy, appreciation for varying learning styles, and classroom management. School administrators are frequently biased in favor of graduates from a traditional teacher licensure (TTL)

programs over those deriving from alternative routes (Cantrell & Weeks, 2004). Much of the concern about the value of ATP programs resulted from beliefs that they focused more on subject matter and content knowledge instead of pedagogy (Ballou & Podgursky, 2000; Hess 2001).

Advocates of alternative teacher licensure programs, on the other hand, argue that inclusion of a process other than the four- or five-year university preparation route enhances the teaching profession by attracting a more diverse teacher workforce along with adding to the field of teaching, many qualified individuals who might not have come into the field of teaching (Hawk, 1997; McKibbin & Ray, 1994; Natriello & Zumwalt, 1994). Studies from those favoring alternative teacher licensure have noted increased inclusion of minority teachers, males, and teachers needed for specialized areas such as special education, mathematics, and science. As the inception of alternative teacher licensure programs nears its twentieth anniversary, the debate about its merit continues. However, continued empirical research such as that conducted on the National Troops to Teachers programs, an alternative teacher licensure vehicle, indicated that students taught by teachers in similar subject areas, and with comparable years of experience, performed almost equally in reading and displayed a slight statistical advantage in math (Nunnery, Kaplan, Owings, & Pribesh, 2009). Additional research is evident in the literature to support the improvement of student achievement with increases in teacher experience as a factor rather than teacher preparation route (Boyd, Grossman, Lankford, Loeb, & Wyckoff l., 2005; Gordon et al., 2006; Kane et al., 2006; Rivkin, Hanushek, & Kain, 2005; Rockoff, 2004; Sanders & Horn, 1995; Sanders & Rivers, 1996).

Despite the polarized opinions within the educational community, the influx of alternative teacher preparation programs continues to rise, and with it, teachers completing these ATP programs continue to fill the nation's classrooms. According to the National Center for Education Information, as many as 35,000 alternatively prepared teachers are currently entering classrooms each school year in the United States. By some estimates, one-third of newly hired teachers nationwide come through alternate routes, with certain school districts relying on alternative programs for over half of all their new teacher hires (Feistritzer & Chester, 2002).

Alternative teacher quality and accountability is not a new theme in the educational arena. During the 18th century, most school districts provided their own teacher training, and when tests on competency arrived they were not very thorough (Ravitch, 2001). The federal government began to provide oversight during the latter part of the twentieth century and most teacher standards were governed by the various localities. As we have transitioned into the twenty-first century, there is a movement toward standardization of student expectations throughout the United States, but we remain conflicted regarding the purpose of teacher preparation methodologies toward that end. The general belief is that the teacher preparation and certification process is a means of maintaining the integrity of the profession along with ensuring quality instruction which should translate into high student achievement (Darling-Hammond, 2006). Others, however, criticize the process as a detriment to the teaching profession. These individuals see teacher preparation and certification as needless criteria, which may deter people from reaching their career goals (Feistritzer & Haar, 2008; Paige, 2004).

While research on correlations between the effectiveness of various teacher and student ethnic combinations has not yielded conclusive findings, there has been criticism of low numbers of minorities represented in the teaching profession. The racial and ethnic composition of the nation's teaching staff as reported by Kirby, et al. (1999) indicated that as student enrollment increased dramatically due to court rulings and legislation aimed at improving equity in educational access, the recruitment of minorities as teachers has not kept pace with the increased student enrollment. Because more urban and rural areas are utilizing teachers from ATP programs, there is an ongoing need for current empirical research to explore whether the teacher preparation and subsequent certification routes positively or negatively impacts minority student achievement. As more than a million veteran classroom teachers near retirement, the increased student enrollment must be adequately staffed with teachers prepared to meet the academic challenges of the day. As is typical with too many socioeconomic issues, the schools with the highest poverty rates will have the greatest need for replenishment within the teacher workforce. Ingersoll (2003) reports that a higher teacher turnover rate exists in school districts whose students live in high poverty areas. No doubt the NCLB mandates for teacher quality will present unprecedented challenges for many of these districts.

PURPOSE OF THE STUDY

This study is designed to examine whether a relationship exists between teacher licensure and minority student achievement as measured by the proficiency rates on the Virginia Standards of Learning (SOL) tests. Two federal initiatives, A Nation at Risk, Imperative for Educational Reform and the No Child Left Behind Act of 2001, propelled student achievement into the forefront of the educational arena in an effort to address the

vital areas of accountability and testing. This study will examine the test results of minority students controlling for socioeconomic factors to determine any specific correlations with student achievement and teacher licensure route.

Significance of the Study

This study will build on previous research exploring the quality of alternative teacher preparation programs and assist school administrators in making sound recruitment policy decisions related to hiring and retention of adequate staff. The study will contribute to the current empirical research as it evaluates those areas that impact student proficiency and any subsequent relationships between traditional and alternative teacher licensure programs. This study is significant because it focuses on the minority student population served by the Commonwealth of Virginia, which is cited as one of the high-need populations in the current No Child Left Behind school reform policy (U. S. Department of Education, 2009). A major difference in this work and former studies of teacher preparation programs is the specific focus on minority student achievement, which can help administrators make more informed decisions regarding student assignments, teacher assignments, and student proficiency goals. With the current scrutiny of federal mandates, it is essential to assure this abbreviated teacher preparation method is meeting the goals of providing competent teaching staff who can meet the needs of all students and positively influence student achievement.

Often alternative teacher licensure programs are designed to recruit teachers to serve in many of the nation's urban and rural districts because these jurisdictions frequently have difficulty attracting and retaining teachers (Darling-Hammond & Youngs, 2002; Rice, 2003). Consequently, many of these areas are staffed with an above

average number of teachers from non-traditional programs (Rice, 2003). This study will address the question of whether school systems with teachers from alternative programs had students whose proficiency rates on the SOL tests were lower than the proficiency rates of students who were taught by teachers who completed traditional teacher licensure programs. Teacher quality was thought to be one major impetus that affects student achievement (Darling-Hammond & Youngs, 2002; Rice, 2003). In light of the increasing numbers of alternative teacher preparation programs and subsequent teachers in classrooms across the nation, especially in the most vulnerable urban and rural school districts, it is critical to remove any barriers that negatively impact student achievement and to promote those areas that positively impact student success. The accountability requirements resulting from the No Child Left Behind Act emphasize the need for ongoing empirical research to determine those areas that promote student achievement while keeping our classrooms filled. Often this research explores the efficacy of alternative teacher licensure programs and whether a difference in student achievement is evidenced in students taught by teachers from alternative teacher licensure programs as compared to traditional teacher preparation programs. This project could assist academic administrators in assessing the value of teacher preparation and subsequent licensure, if the results indicate that teachers who completed non-traditional routes to licensure impeded student achievement.

RESEARCH QUESTION

This project was developed with this guiding research question: Is there a significant difference in the academic achievement of minority students who were taught

by traditionally and alternatively licensed teachers as measured by the Virginia Standards of Learning (SOL) tests?

The research also explored some secondary variables to determine if they had a significant impact on student achievement and teacher preparation type. These variables were:

1. Gender;
2. Ethnicity;
3. Subject;
4. Grade level;
5. Proficiency level; and
6. Special Education.

HYPOTHESIS

There is no significant difference in minority student achievement as measured by the Virginia SOL based on the type of teacher preparation programs (ATL or TTL) completed by their teacher when controlling for socioeconomic factors. The null hypothesis will be tested at the .05 level.

DEFINITION OF TERMS

Alternative Teacher Preparation

For the purpose of this study, an alternative teacher licensure program is a teacher licensure program offered by an approved provider which offers accelerated training on how to be an effective teacher and pass state licensure examinations. Candidates enrolled in alternative licensure programs usually already hold a minimum of a bachelor's degree but lack the required coursework and training in order to be licensed. Most alternative licensure programs take approximately one year for a candidate to complete, during which time the candidate may hold a paid position as the teacher of record in a

classroom. Alternative licensure programs can be colleges and universities which also offer traditional licensure routes, regional education service centers, and for-profit organizations.

Highly Qualified Teacher

A teacher who possesses the minimum of a bachelor's degree, current state licensure for the subjects they teach, and mastery in all the subjects they teach, as demonstrated by assessments such as the Praxis II tests or other approved methods (U.S. Department of Education, 2001).

Minority Students

For the purpose of this study, a minority student is defined as any student that is non-white, specifically African-American, Asian, Hispanic, Native American and Pacific Islander.

Socioeconomic Status

This is a term used to describe a family's income, educational level, and overall social standing in the community (NCES, 2008). Virginia's public schools associate socioeconomic status with a child's ability to receive a free or reduced-priced lunch as per the Department of Agriculture guidelines.

Student Achievement

Rivkin, Hanushek, & Kain (2005) defined student achievement at any point as a cumulative function of current and prior family, community, and school experiences. For the purpose of this study a more narrow definition is needed. Student achievement is the degree to which students display mastery of state academic standards as measured by

standardized assessments claimed by the Virginia Department of Education as an accurate and valid measure of student learning.

Teacher Quality

The importance of teacher quality is explicit. Teachers, who exhibit stellar academic skills, can often outweigh other social factors in making an impact on student achievement (Kaplan & Owings, 2003). In spite of the United States' decade long advancement of the ideals that a high-quality and excellent public education should be available to all children, schools cannot fulfill this ambitious goal unless all of us, parents, policy makers, and the general public commit to sustaining education as a priority public trust and a goal for future generations (Nieto, 2005).

Traditional Teacher Licensure

For this study, traditional teacher licensure programs are those where the participants completed teacher education program, operated by universities and colleges. Often these are undergraduate or four-year programs, while others have five-year programs which may or may not result in a master's degree. These programs are typically accredited by the states as providing the necessary coursework and supervised experiences to qualify students for licensure. Usually graduates of these programs are automatically granted a teacher license based on satisfactory completion of program requirements.

Virginia Standards of Learning (SOL)

Virginia's statewide assessments that "describe the commonwealth's expectations for student learning and achievement in grades K-12 in English, mathematics, science, history and social science, technology, the fine arts, foreign language, health and physical

education, and driver education” (Virginia Department of Education, p.2). Students are tested in grades three through eleven in the four core subjects. A school’s accreditation is based upon 80% of students passing these tests.

Pass/Advanced Proficiency Level

The student demonstrates exceptional understanding and extensive application of the knowledge and skills necessary to apply the core strategies needed to be successful in the specific subject area.

Pass/ Proficient Proficiency Level

The student demonstrates sufficient understanding and application of the knowledge and skills necessary to apply the core strategies needed to be successful in the specific subject area.

Fail/Basic Proficiency Level

The student demonstrates partial understanding and application of the knowledge and skills necessary to apply the core strategies needed to be successful in the specific subject area.

Fail/Below Basic Proficiency Level

The student demonstrates minimal understanding and little application of the knowledge and skills necessary to apply the core strategies needed to be successful in the specific subject area.

LIMITATIONS

One major factor impacting this study was the failure to obtain aggregated data from the Commonwealth of Virginia. This researcher had to obtain data from local school systems and universities which made it challenging to incorporate it into a

workable data set. It is important to have a substantive data set to evaluate the impact of teacher licensure on minority students to increase the validity of the results. Because this research was limited to a local school district, it was not possible to generalize the results past this geographic area. In similar studies addressing teacher licensure programs, limitations were cited regarding methodology and the difficulty to draw unambiguous conclusion from alternative teacher licensure studies using a variety of research methods. This research was completed in the Commonwealth of Virginia, and cannot be generalized beyond this school division in Virginia.

CHAPTER 2

LITERATURE REVIEW

The review of the literature focused on the following areas: the historical perspective of teacher preparation, the implications of No Child Left Behind, a systematic approach to quality enhancement, the emergence of alternative teacher preparation, a comparison of traditional and alternative teacher licensure, and variations of alternative teacher licensure programs.

THE HISTORICAL PERSPECTIVE OF TEACHER LICENSURE

In order to become a teacher in most areas within the United States, an individual must possess a teaching certificate. Traditionally, certification is the process by which four-year colleges or universities provide recognition of successful completion to graduates of their education programs. To acquire this graduation status an individual usually completed a program at a college or university, which offered a degree in an academic major. Traditional programs also require an individual to pass state licensure exams. Teacher licensure programs provide individuals with methods that allow prospective teachers to learn pedagogical content knowledge necessary for quality instruction (Darling-Hammond, 2000). According to Laczko-Kerr and Berliner (2002), teachers need extensive training in order to develop a deeper knowledge of subject matter and the ability to teach this subject matter to a diverse student population. During the initial phase of teacher preparation, most districts were concerned that their jurisdictions needed to devise processes which would distinguish between persons qualified to serve as educators in the public schools and persons not qualified. Many states began to delegate the responsibility for assessing teacher candidate's knowledge and skills to colleges and

universities whose preparation programs were approved by the State Board of Education (Schaloc & Myton, 1988). Program approval was granted following site evaluations employing standards and procedures similar to those of the National Council for Accreditation of Teacher Education (NCATE). Upon completion of this process, teaching certificates were issued once the institution recommended it. There continued to be a need to strengthen program approval for teacher preparation and eventual licensure. In spite of the wide acceptance of program approval as the preferred process for teacher preparation, there was an emergence of critics denouncing this outcome. Darling-Hammond (1984) reported that test scores for prospective candidates ranked the lowest of those high school students intending to go to college. Few applications for admission to teacher education were denied entrance into programs (Gosman, 1985). The majority of the teacher education programs lacked rigor or provided minimal challenges for capable college students (Benderson, 1982). The National Commission on Excellence in Education (1983) noted that teacher preparation programs lacked relevance to the needs of teachers. During the 1970s and 1980s NCATE standards and procedures were heavily criticized by leading colleges and universities (Hermanowicz, 1978). As states and political advocates continued to evaluate teacher licensure programs, it was determined that certification procedures alone were not sufficient to provide quality education for students, many states mandated the utilization of tests to enhance the approved program system. The publication of *A Nation at Risk* (1983), by the National Commission on Excellence in Education, also noted a deficit of science and mathematics teachers in the nation's classrooms. This report fueled the sense of urgency by suggesting that the global competitiveness of the United States was in danger in light of the increasing

technological importance and would lose its global standing unless there was a stronger emphasis on the mathematics and science achievement from students within the public school system. During this same time, The National Center for Education Statistics (NCES) published the report, *The Condition of Education* (NCES, 1983), which noted that of the approximate 200,000 mathematics and science teachers at the secondary level, 9% left during the 1982-1983 academic year, 30% were not qualified to teach their assigned courses, and 40% were scheduled to retire within that decade.

What became known as alternative teacher licensure arose as a means of circumventing the more established process. Prior to the nineteenth century, education in colonial America was characterized by efforts focused primarily on basic literacy and math delivered in one-room school houses (Ravitch, 2001). Angus (2001) noted that not until the nineteenth century that a change from religious to civil authority over education in the United States began to take hold. Horace Man and other maverick education reformers proposed a need for common schooling to deliver America from the verge of a “social hell” it faced without universal public education (Tyack & Cuban, 2003, p. 1). As public schools evolved, civil leadership, normally at the local level, was responsible for granting permission to teach. Permission in early public schools was usually predicated on the grounds of the “prospective teacher’s moral character and performance on oral or written examination,” but was not a state sanctioned license to teach (Feistritzer & Haar, 2008, p.27). Pennsylvania was the first state, in 1834, to require teachers to pass a standardized, written assessment of reading, writing, and arithmetic. By the late nineteenth century the processes were becoming more formalized and state superintendents began issuing licenses to teach that were valid at the local, regional, or

even state levels. Licenses were often subject matter specific and were contingent on a prospective teacher's ability to pass a written examination that was content oriented and also included knowledge of some pedagogical foundations (Angus, 2001).

According to Feistritzer and Chester (2000), through the 1940's the normal school concept was firmly established for the training of teachers, and remained functional in meeting the needs of society. Early normal schools provided a two-year educational plan which prepared teachers in both content and pedagogical knowledge to teach through grade eight in the states' public school systems. During this time, high school teachers came predominantly from the ranks of liberal arts colleges and were not the products of the same system which supplied teachers to primary grades. This paradigm began to change, however, as the demand for high school teachers increased with a growing high school population, and many two year normal schools thus evolved into four year institutions that remain in existence today.

With states assuming control over teacher preparation and certification, legislatures increasingly translated the rhetoric of popular demand into policies which perpetuated cycles of reform in reaction to public interests (Tyack & Cuban, 2003). Willis Hawley (1990) reported on the vulnerability of education and cited those conflicts that occur when policymakers turned to the reform agenda and found little opposition to efforts that regulated or made teacher organizations accountable. The criticisms of teacher education, the low economic and political costs of trying to reform schools by reforming teacher education, along with the difficulty of filling some teaching positions with persons certified in traditional ways, historically fueled the movement educational reform. During its development, teacher preparation took on an increasingly political

nature with state departments of education using and increasing their authority “over the content of teacher preparation programs and examinations, and all facets of licensing” (Feistritzer & Haar, 2008, p.26).

Evaluations of the performance of teachers from alternative and traditional teacher licensure programs are mixed. Goldhaber and Brewer (2002) in their empirical review of the two programs reported on the gaps in the research, which stated that educators must make changes that will, in the coming years provide better grounding for the positive practices or provide reasons to rethink some of these practices. The issue of alternative teacher licensure programs has been one of the most controversial and confusing topics in the discourse about U. S. teacher education during the past 20 years. The conflict is surrounded by much of the problematic research on alternative programs (Dial & Stevens, 1993; Wilson, Floden, & Ferrini Mundy, 2001) and the controversy stemming from the definition of alternative programs. Some alternative programs are run by state and school districts and others are implemented where universities and colleges assume control over pre-service teacher education. Zeichner and Schulte (2001) noted that in many cases where the standards of alternative teacher licensure programs are lower in college and university teacher licensure programs, alternative programs are viewed as undermining attempts to professionalize teaching. This was proposed because of the belief that ATP programs minimize the need for specialized professional knowledge and imply that all a teacher needs is content knowledge and an apprenticeship in a school during an internship (Hawley, 1990; Zumwalt, 1991). Proponent of ATP on the other hand, argue that alternatives to traditional paths of teaching will enhance the

status of the teaching profession by bringing more academically competent individuals into the field who would not otherwise enter the profession (Schaefer, 1999).

Industrialized education promoted beliefs of efficiency and the need for a literate economy. The teachers of the early twentieth century “seldom had much pedagogical training and relied mainly on rote memory” (Ravitch, 2001, p.3). This philosophy of twentieth century education is promoted by Darling-Hammond (2006, pp. 77-78) when she states “empowered with E. L. Thorndike’s behavior psychology and the bureaucratic organizational theories of the early 1990’s, teacher preparation of the time sought to deskill the process of teaching and learning.” During the post-industrial period, teacher preparation evolved in most states into what Angus (2001, p. 23) described as the “approved program” process where state departments of education had the responsibility for approving teacher preparation programs from an approved institution. Feistritzer & Haar (2008) “criticized this system describing it as one with a predominant political focus with the state departments of education blatantly exercising their authority over the content of teacher preparation programs and examinations as well as assuming control over the licensing process” (p. 26).

The ideal process of teacher preparation programs is to couple its development with student learning. When this academic union occurs there is a more cooperative interaction between academic administrators, principals, as well as teachers. These teacher preparation demographics provide policy makers with the opportunity to greatly influence the complexion of the nation’s teaching workforce for at least a generation (Goldhaber & Brewer, 2000).

The body of knowledge claimed by education pedagogy has slowly evolved over a century and holds to the general tenant that instructional strategies have an impact on student learning and those strategies should be clearly internalized by teachers. The science of pedagogy, however, has changed over the course of the twentieth century, and to some it has been of little use in the practice of education (Cuban, 2006). At the time of the emergence of pedagogy, as a discipline during the beginning of the twentieth century, the general paradigm of American education was that an industrialized society needed a basic, literate, workforce and that was best achieved using the behavioral strategies of theorist like E. L. Thorndike (Darling-Hammond, 2006). Those theorists advocating for teacher preparation, most of whom had little appreciation of the developing science of teaching and learning, believed attention focused on pedagogy and campaigns of reform came at the expense of content knowledge which was far more tangible in meeting the demands of educational systems in place (Tyack & Cuban, 2003).

IMPLICATIONS OF THE NO CHILD LEFT BEHIND ACT

The policy implications of the No Child Left Behind Act of 2001 (NCLB; U. S. Congress, 2002) presented state and local school boards with opportunities to leverage new educational reforms while simultaneously challenging policy makers to comply with many new, specific federal requirements. The No Child Left Behind Act challenged every school district in the nation to improve its performance. The two major goals of this federal mandate were to reduce the educational achievement gap between disadvantaged students and their more affluent peers, and to reduce the academic achievement gap between minority students and other students. The NCLB Act has created debates affecting teacher education and certification policies as well as the hiring

options available to urban school districts (Salinas & Kritsonis, 2006). Specific requirements of NCLB states a teacher must only instruct students in the subjects for which they are certified. Further mandates specified that by the first day of the 2006–2007 school year, each U. S. classroom must have a “highly qualified” teacher. A teacher meeting this standard must have a minimum of a bachelor’s degree, pass state tests of competency in the subjects they teach, and hold state licensure or certification (Linn, Baker, & Betebenner, 2002).

To meet the requirements of the No Child Left Behind Act (NCLB), many school districts have had to hire teachers who completed alternative licensure programs. Meeting this requirement has been challenging for many reasons, not the least of which is the existence of a national teacher shortage. United States urban schools which are normally fraught with a myriad of socioeconomic conflicts have found it especially difficult to maintain a viable teaching workforce. Urban schools have historically had difficulty attracting and retaining qualified teachers, especially those coming through traditional teacher preparation routes (Clotfelter, Ladd & Vigdor, 2002; Darling-Hammond, 2000; Sanders & Rivers, 1996). In the past, as teacher demand increased, many urban school districts resorted to hiring a large number of teacher applicants on teaching permits or waivers because they lacked the formal preparation for teaching. Most of this work force taught in low-income and highly impoverished areas which housed schools with the most socioeconomic need (Darling-Hammond, & Youngs, 2003). With student achievement and teacher quality remaining at the forefront of NCLB, urban and rural school districts will continue to face significant challenges related to the induction of teachers new to the profession (Salinas & Kritsonis, 2006).

The NCLB Act emphasizes academic accountability. A major component for this accountability is student achievement which is often determined through end-of-year assessment. The NCLB Act requires all school districts to make demonstrable annual progress in raising the percentage of students who are proficient in reading and mathematics, and in narrowing the test-scores gap between advantaged and disadvantaged students. The enactment of the No Child Left Behind Act of 2001 requires more testing and represents a substantial rise in federal regulation, particularly for states that had not chosen to test their students as frequently (McDonnell, 2005). Additionally, teachers' effectiveness will be evaluated on the basis of students' scores on particular assessments (Coble & Azordegan, 2004). As a means of working to close the achievement gap, schools were required to provide data to give a profile of the entire student body as well as, disaggregated data divided into specific subgroups. The subgroups were low income, minority and limited English proficient students as individual subgroups of the whole to monitor progress. Dramatic changes in the law addressed annual assessments for students. All schools were to provide "Adequate Yearly Progress" (AYP), as defined by their state school systems or the districts would face sanctions. Consequently, school districts wanted to have their systems filled with the most capable teachers to ensure their students made the necessary academic gains each year. It should be noted, once placed, teachers who completed alternative preparation programs are held to the same federal standards as teachers who completed traditional teacher licensure programs.

During the implementation of the No Child Left Behind Act, each classroom in the United States was required to offer students a "highly qualified" teacher as their

instructor. To be considered highly qualified, a teacher had to have a minimum of a bachelor's degree, pass state tests of competency in the subjects that he or she is taking, and hold state licensure or certification (Linn, Baker, & Betebenner, 2002). These stringent mandates along, with a retiring teacher population, and competition from less demanding occupations have resulted in a rapid exodus of teachers from the field, consequent teacher shortages and a subsequent need to replenish this vital academic area.

A SYSTEMIC APPROACH TO ENHANCING TEACHER QUALITY

It has been clearly researched that everyone respects the valuable role teachers play in making a difference in a student's life. The unanswered question is how best to ensure that more high-quality teachers enter and stay in American classrooms (Lasley II, Siedentip, & Yinger, 2006; Viadero, 2005). Because there was minimal evidence regarding the system wide approach to teacher retention and quality, Kanstoroom and Finn (1999) proposed the need for deregulation within the teaching profession. Their research supported the plan to broaden the base for entry into the field of teaching and promoted the need to decentralize personnel decisions at the school level. Kanstoroom and Finn (1999), also supported the concept that allowing school systems to make personnel decisions only made sense; but they emphasized the need for making schools truly accountable for their performance by implementing real consequences for success and failure. Incentives with results-based accountability systems in which states independently measure pupil achievement, issue public report cards on schools, reward successful schools, and intervene in or use sanctions against failing schools appeared to be the most effective in meeting this goal. Many private schools today and most charter schools are held accountable by the marketplace while hiring decisions are made at the

building level. Public schools, too, should be accountable in this manner. (Kanstoroom & Finn, 1999).

In addition to the existing research which supports the different positions on teacher licensure programs, there is a need for more systematic evidence to support the approaches being advocated, whether neoconservative or traditional, the programs must be appropriate for achieving defined social and educational goals (Lasley, Siedentip, & Yinger, 2006). Research conducted in Ohio to support such a system mandated that by 2007 the Ohio state achievement tests and the Ohio standards would become aligned and analyzed by including specific methodologies and values for success (Lasley et al., 2006). This systemic approach to establishing teacher quality was expected to shed some light on the general assumption that teacher variables outweigh student achievement (Darling-Hammond & Bransford, 2005). Specifically The Ohio Teacher Quality Partnership was designed to:

1. Determine and document how variables of teacher attributes, teacher preparation, induction experiences, and professional development relate to K-12 student learning;
2. Identify the salient features of differently configured teacher education programs and to determine how they affect teacher development longitudinally along the continuum of teacher preparation;
3. Identify how teachers' work relates to features of teacher preparation programs and student achievement as measured by value added measures, and to track strengths and weaknesses back to the initial preparation programs; and

4. Understand the unique elements of effective teaching for experienced teachers who are clearly adding value in terms of student achievement and to compare the achievement level of teachers licensed through both alternative and traditional pathways (Lasley, et al., 2006).

THE EMERGENCE OF ALTERNATIVE TEACHER LICENSURE

Beginning in the 1980s some states introduced alternative teacher licensure programs as a means of attaining teacher licensure that required less time than the traditional 4-5 year programs. Although licensing of teachers who completed alternative routes for teacher licensure began more than two decades ago, it remains one of the most controversial topics in the academic arena within the United States (Berliner & Biddle, 1995; Darling-Hammond, 2000). The controversy stems from the nature of the research related to alternative teacher preparation (Dial & Stevens, 1993; Dill, 1996; Hawley, 1990; Wilson, Floden & Ferrini-Mundy, 2001) specifically, because of the various definitions of the term “alternatively prepared teacher.” The majority of the research has focused on alternative licensure program evaluations and teacher perceptions of the program as comparisons are drawn between traditionally prepared teachers and alternatively prepared teachers (Barnes, Salmon & Wale, 1989; Berry, 2000; Birkeland, 2003; Dial & Stevens 1993). With the passage of The No Child Left Behind Act of 2001 (NCLB; U.S., 2002), the teaching force available to the United States school districts is under more scrutiny. To continue work toward the initial goal that all children achieve a quality education, the implication of the NCLB Act was projected to require an estimated 2.2 million new teachers between the years 2000-2010 (Hussar, 1999). Many states wanted to meet the anticipated staffing demand by authorizing alternative teacher

preparation programs to recruit large numbers of teaching candidates and quickly prepare them to enter the classroom. Those critics of the traditional teacher licensure programs felt that a streamlined pre-service program, which might be designed and delivered by non-university staff, would better meet the needs of prospective teachers (Johnson, Birkeland, & Peske, 2005). Faced with meeting the demands for additional teaching staff, supporters of the traditional teacher programs acknowledged their inability to remedy the problem of available new teachers coming into the field prepared to teach math and science. Many proponents of alternative teacher licensure programs believed a shorter, more efficient process would be attractive to a larger pool of strong teaching candidates and could also help to fill more vacancies. This pool could include experienced professionals from other fields who were attracted to teaching but discouraged by extensive requirement related to traditional program (Ballou, 1996).

Since the first state-sponsored alternative programs appeared in the early 1980s, there has been a tremendous growth of programs other than traditional college- and university-based teacher education programs at the undergraduate and graduate levels (Zeichner & Schulte, 2001). From a historical perspective, it was recorded that 7.5% of all teachers certified in the United States during the 10-year period ending in 1993-1994 participated in ATPs (Shen, 1997). Historical archives indicate in Texas and California, states where the largest number of alternative programs existed, alternatively certified teachers accounted for only 15% and 5% respectively, of teachers receiving licenses during this decade.

In New Jersey, the percentage was higher at 27, but the overall number of 600 to 700 per year was fairly low (SRI, 1999). McKibbin, (2001) acknowledged that

regardless of the low percentages, in some states, the investment in alternative teacher certification programs is substantial. California allocated \$30 million for alternative programs in 2001, and more than 8,000 teachers were prepared through university and district internships in the same year (McKibbin, 2001).

According to McKibbin (2001), by 1998, approximately 80,000 teachers had completed an ATL program within 41 U. S. states. By 2003, there were 46 states including the District of Columbia providing some alternative teacher licensure programs. Therefore, it appears that for the current decade, alternative teacher licensure programs are here to stay and the discussions should center more on how to make them better and less around their merit. These programs have impacted teacher shortages, have supplanted emergency licensed teachers in necessary subject areas, provided for a more diverse teacher workforce and because of their attraction have brought in individuals who have acquired job skills from other professions (Broughman & Rollefsons, 2000). Alternative teacher licensure programs have often been initiated to serve as a catalyst for the reform of traditional programs. They help to prepare teachers of color, career switchers, retired military personnel, para-professionals, aerospace and defense workers, and teachers in subject areas of shortage such as mathematics, science, special education, and bilingual education, including recent college graduates in these fields (Dill, 1996). Many of the programs have been instrumental in placing teachers in rural and hard to fill urban settings.

Alternative Teacher Licensure programs have been instrumental in increasing the number of minorities entering the teaching field. While research on correlations between the effectiveness of various teacher preparation programs and student ethnic

combinations has not yielded conclusive findings, there are concerns about the small number of minorities represented in the teaching profession. The racial and ethnic composition of the nation's teaching staff has been addressed by several researchers. As the minority student enrollment increased substantially as a result of court ruling and legislative acts aimed at bringing equity to the availability of education, the recruitment of minorities into the teaching profession has not keep pace with the enrollment of students. Even though some reports indicate the minority teaching profession is increasing, there continues to be a variance in the type of ethnicities entering the profession (Broughman & Rollefson, 2000). Rong and Preissle (1997) in their report using data from the 1997 census, noted Asian-Americans comprised 2.8% of the labor force but only 1.2% of elementary and secondary teachers. Henke et al. (2000, p.59) found that of the 11,000 graduates in their study, only Asian/Pacific Islanders were less likely than other racial/ethnic groups to enter the teaching profession. Their report also noted that Black Non-Hispanic graduates were less likely than Hispanic or white Non-Hispanic graduates to be teaching in the long term.

Currently, the states with the largest alternative teacher licensure programs, in terms of the number of program graduates, are in the states where the processes are the oldest and most established: California, New Jersey, and Texas (Feistritzer & Haar 2008). During the time that ATP programs were accepted as a vehicle to address teacher shortages, there was not major opposition to the concept of providing alternative routes for some to enter the teaching profession (Shen, 1997). However, when alternative certification morphed into a possible replacement for traditional teacher preparation, it became more of a threat to the academic community.

Advocates of alternative teacher preparation programs note inclusion of this preparation pathway enhances the teaching profession by including individuals who might otherwise not enter the field of teaching (Hawk, 1997; McKibbin & Ray, 1994; Natriello & Zumwalt, 1994). The research indicates there is an increase in the number of minorities, males, and teachers prepared to teach in specialized areas that have entered and remain in the field as a result of their completion of an alternative teacher preparation program (Feistritzer & Chester, 2003; Hawk 1997; Wilson et al., 2001). As a result of the dichotomous topic and the need for ongoing accountability in the area of teaching and learning, it remains crucial for academia to raise the bar and continue to provide empirical data to address the questions related to teacher preparation and student achievement. To add some substance to the NCLB federal mandates, it is necessary for school districts to examine every area that impacts on the teaching and learning process.

TRADITIONAL VERSUS ALTERNATIVE TEACHER LICENSURE

The polarized debate regarding the differences of these two teacher preparation methods has been ensuing since 1983. Although the initial concept for introducing alternative routes for teacher licensure was an opportunity to replenish a diminishing teacher workforce, for many it is believed to be a process that has weakened the value of contemporary pedagogy. One of the core tenants of the debate opposing alternate routes to teaching is the belief that teaching involves more than simply content knowledge (Shulman, 1987). During the initial debate, the majority of alternative programs essentially shortened the time required to prepare for a teaching career whereas, traditional teacher licensure programs were lengthening requirements. Concerned about the implications posed by easier access to certification, the American Association of

Colleges for Teacher Education (AACTE, 1985, p.24) claimed that increasing the “quality of instruction requires that professional education and certification standards for teachers be strengthened, not diluted.” There are others who express concern over the simplified pro or con of the debate and the inability to look beyond their personal bias to see that alternative teacher preparation programs vary greatly in their degree of respect for pedagogy and the degree to which those beliefs manifest themselves in their programs (Humphrey, Wechsler, & Hough, 2005; Ladson-Billings, 2005; Chappell & Eubanks, 2001; Feistritzer & Chester, 2000; Zumwalt, 1996; Carnegie Foundation, 1986). A review of the literature provided several distinctions between TTL and ATL routes that included the participant characteristics, the duration of training, the timing of training, type of institutions providing the training, and the nature and amount of support received during the teachers’ first year of teaching (Feistritzer & Chester, 2002; Hawley, 1990a; Stoddart & Floden, 1995; & Zeichner & Schulte 2001). These results indicated that the average participant in ATL programs is older and more ethnically diverse than those from TTL programs. A major reason for this variance is that most high school graduates entering the teaching field go into the traditional teacher licensure programs and the alternative teacher licensure programs often attract candidates who are pursuing post bachelor’s degree career experiences. Stoddart and Floden (1995) noted one significant distinction of alternative teacher preparation is many participants, before taking their first full-time teaching job; virtually undergo no specific training in pedagogical teaching practices.

A fundamental distinction between the process of traditional and alternative teacher licensure is the type of knowledge that each claim is needed by teachers to be

effective in the classroom. Alternative licensure programs tend to rely heavily on content knowledge and are often critical of an over-reliance on pedagogical method. During the 1980's, it was reported, "if teachers are viewed primarily as purveyors of information, perhaps they need little more than basic content knowledge and the ability to string together comprehensible lectures, moreover, some advocates of traditional teacher licensure stressed the need for a balance of both pedagogy and content, where teachers must ensure successful learning for all students inclusive of those with diverse learning styles and those who may need their instructors to be more diagnostic in helping to integrate them into the comprehensive learning process" (Darling-Hammond, 2006, p.80).

In addition to variations in training experience and the entry into teacher preparation programs, there are significant differences in the type of institutions that operate the two programs. Traditionally certified candidates primarily receive their training from institutions of higher education within a four or five year period. By contrast, many alternative programs are provided by various institutions and professionals. Included in this group are local education agencies, state departments of education, higher education institutions, and partnerships between or among two or varied combinations of these institutions. Often programmatic components for both alternative and traditional licensure programs include courses in pedagogy, child development, and classroom management, but the timing of these course offerings determines what is emphasized, (Stoddart & Flodden, 1995; & Zeichner & Schulte, 2001). Since alternative candidates, unlike their traditional program participants, are often engaged in full-time teaching while participating in licensure training, sponsoring

institutions often emphasize the programmatic aspects of teaching (i.e. what to do tomorrow and how to survive one's first year of teaching) more than the theoretical or philosophical aspects of teaching and learning which are often the focus of the traditional programs.

Another key variation in the content of traditional teacher licensure programs and alternative teacher preparation is the support structure available to the candidates during their first year of teaching. Mentors are frequently assigned to assist alternative participants in light of the minimal training received prior to assuming teaching responsibilities (Feistritzer, 2002). Seasoned teachers are often assigned this mentoring role to assist participants of alternative programs in skill development, in addition to acclimating to the philosophy and culture of the school. This model has presented some positive transitions of teachers into their respective fields. As we moved into the twenty-first century every state including the District of Columbia implemented formal beginning teacher support systems with some states including voluntary participation (National Association of State Directors of Teacher Education and Certification, 2010).

Darling-Hammond in her research on teacher preparation methods reports teaching should be adaptive, catering to the individual students, to their backgrounds, talents, interests, and past performance. She argued, such teaching cannot be scripted by a teacher or curriculum program, but "requires deep sophisticated knowledge about learning, learners, and content" (Darling-Hammond, 2006, p.77). Taking roots from Dewey (1929), Darling-Hammond echoed the belief that good teaching requires an empowered teacher with knowledge of methods and the freedom to adapt that knowledge to the unique situations posed by each student. The National Board for Professional

Teaching Standards (NBPTS) emphasizes context and adaptability in their teaching via an understanding of students' individuality and applied pedagogical content knowledge. In their preparation framework, teachers focus on the skills gaps and preconceptions students may bring to the subject matter (National Board of Professional Teaching Standards, NBPTS, 2007). Toward the end of the twentieth century, Zumwalt (1996) provided research that explored what he proposed as needed enhancements to the requirements for teacher education, preparation, and subsequent licensure. These enhancements were cited as higher grade point averages, subject matter requirements, and a shift toward liberal arts degrees instead of education degrees. Zumwalt appeared to feel the need for some clear distinctions between graduates of traditional programs and alternative programs. Ladson-Billings, however, suggested the differences proposed by Zumwalt were superficial and claimed teacher preparation has in fact changed little in the past forty years. "We have failed to make substantive changes to the way we prepare teachers" (Ladson-Billings, 2005, p.147).

VARIATIONS OF ALTERNATIVE TEACHER LICENSURE PROGRAMS

Several researchers have reported on the distinct variations among alternative teacher licensure programs (Feistritzer & Chester 2002; Hawley 1992a; Humphrey et al. 2002; Stoddart & Flodden 1995; Zeichner & Schulte 2001). The four most prominent areas of variation cited in their literature were: 1) entrance requirements, 2) the institutions that operate the programs and conduct the training sessions, 3) the amount of teaching-related course work candidates must complete, and 4) the level of mentorship support provided to teachers during their initial year of teaching. As noted in the Texas alternative teacher licensure program, a variety of institutions such as school districts

higher education institutions, and state-run regional Education Service Centers (ESC) may design and run ATL programs. Each program can vary its entry requirements, the duration of training, and the professional staff. Entrance can vary from requiring a bachelor's degree to utilizing years of previous experience in the military, human services, etc. One Arkansas non-traditional program imposes no GPA requirement and all candidates submit a one page essay, participate in a 10-15 minute interview, and must pass the Praxis I and II examinations. Almost all candidates meeting these requirements are accepted. Prince George's County Residency Teacher Program, in northern Virginia is a non-traditional program where applicants are required to maintain a 3.0 GPA, pass a teacher skills test, and fulfill course content prerequisites in mathematics, English, science, and social studies. Additionally, applicants must participate in an extensive interview process that includes a mock teaching lesson, a group interview in which several candidates come together in one room to respond to interview questions, and engage in a one-on-one interview between candidates and a program administrator.

Programs such as those in New York State's alternative teacher licensure-Transitional B program, are run by institutions of higher education, with school faculty teaching the courses. Other programs, such as the Texas Region XIII programs, are operated by the state. Region XIII staff deliver approximately 70 percent of the program instruction and local university professors assist in providing the additional 30 percent. New Jersey's Alternative Program is run by the state, but the 10 colleges and 3 consortia of colleges and districts running the training classes have some discretion in how they staff their classes. District-level administrators teach all of the classes run by the Essex County Consortium (a consortium of the Newark and Montclair public schools and

Montclair State University) at Saint Peter's College, many of the program's instructors are staff and faculty associated with the college's graduate education program.

Alternative teacher licensure programs have differences in the amount of classroom instruction received before obtaining full certification. Many of the anecdotal reports on these differences indicated that although the amount of course work varied, there was some consistency in the general topics covered in courses. Most programs had courses in pedagogy, child development, and classroom management. The range of course work was from none to 815 hours of university courses. The Georgia teacher alternative licensure program requires candidates to take 54 credits of education courses (13 courses). This is equivalent to 810 contact hours. On the other hand, Florida's new competency-based certification option requires no educational course work. This model is rare however and most of the other programs require minimal educational course loads. Specifically, the New Jersey alternative program requires no summer training and only 200 contact hours of instruction over one academic year. The requirement is the equivalent of four three-credit college courses. Similarly, the Arkansas non-traditional teacher licensure program requires elementary school candidates to take two academic courses at a university, 42 hours of workshops during the first and second year of teaching, and two summer courses of 70 hours (one the first summer before the initial teaching experience and the other the following summer). Excluding the two summer courses, the Arkansas model requires the equivalent of four university courses.

A final area in which there is noted variation within an alternative teacher licensure programs is in mentor support. A review of the literature in this area noted virtually all of the ATL programs require their teachers to be mentored by a certified

teacher during their initial year of teaching. These mentoring programs often take different forms. The amount a mentor is paid, the availability of mentor training, and frequency of contacts between mentor and mentee all vary from program to program. Zeichner and Schulte (2001) reviewed 21 studies of 13 ATL programs and reported each program included a mentoring component. The mentoring often paired full-time mentors with programs where teachers or faculty were used on a part-time basis. Often mentors who worked in the same school as the alternative teacher were used to assist with this process. Some programs utilized outside advisors who visited the schools and provided extra guidance. The level of compensation for the mentors in the programs reviewed ranged from \$300 in the Texas Region XIII program to \$1,200 in the Arkansas state program. While no uniformity of standards is evident, according to the research, quality alternative teacher licensure programs do exist. Programs incorporating “efforts that include comprehensive curriculum of education coursework and intensive mentoring have been found to produce more positive evaluations of candidate performance than models that forgo most of this coursework and supervised support” (Darling-Hammond and Sykes, 2003, p. 11).

Empirical research related to alternative teacher licensure and traditional teacher licensure is limited and thus supports the need for this follow-up study. A study that examined 11 ATL programs in California, Louisiana, Connecticut, and Massachusetts to determine how the states’ programs were operated and whether they were working effectively recommended the need to: consider a centralized versus decentralized approach, align the goals and designs of the program, and encourage the maintenance of level-funding to support these programs consistent with the increased expectations for

positive outcomes (Johnson, Birkeland & Peske, 2005). The research related to teacher licensure route and student achievement is even more limited. Consequently, this project was a follow-up to a research project conducted by Aaron Smith (2008) at Old Dominion University, who determined “there was no significant difference on the route through which a teacher acquired their license based on their students’ end of year Virginia SOL Social Studies scores.”

CHAPTER 3

METHODOLOGY

The purpose of this study was to determine if there were significant differences in the academic achievement of minority students taught by traditionally and alternatively licensed teachers. This study was designed to isolate the variable of “teacher preparation type” to determine its impact on minority student achievement.

PARTICIPANTS

The participants in this study consisted of alternatively licensed teachers paired with traditionally licensed teachers. In this project the researcher controlled for (a), subject matter, (b) grade, (c) gender, and (d) proficiency levels and special education services. The units of study for this comparison were teacher licensure programs that provide human resources for academic instruction. Both teachers and students provided comparison metrics and made up the subjects of this study. The study focused on the impact alternatively licensed teachers had on student proficiency rates on Virginia Standards of Learning reading and mathematics tests as compared to the impact on student proficiency rates of traditionally licensed teachers in grades five through eight from 2005 through 2009.

Based on information from the U. S. Department of Education’s National Center for Education Statistics (NCES), the student enrollment for 2007 in both elementary and secondary schools in the United States was projected to be approximately 55 million and about 49 million were projected to be enrolled in public schools. The projected instructors for these students, according to NCES, were 3.2 million within the public

school setting. The NCES 2009 *Digest for Educational Statistics* reported Virginia's public school student enrollment to be 1,234,000 in 2007.

The No Child Left Behind federal mandate of 2001 has caused school systems to focus more on student achievement as accountability has moved to the forefront of national educational reform. Today, our nation is facing a shortage of teachers that will no doubt give increased attention to alternative teacher licensure programs as an additional method of addressing the impending crisis. As the nation's teacher shortage continues to escalate, school districts will find themselves having to hire more and more teachers who did not complete traditional teacher education routes. The current teacher shortage is caused by the rapid growth of student enrollments in schools, state and local school policies requiring smaller class size, the aging teaching force, baby boomers transitioning into retirement, and the high teacher attrition rate, especially among neophyte teachers. In many school districts, sanctions are imposed if the students, teachers, administrators, or the school systems themselves do not meet annual progress requirements. Federal sanctions and mandates are requiring many school systems to examine factors that may have inhibited student proficiency on state examinations. Principals in school districts with declining teacher enrollments are finding themselves recruiting and hiring large numbers of teachers who were not traditionally prepared in colleges and universities to be teachers.

Alternatively licensed teachers in the state of Virginia are defined as any teacher who completed a pathway into the classroom other than the 4-5 year teacher preparation provided at colleges or universities. Traditionally licensed teachers were those teachers who had completed teacher education programs at colleges or universities. The goal of

this study was to determine whether student proficiency rates of alternatively licensed teachers were comparable to the proficiency rates of traditionally licensed teachers on the SOL test.

In Virginia, teacher accountability was measured at the state and national levels. At the state level, students were to make adequate growth on SOL tests, and at the national level, students were to make adequate progress on state tests. Failure to meet state or national requirements caused sanctions for students, teachers, school administrators, and school districts. Students who did not meet minimum standards failed to meet promotion standards. Teachers whose students were not proficient could lose the opportunity for employment. School administrators who supervised teachers who failed to produce students who were proficient faced termination or reassignment to another school district. School districts determined to fall short of the required standards faced financial sanctions as well as, the possibility of over site by other professional educators who would provide guidance and ongoing monitoring to help them in remaining in compliance with the required guidelines. All of these pressures add to the necessity of a school district having in place a comprehensive and qualified teaching staff.

The results of the literature as related to the evaluation of alternative teacher preparation programs strongly suggested that alternative programs vary in their composition, as well as in their implementation within settings (Freistritzer & Haar, 2008; Humphrey & Wechsler, 2005; Freistritzer & Chester, 2000; Zumwalt, 1996). In light of the literature's focus on the importance of context and its relationship to the effectiveness of teacher preparation programs, one school district in Virginia was selected

to maintain consistency in organizational practices and to minimize any barriers based on individual school districts practices. The school district selected had an enrollment of over 34,000 students according to their 2008-09 Division Performance Report. This division is the largest urban school district in the Commonwealth of Virginia and the eighth largest division overall. This single school system focus allowed this researcher to implement a process with common policies, central office administration, curriculum, and resources, thus providing the best means of controlling for a large number of imposing influences on teacher behaviors and student outcomes. Additionally this large school district was selected to ensure the research project had a sample size that could be of statistical significance. Currently, questions relevant to alternative teacher licensure and student achievement moved to the forefront as a result of federal policy. As a result of The No Child Left Behind mandate, there has been an increased focus by school systems to increase student achievement, which has resulted in increased accountability for all members within the academic field. Administrators have begun to examine all levels of education that impact student proficiency on state tests in an attempt to meet the established benchmarks for successful student performance. This study was designed to look at differences in the performance between minority students taught by alternatively and traditionally licensed teachers in an attempt to evaluate their performance levels in end of the year math and reading SOL scores during the designated research period. Although the need to maintain a comprehensive teaching staff remains a high priority within the school system, the questions surrounding teachers from alternative preparation programs have not abated. Criticism remains regarding the quality of the programs,

inclusion of pedagogy, and the graduate's ability to manage a classroom. This study will provide some additional empirical data to the scant research in this area.

The school district used for this study is located in an urban area within South Hampton Roads in Tidewater Virginia. The system has a racially and economically diverse student population with an average teaching staff of approximately 5,000 during the 2005-2008 research periods.

The school system consisted of 58 schools, of which 5 were high school, 8 were middle, and 35 were elementary. Of the 34,000 students 48.9 % were female and 51.1% were male. The student ethnic breakdown was 63.3% African Americans, 2.6% Asian, 23.0% Caucasian, 4.2% Hispanic, 0.2% American Indian, and 6.7% unspecified. Student achievement data used in this study were limited to those collected from reading and mathematics assessments administered in grades 5 through 8 during the 2005 through 2009 academic years. To establish a strong connection between teachers and students on teacher effect, this researcher did not include high school students because of testing and scheduling arrangements that do not always guarantee a student was under the instruction of a single teacher for the entire year, or that students were tested on state curriculum taught by their current teachers. In contrast, grades 5 through 8 have state assessments for reading and mathematics which correspond to a curriculum actually taught at those grade levels. Thus, utilizing the SOL scores for grade school students, provided for a much stronger statistical assumption, between the teacher and student relationship.

The Virginia SOL tests in reading and mathematics were used to measure student achievement using proficiency rates as determined by state testing guidelines. These tests were administered by the State in the Spring of the year, approximately three weeks

before the conclusion of the school year. This process was established to insure students had consistency in instruction prior to the implementation of the tests. The tests were administered in segments and timed to assure uniformity of administration of all tests. The tests items had multiple choice answers, were grade appropriate, and objective based. Standards of Learning test scores are reported in a variety of ways, including the various levels of student proficiency. The proficiency level most appropriate for this research project was the percentage of students taught by a teacher who completed a traditional or alternative program who met or exceeded the level of achievement categorized by the state as representing “proficient” performance at students grade level (e.g., the percentage of students scoring 3 or 4 on the state-established 4-level proficiency scale for each grade.)

ETHICAL ADHERENCE

This research project was granted approval through the Institutional Review Board at Old Dominion University in Norfolk, Virginia, as well as the local school division. Because the data utilized included individual teacher and student information, strict adherence to ethical research principles were required. The data received were blind coded so at no time was identifiable information provided to this researcher. Student data were aggregated based on the teacher preparation program.

RESEARCH DESIGN

The design of any study is crucial to ensure validity and reliability of the outcomes. This research was completed using an Ex Post Facto non-experimental design. The goal of this research project was to study whether there were any statistically significant differences between minority students taught by either alternatively or

traditionally licensed teachers. During the preliminary and data gathering process, crucial thought was given to avoid omitting any factors that could potentially jeopardize the data results. This researcher worked with the senior research staff person in the selected school division to acquire teacher pairings within the same school system. These pairs of traditionally and alternatively licensed teachers matched on grade level and content area. Once teachers were identified, then the number of students in their classrooms who completed the proficiency test on the VA-SOL in reading and math were obtained. Teacher selections were based on the availability of the teachers trained in the alternative preparation programs Troops to Teachers and Career Switchers within the research district and those teachers who completed a traditional teacher preparation program based on records from two local universities whose teachers taught within the school division selected for this project.

To address the research question of whether there were significant differences in the academic achievement, as measured by the Virginia Standards of Learning test, in grades three through eight of students taught by teachers prepared at alternative or traditional programs, this researcher compared the mean levels of achievement of students served by teachers coming from traditional and alternative preparation programs. The design of this study utilized an Ex Post Facto non-experimental design. The specific research method used to analyze the data was *t-test*. This design supported the use of a two-group post-test only analysis. More sophisticated inferential statistical analysis was not possible given the number of technical barriers not within the control of this researcher. The researcher compared the means of the variables by ethnicity, gender, subject areas, special education, and performance levels. The SOL math and reading

scores were used to examine the impact of teachers' preparation programs while controlling for grade level and subject taught.

DATA COLLECTION

The data collection method for this project was intended to gain permission from the school district to collect the necessary teacher-student data, and meet with the school system research coordinator to determine the best process to obtain the required data. To compare the achievement of students taught by teachers who completed either Traditional or Alternative teacher preparation programs, the research design was formulated to utilize the Virginia Standards of Learning scores for the designated students and aggregated for teacher preparation routes. Additionally, the research design was intended to compare statistically significant differences as a function of subject, grade-level, socio-economic status, gender, ethnicity, student proficiency levels, and years of teacher experience. However, numerous barriers were encountered during the data collection process, which had to do with data access and availability of data. No central system for collection and maintaining these data exists in the state and as such, data had to be collected from the school division, the state department of education, and a local university. Given these challenges, the initial design underwent several modifications in order to identify and collect appropriate data relationships between teacher licensure programs and student achievement. These modifications were primarily related to limitations in the researcher's ability to collect, and more importantly, to link related variables or covariates that would have allowed for more dimensional inferential statistics such as an *ANOVA* or *ANCOVA* analysis.

Social Science research almost always involves hierarchical systems where the individuals under study are tested within different levels of an organization and their larger social setting. In this way, direct comparisons between variables are challenges since these observations are not independent of the other complex sets of variables involved. As such conducting an *ANCOVA*, where all assumptions are verified and Levine's test is utilized to determine equality within each group, that does not assume the independence of each observation, would have provided more comprehensive research, compared to the independent paired sample analyses that were used.

During the development of the research proposal, members of this research team met with a representative from the designated school system and it appeared that the data requested could be obtained within a reasonable amount of time. Unfortunately, internal systems within the school district did not have the infrastructure in place to provide the data without causing the process to become extremely labor intensive. This project does lay the foundation for additional research to be conducted in this area. Including variables such as years of teacher experience, teacher attritions rates, and possibly conducting a 2-5 year longitudinal study of a group of students are areas that could be included in future study.

During this process the research coordinator assisted in establishing a process to identify teacher licensure type, grade taught, subject area, and student proficiency tests scores. The research coordinator assisted in collecting data from two local universities of teachers completing either a traditional or alternative preparation program who currently worked within their system. These teacher pairs were extrapolated from the general

teaching population based on teacher preparation program, subject taught, grades level and their active teaching status during the research evaluation period.

As noted on the Virginia Department of Education (VDOE) website, the purpose of the Standards of Learning tests are to hold teachers and schools accountable for teaching the SOL curriculum. Schools are held accountable through the yearly tests given in January and May in an effort to assess student learning. Those schools that score 70% or higher on all core subjects are noted as *fully accredited*. Those schools; however, scoring less than 70% in one or more core subjects are listed as *accredited with a warning*. In an attempt to assist all schools to become and remain fully accredited, the VDOE provided the Standards of Learning reporting categories and pass rates as valuable data for curricula leaders, principals, and teachers such as the pass rate, reporting category statistics. These data, accessible to all those working within the school division functioned as a valuable tool in planning remediation for future tests. The availability of the data enabled the researcher to collect the SOL raw scale scores for every math and reading teacher who administered the test within the research period. The raw average scale scores were compiled with the results of the Teacher demographics onto an SPSS spreadsheet.

DATA ANALYSIS

As noted in the data the collection process, the barriers related to the lack of a central state system for data collection, resulted in this researcher having to coordinate data collection between the selected school division and local universities. This process resulted in revisions to the original research design in order to collect appropriate data relationships between teacher licensure programs and student achievement. The

modifications were primarily related to limitations in this researcher's ability to collect and to link related variables or covariates that would have allowed for more dimensional inferential statistics such as an *ANOVA* or *ANCOVA*. Because of the limited data available to this research project, the researcher was confined to conducting independent paired sample comparisons of the variables utilized for study. The comparison of mean student achievement levels for students served by both alternatively and traditionally prepared teachers was accomplished using an independent sample *t-test*. The independent sample *t-test* was utilized because of its effectiveness in comparing means between two groups for post-test only designs and because it negates the need to measure covariance between pre and post-test variables as is customarily accomplished in an analysis of variance (Shadish, Cook, & Campbell, 2002). Based on the available data for this research project, the use of a *t-test* was an appropriate initial method for exploring differences between two groups of test subjects. Nonetheless, it is important to note that a *t-test* has a number of limitations in that they only address one to one comparisons and do not account for the influences of other variables.

The null hypothesis for the comparison of student achievement was that no difference in mean student achievement existed between the students taught by the two groups of teachers. The alternate hypothesis was that a significant difference in mean achievement existed, as determined by the *t-test*. Separate tests were conducted for mathematics and reading and *t-tests* were repeated on subsets based on the ethnicity and/or gender of the teachers and students. Independent Sample *t-tests* were also conducted based on the subject areas, special education services, and proficiency levels.

EXPECTED RESULTS OF THIS STUDY

Currently there is scant empirical literature regarding alternative teacher preparation programs and student achievement and few studies that have investigated the relationship between the types of licensure to student proficiency as measured by the Virginia SOL tests. There are studies investigating student achievement and licensure that found students of teachers who completed alternative teacher licensure programs obtained similar student achievement outcomes as those of students taught by teachers who completed traditional preparation programs (Miller et al., 1998; Wilson et al., 2001). Although the Miller study yielded a small sample size with a larger sample size and a methodologically stronger design, this researcher expects to conclude that there are little to no significant differences in student proficiency rates based on teacher preparation program types.

CHAPTER 4

RESULTS

The analysis of the data on student outcomes and teacher licensure is presented in this chapter. This study was designed to determine if there were any significant differences in the academic achievement of minority students taught by teachers completing traditional and alternative teacher licensure programs. The primary research question investigated whether type of teacher licensure differentially impacted student achievement of minority students in math and reading from the period of 2005 through 2009 measured by the Virginia Standards of Learning (SOL) math and reading scores.

Independent paired sample *t- tests* were conducted first for the scores from students taught by alternatively and traditionally licensed teachers. Next, *t-test* analyses were conducted on the two subject areas math and reading for alternatively and traditionally licensed teachers. Then there were comparisons completed based on teacher gender, teacher ethnicity, and student gender for reading scores, proficiency levels, and special education versus non-special education services. Data on students' scores and teacher licensure routes were used in this study to implement the research design for the designated time period. The teachers were identified by a representative from the school division based on their route of certification; either traditional or alternative during the four year research period.

A senior representative from the school system's Department of Research selected the teachers based on their route to certification, either alternative or traditional. Those teachers with emergency certificates were excluded because their teacher licensure route was not identifiable.

Results of Ex Post Facto Independent Sample *t-tests* which compared the means of both reading and math SOL values of students served by traditionally and alternatively certified teachers revealed there were some significant differences which indicated the scores of students taught by traditionally licensed teachers were higher than those of students taught by alternatively licensed teachers. This data analysis revealed a statistically significant difference in the math scores of students taught by both female and male teachers where the scores were higher for minority students taught by teachers with traditional licensure when compared to the scores of students taught by female and male teachers who received alternative licensure. In the category of ethnicity, this research noted the math scores of students taught by Black and White teachers with traditional licensure were higher than the math scores of students taught by Black and White teachers who were alternatively licensed. These data also revealed a statistically significant difference in the reading scores where students taught reading by Black teachers from traditionally licensed programs had higher reading scores than those students taught reading by teachers from alternatively licensed programs. Throughout the analysis, alpha was set at .05.

SOL test scores are reported in a variety of ways, including the level of proficiency of each student referenced to grade-level norms. In this study, the achievement data used were the end of the year Virginia SOL scores based on proficiency levels of students taught by traditionally or alternatively licensed teachers. The criteria used for proficiency were those student scores that met or exceeded the level of achievement categorized by the state as representing “proficient” performance at a student’s grade level (e.g., the percentage of students scoring 3 or 4 on the State-

established 4-level proficiency scale). No post hoc tests were possible because of the limitations of the available data.

Initially independent paired sample *t-tests* were conducted to compare the scores of students taught by alternatively and traditionally licensed teachers. The probability was set at $p < 0.05$ as the measure of statistical significance. Based on the analysis of math scores of students taught by alternatively or traditionally licensed teachers for the results from Table 1, An Independent Paired Sample *t-test* revealed a statistically significant difference between the mean values of students taught by alternatively and traditionally licensed teachers where $t(-21.943) = -6.618$, $p = .000$, $\alpha = .05$. These results indicated the students taught by alternatively licensed teachers scored lower in math than did those students taught by traditionally licensed teachers.

Table 1

Student Math Scores in Alternatively Licensed Teachers' classrooms and Traditionally Licensed Teachers' classrooms

Teacher Type	Mean	Std. Deviation	N
AL Students	412.54	80.323	2066
TL Students	429.47	82.020	1963

A similar Independent Paired Sample *t-test* was conducted on student reading scores for alternatively and traditionally licensed teachers. Based on the analysis of reading scores for students taught by alternatively and traditionally licensed teachers results from Table 2, a *t-test* for comparison of the means failed to reveal a statistically significant difference between the mean values in reading scores of students taught by alternatively and traditionally prepared teachers, where $t(-7.727) = -1.008$, $p = .314$, $\alpha =$

.05. Because .314 is not less than .05 there was no significant difference in student reading test scores for students taught by teachers who were alternatively or traditionally certified.

Table 2

Student reading Scores in Alternately Licensed Teachers' classroom and Traditionally Licensed Teachers' classrooms

Teacher Type	Mean	Std. Deviation	N
AL Students	434.65	64.275	1159
TL Students	437.28	62.060	1197

The results of the Independent Paired Sample *t*-tests for teacher gender of math scores resulting from Table 3 revealed a significant difference for females, where $t(3.092) = -5.938$, $p = .000$, and $\alpha = .05$. The results of this data indicate the math scores of students taught by alternatively licensed female teachers were lower than the math scores of students taught by traditionally licensed teachers.

There was also a statistically significant difference in students taught math by the male teachers where $t(4.568) = -2.241$, $p = .025$, and $\alpha = .05$. These results also revealed an area where the math scores of students taught by traditionally licensed male teachers were higher than the results of students taught math by alternatively licensed male teachers.

Table 3

Student Math Scores for Gender of Alternatively and Traditionally Licensed Teachers'

Teacher gender	N	Mean	SD
Female Math Scores Alternative	1399	413.80	83.67
Female Math Scores Traditional	1524	432.16	83.35
Male Math Scores Alternative	667	409.91	72.79
Male Math Scores Traditional	439	420.15	76.58

The results of the analysis in Table 4 based on teacher ethnicity for the math scores failed to revealed a significant difference in math test scores for students taught by Asian teachers who were alternatively or traditionally certified where $t(-23.76) = -1.60$, $p = .250$, and $\alpha = .05$. The results did indicate a significant difference in math test scores for students taught by Black teachers who were alternatively or traditionally certified where $t(-17.66) = -2.25$, $p = .024$, and $\alpha = .05$. Additionally, based on the data analysis, there was a significant difference in student math test scores for students taught by White teachers who were alternatively certified or traditionally certified, where $t(-26.67) = -5.77$, $p = .000$, and $\alpha = .05$. Again this data analysis revealed the math scores of those students taught by Black or White alternatively licensed teachers were lower than the math scores of those students taught by traditionally licensed teachers.

Based on this research, the scores of minority students taught by alternatively licensed Asian teachers did not reveal any statistically significant differences as compared to the scores of students taught by traditionally licensed Asian teachers. However, there did appear to be a noticeable difference in the scores of minority students

taught by alternatively licensed Black or White teachers with the performance results being lower than those students taught by traditionally licensed Black or White teachers.

Table 4

Student Math Scores for Ethnicity of Alternatively and Traditionally Licensed Teachers'

Teacher Ethnicity	N	Mean	SD
Math Scores AL Asian Teachers	9	490.44	67.108
Math Scores TL Asian Teachers	57	457.51	80.70
Math Scores AL Black Teachers	723	423.74	81.19
Math Scores TL Black Teachers	823	433.19	83.01
Math Scores AL White Teachers	1189	405.19	79.812
Math Scores TL White Teachers	1009	425.11	81.320

As reported in Table 5 the *t-test* failed to reveal a statistically significant difference between the mean values for the math scores of minority students receiving Special Education services from teachers who were alternatively or traditionally certified where $t(-22.61) = -1.63$, $p = .246$, and $\alpha = .05$. These results indicate the scores of students receiving Special Education services produced no higher or lower results between teachers who were traditionally or alternatively licensed. In the Independent Paired Sample *t test* of Non-Special Education courses the results were similar, a *t test* failed to reveal a statistically significant difference between the mean values of the math scores of those minority students receiving Non-Special Education services between teachers who were alternatively or traditionally licensed where $t(-22.61) = -1.24$, $p = .212$, and $\alpha = .05$. Again these data indicated the math scores of those students receiving Non-Special Education services from alternatively licensed teachers were not

significantly different than the scores of those students receiving these services from traditionally licensed teachers.

Table 5

Special Education and Non-Special Education Math Scores for Students Taught by Alternatively and Traditionally Licensed Teachers '

Non-Special Education and Special Education Services	N	Mean	SD
Non Special Ed Math-A	1770	418.05	79.51
Non Special Ed Math-T	1758	435.39	80.21
Special Ed. Math-A	296	379.63	77.30
Special Ed. Math-T	205	378.74	79.98

Table 6 provides a descriptive breakdown of an analysis of the Proficiency levels for participants in this project. The state of Virginia has defined those areas of proficiency that correspond with the end of the year scoring to determine student achievement. Passed Advanced is the highest level of achievement in the students' performance, noting the student demonstrated exceptional understanding of the tested subject area. Passed Proficient notes a student sufficiently met or displayed an understanding of the tested subject area. Fail Basic notes the student displayed partial understanding of the tested subject material. The final category Failed Below Basic notes the student demonstrates minimal understanding of the tested material. According to these research results, reading scores of students taught by teachers with alternative licensure resulted in over 58% in the Passed Advanced/Proficient areas and 41 % in the Fail Basic and Fail Below Basic areas. In the reading scores for students taught by teachers with traditional licensure, the Proficiency levels revealed more than 52% of the

students scored in the Passed Advanced or Passed Proficient categories where the students displayed exceptional to proficient levels of understanding of the tested categories and approximately 40% scored in Fail Basic or Fail Below Basic which indicated the students displayed partial to minimal understanding of the categories.

Table 6

Reading Proficiency Levels for Students taught by Alternatively and Traditionally Licensed Teachers

Reading Proficiency Levels	N	Mean	SD
Passed Advanced Reading Score Alternative	167	537.60	30.64
Passed Advanced Reading Score Traditional	171	534.62	26.10
Pass Proficient Reading Score Alternative	649	447.37	27.78
Pass Proficient Reading Score Traditional	713	447.76	26.39
Fail Basic Reading Score Alternative	287	371.75	20.33
Fail Basic Reading Score Traditional	268	371.02	20.34
Fail Below Basic Reading Score Alternative	56	302.66	20.76
Fail Below Basic Reading Score Traditional	45	295.91	49.90
Did not Attempt Reading Score Alternative	0		
Did not Attempt Reading Score Alternative	0		

The Independent Sample paired *t*-test as reported in Table 7 failed to reveal a statistically significant difference in student gender for reading scores of those minority students taught by teachers who received traditional or alternative licensure, where for female students $t(3.474) = -1.26$, $p = .206$, and $\alpha = .05$. The analysis for male student scores where $t(3.877) = -.158$, $p = .875$ and $\alpha = .05$ also revealed no significant

differences in the scores of those students taught by traditionally or alternatively licensed teachers. These results support the hypothesis by indicating the reading scores of minority male and female students were not significantly impacted by whether the students were taught by teachers who received alternative or traditional licensure.

Table 7

Student Gender for Reading Scores of Students taught by Alternatively and Traditionally Licensed Teachers'

Student Gender	N	Mean	SD
Female Reading Score Alternative	622	439.93	62.32
Female Reading Score Traditional	641	444.32	61.14
Male Reading Score Alternative	537	428.54	65.99
Male Reading Score Traditional	556	429.15	62.16

According to the data analysis as reported in Table 8, there was a significant difference in the reading scores based on teacher gender. Based on these data results, the reading scores of those students taught by female teachers who were traditionally licensed were higher than the reading scores from students who were taught by alternatively licensed teachers. The data analysis results noted, $t(3.10) = -5.935$, $p = .000$, and $\alpha = .05$. The results for males where, $t(4.75) = -2.41$, $p = .025$ and $\alpha = .05$, also noted a statistically significant difference in the results. These data indicates the reading scores were higher for minority students taught by female and male students taught by traditionally licensed teachers than the scores of those minority students taught by alternatively licensed teachers.

Table 8

Teacher Gender for Reading Scores of Students taught by Alternative and Traditional Teachers

Teacher Gender	N	Mean	SD
Female Reading Score AL	782	439.84	64.94
Female Reading Score TL	900	440.37	62.17
Male Reading Score AL	377	423.89	61.56
Male Reading Score TL	297	427.91	60.85

In Table 9 where an analysis was completed on the ethnicity of alternatively and traditionally licensed teachers, for the Asian group, there were no reading scores to compute for teachers who received traditional licensure. Although the Asian category had the highest mean scores, this may have been attributed to the smaller sample size. Based on the analysis of these scores and according to the descriptive data in Table 9 the results indicated for students taught by Black teachers there was a statistically significant difference where $t(3.90) = 2.00$, $p = .045$, and $\alpha = .05$. There was no statistically significant difference in the reading results of student's reading test scores who were taught by White teachers regardless of the licensure route where $t(3.50)$, $p = .716$, and $\alpha = .05$.

Table 9

Teacher Ethnicity for Reading Scores of Students taught by Alternative and Traditional Teachers

Teacher Ethnicity	N	Mean	SD
Asian Reading Score Alternative	21	463.14	44.75
Asian Reading Score Traditional	0		
Black Reading Score Alternative	522	425.15	63.44
Black Reading Score Traditional	510	432.98	62.06
White Reading Score Alternative	616	441.74	64.41
White Reading Score Traditional	687	440.47	61.91

Table 10 provides summary statistics of the proficiency levels for students taught math by teachers from alternative licensure programs. The descriptive results reflect a total of 54.3% of the students achieved at the Passed Advanced and Proficient areas, where they exceeded or clearly met the guidelines for skills and competencies in the specific subject area. Almost 43% of the students taught by alternatively licensed teachers scored in the Fail Basic and Fail Below Basic categories for students who demonstrated partial to minimal understanding of the skills and competencies required for the subject area. In this category, 3.1% of the students did not attempt the test.

Table 10

Math Proficiency Levels for Students Taught by Alternatively Licensed Teachers

Proficiency Levels	Frequency	Percent
Passed Advanced	289	13.6
Pass Proficient	868	40.7
Fail Basic	723	33.9
Fail Below Basic	186	8.7
Did not Attempt	66	3.1
Total	2132	100.0

Table 11 presents the summary statistics of the Proficiency levels, for those students taught by teachers with traditional licensure. Based on these descriptive results these students had a 7.8% greater performance rate in the Passed Advanced where they demonstrated exceptional understanding of the skills required to meet the goal for the tested areas, than those students taught by alternatively licensed teachers. Teachers from traditionally licensed programs had 8.2% fewer students in the Fail Basic and Fail Below Basic categories where they displayed than partial to minimal understanding of the tested material than teachers with alternative licensure. Only 2.5% of students taught by traditionally licensed teachers, compared to compared to 3.1% of students taught by teachers who received alternative licensure did not attempt the tests.

Table 11

Math Proficiency Levels for Students Taught by Traditionally Licensed Teachers

Proficiency Level	Frequency	Percent
Passed Advanced	408	20.3
Passed Proficient	842	41.8
Fail Basic	578	28.7
Fail Below Basic	135	6.7
Did not Attempt	50	2.5
Total	2013	100.0

Tables 12 through 16 provide a summary of the analyzed results for this project. In Table 12 there is a statistically significant difference where the math scores of students taught by traditionally licensed teachers were higher than those of students taught by alternatively licensed teachers. Table 13 which reflects teacher gender revealed the math scores of teacher taught by both male and female traditionally licensed teachers were higher than the math scores of those students taught by alternatively licensed teachers. Table 14 which reports the results based on ethnicity indicated the math scores of students taught by Black and White traditionally licensed teachers were higher than the scores of students taught by Black and White teachers who received alternative licensure. In this table it is also revealed the reading scores for students taught by Black teachers who were alternatively licensed were lower than the reading scores of students taught by teachers who were from traditionally licensed programs. Based on the results of this research the data failed to reveal any other statistically significant results. The reasons for these results could be due to a variety of factors. The alternatively licensed teachers may not have had enough teaching experience as those teachers from traditionally

licensed programs. Those students taught by traditionally licensed teachers could have been more academically advanced than their peers who were taught by teachers from traditionally licensed programs or the pedagogical skills of the traditionally licensed teachers could have been superior to those teachers who completed alternatively licensed programs. Although no causal relationships were obtained for these differences, it does provide areas for future research and exploration.

Table 12

Summary of Math and Reading Scores

Summary of Results						
	N	Mean	SD	F	DF	P
Math scores students taught by AL	2066	412	80.32	.867	4027	.000
Math scores students taught by TL	1963	429	82.02	.867	4027	.000
Reading scores students taught by AL	1159	434	64.27	3.363	2354	.314
Reading scores students taught by TL	1197	437	62.06	3.363	2354	.314

Table 13

Summary of Teacher Gender for Math and Reading Scores

Summary of Results						
	N	Mean	SD	F	DF	P
Female Teachers AL Math	1399	413	83.67	.081	2921	.000
Female Teachers TL Math	1524	432	83.35	.081	2921	.000
Male Teachers AL Math	667	409	72.79	1.607	1104	.025
Male Teachers TL Math	439	420	76.58	1.607	1104	.025
Female Teachers AL Reading	782	439	64.99	2.97	1680	.866
Female Teachers TL Reading	900	440	62.17	2.97	1680	.866
Male Teachers AL Reading	377	423	61.56	.115	672	.398
Male Teacher TL Reading	297	427	60.85	.115	672	.398

Table 14

Summary of Teacher Ethnicity for Math and Reading Scores

Summary of Results						
	N	Mean	SD	F	DF	P
AL Asian Teachers Math	9	490	67.10	.962	11.98	.250
TL Asian Teachers Math	57	457	80.70	.962	11.98	.250
AL Black Teachers Math	723	423	81.99	.419	1524	.024
TL Black Teachers Math	823	433	83.01	.419	1524	.024
AL White Teachers Math	1189	405	79.81	.353	2124	.000
TL White Teachers Math	1001	425	81.32	.353	2124	.000
AL Asian Teachers Reading	21	463	44.75			
TL Asian Teachers Reading	0*					
AL Black Teachers Reading	522	425	63.44	.389	1030	.045
TL Black Teachers Reading	510	432	62.06	.389	1030	.045
AL White Teachers Reading	616	441	64.41	2.31	1301	.716
TL White Teachers Reading	687	440	61.91	2.31	1301	.716

0*-There were no scores in this category so the results could not be computed

Table 15

Summary of Special Education and Non-Special Education for Math Scores

Summary of Results						
	N	Mean	SD	F	DF	P
Special Education AL Reading	296	379.63	77.30	.127	499	.246
Special Education TL Reading	205	378.74	79.98	.127	499	.246
Non-Special Education AL Reading	1770	418.05	79.51	.310	3526	.212
Non- Special Education TL Reading	1758	435.49	80.21	.310	3526	.212

Table 16

Summary of Student Gender for Reading Scores

Summary of Results						
	N	Mean	SD	F	DF	P
Female AL Reading	622	439.93	62.32	2.878	1261	.206
Female TL Reading	641	444.32	61.14	2.878	1262	.206
Male AL Reading	537	428.54	65.99	1.14	1091	.875
Male TL Reading	556	429.15	62.16	1.14	1091	.875

AL = Alternative Licensure and TL = Traditional Licensure

DISCUSSION

This research examined the impact of teacher licensure, either alternative or traditional preparation, on minority student achievement as determined by the Commonwealth of Virginia's Standards of Learning end of the year proficiency exams. This is a follow-up on work completed by Aaron Smith (2008), who examined 165 secondary level social studies teachers in two urban school districts in Virginia in an attempt to determine any association between student Social Studies scores on state-wide examinations and licensure routes. The results of Smith's work indicated there were no differences between participants who completed Troops to Teachers and Career Switchers alternative teacher licensure programs as compared to teachers who completed traditional teacher licensure programs (Smith, 2008).

This researcher obtained data from a local school district, the state licensure department, and two local universities. The teacher licensure type was determined by obtaining a list of teachers working in the school district during the specified research period. The independent variable of licensure type was then compared to the dependent variable Virginia Standards of Learning (SOL) end of the year proficiency scores.

An SPSS analysis was conducted using Independent Paired Sample *t*-test which compared the means within the covariates of ethnicity, gender, subject area, and special education services for students taught by alternatively or traditionally licensed teachers. Based on the results of the analysis, there were statistically significant differences for math scores in areas of teacher gender and teacher ethnicity where based on the research results, minority students in these categories taught by teachers who completed traditional licensure programs appeared to outperform their peers who were taught by

teachers from alternative licensure programs. The statistically significant difference based on ethnicity indicated minority students taught math by either Black or White teachers with a traditional licensure background scored significantly higher than students taught by alternatively licensed teachers. The analyzed results based on gender revealed minority students taught math by either Male or Female teachers with a traditional licensure background scored significantly higher than students taught by alternatively licensed teachers. The analyzed reading results based on ethnicity indicated those students taught reading by Black alternatively licensed teachers scored significantly lower than students taught reading by Black traditionally licensed teachers. All other areas of analysis throughout this research project supported the hypothesis in noting no statistically significant results from the analyzed data. This research was designed to provide additional empirical data in the areas of traditionally versus alternatively licensed teachers and investigate any impact their instruction may have on minority student achievement.

This researcher studied an urban and semi-urban school division in Hampton Roads, Virginia. The researcher's hypothesis, that there would be no significant differences in minority student proficiency levels based on the type of teacher licensure program when controlling for subject, gender, ethnicity, special education services, and proficiency levels, was supported. The research results imply there are no overall statistically significant differences in the areas of student achievement based on the type of teacher licensure whether through alternative or traditional programs.

Virginia along with many other states has challenges finding fully endorsed teachers in key content areas (Virginia Department of Education, 2010). Within the past

five years the Virginia DOE reported teacher shortages in the areas of social studies, math, reading, and special education. Research similar to this project is essential in promoting a consistent process for educators to hire qualified teachers. College universities and many public school divisions nationwide have exercised great efforts to support and promote alternative teacher licensure programs toward the achievement of maintaining adequate teacher personnel.

Based on literature results which also note there are no significant differences in student achievement after five years of teaching experience, Kaplan and Owings (2011) address the need to explore other human personality traits for hiring teachers that aide in the maintenance of a competent teacher work force which ultimately results in strong student achievement. This body of research supports the importance of including teacher's positive personality traits, which are often one of the first areas students, parents, and administrators notice, at the forefront of the recruitment and hiring process for teachers. Additionally, they cite the need to maintain an effective focus on developing a greater understanding of teaching through years of experience, scholarly work, professional readings, and ongoing mentoring by master teachers (Kaplan & Owings 2011). Teachers who incorporate traits such as reflection in their teaching practices add to the breadth and depth of the educational experience (Korthagen & Wubbels 2001). An effective teacher must include more in their teaching practice than just the skills developed from their teacher preparation experience.

Although, as noted in this project, there were statistically significant differences for teacher gender, where minority students taught by females appeared to outperform those minority students taught by males and for ethnicity, where students taught reading

by Black and White teachers appeared to excel in their proficiency results, as compared to those students taught by Asian teachers, this research was inconclusive in determining any causal relationships for these results. The research for this area is varied, these results are similar to much of the work completed; however there are research results such as those by Boyd et. al. (2006), that compared the achievement of students taught by alternatively and traditionally certified teachers in grades four through eight in New York and found students achievement lower if they were taught by alternatively licensed teachers as compared to those students taught by traditionally licensed teachers in both reading and math during their first year of teaching. Boyd noted the statistical significances although present, were not enormous.

When weighing the need to maintain a highly competent teacher workforce and maintaining high levels of student achievement, the practical significance of utilizing teachers who completed alternative teacher licensing programs may be more important than just focusing on statistically significance results. Especially, when much of the research in this area is noting that student scores increase after alternatively licensed teachers had more than one year of teaching experience. This research supports the theory that there are gains in teacher's skills and competencies over time which may compensate for any first year teaching deficits that a first year teacher who completed an alternative teacher licensing program have. This may be one of the cases where it is not educationally practical to "throw the baby out with the bathwater." It has been scientifically determined that the teachers from the two licensure programs may have more similarities than differences in their level of skills, years of teaching experience, and classroom management than may be revealed by analysis alone. Although research

project similar to mine may reveal some statistically significant differences, teacher licensure programs may be better served by including those curriculum components in both programs which effectively prepare teachers to assist students in gaining the most from their academic experience. If as noted in Boyd's project (2006), students' scores increased after alternatively licensed teachers had more than one year of teaching experience and sometimes surpassed the gains associated with students taught by traditionally licensed teachers in their second year of teaching for the subjects of mathematics and in the third year of teaching for the subject of reading, graduates from some alternatively licensed programs may just need some additional time to get to the point where they are providing academic instruction at their maximal potential.

This researcher is confident that these data will contribute to the current body of research examining differences in the performance level of students taught by teachers from traditional and alternative licensure programs. Although there is a need for continued research in this area, the ultimate goal should be to provide evidence to guide policy makers in hiring teaching staff who can best promote student learning. Educational systems must work cooperatively to maintain optimal levels of qualified teaching staff. Continued empirical data that support the inclusion of teachers from alternative licensure programs in the classrooms should help educational leaders in their teacher hiring practices. As the United States transitions from No Child Left Behind into the next phase of educational reform, it remains critical for school districts to have qualified teachers in their classrooms and with proper training, graduates who complete alternative teacher licensure programs can assist in this goal. School districts are responsible for maintaining teaching and instructional quality and do this by hiring

outstanding teachers (Kaplan, Owings, & Nunnery, 2005). The classroom teacher has a vital role in the education and ultimate achievement of the student. There is considerable research that has found an effective teacher's influence on a student is independent of anything else in the classroom (Kaplan & Owings, 2011). Danielson (2007) has established a guide that outlines adequate responsibilities for effective teaching. The guide states teaching must be purposeful and professional. Effective teacher use every teaching tool at their disposal to help students to achieve at their maximum level of potential. Effective teachers often have the ability to use creative methods to make learning fun and often seem easy to their students, but this ability takes a considerable amount of planning and utilization of sufficient resources. In essence, an outstanding teacher brings more than their credentials to the classroom. They appear to have a transforming vigor that stimulates and motivates their students to learn.

As the education community strives to promote the need for accountability, principals will need to assess what are the comprehensive components that produce a good teacher. Principals and academic leaders must look for the most competent candidates and continue to be involved with how effectively teachers are contributing to student achievement. Stronge (2002), in the *"Qualities of Effective Teachers"* details six researched-based characteristics that educational leaders can look for when selecting for teachers.

Effective Teachers:

1. Care about their students;
2. Show all students (and colleagues) fairness and respect;

3. Show interest in their students in and out of the classroom;
4. Promote enthusiasm and motivation for learning;
5. Have a positive attitude toward self-learning and the teaching profession; and
6. Are reflective practitioners.

In the process of hiring and sustaining a highly qualified teacher work force, principals must focus as much on teacher quality as they do on teacher licensure. In the literature, Darling-Hammond (1997) reported that fully certified teachers with a major in the subject they taught had a greater positive impact on student achievement than could be projected from the student's level of poverty, minority status, or language. It is imperative for all facets of the education community to adhere to the social demand for educational accountability. Over the past several decades, accountability has been a major feature in the educational reform process. Consequently, the National Board for Professional Teaching Standards (NBPTS) has been under pressure to demonstrate that the millions of state and federal funds spent on bonuses for nationally certified teachers equates to greater student learning (NBPTS, 2006). Kaplan and Owings (2011) note that although expensive, a sound education is an excellent financial investment. They further state, when it comes to quality education, as a society we can invest now or pay later. Virginia teachers must also conform to the need for accountability to ensure they remain in compliance with state and national educational initiatives. These requirements include but not are exclusive of assisting students in making annual academic gains on standardized tests. Coupled with this focus on teacher accountability is a parallel need for highly qualified teachers. The No Child Left Behind initiative reported teachers are "highly qualified" when they

1. have a college degree;
2. have comprehensive state licensure; and
3. have demonstrated content knowledge in the subject they will teach.

Highly qualified elementary teachers have at least reading, writing, and math licensure. It is vital to maintain this competent work force in certain areas, since it is reported that 25% of the nation's teachers work in inner city schools where the population of minority students is very high, another 25% of the teachers work in very rural school districts, and another 20% of teachers are often found in small school districts where there are often fewer than 300 students in the school. Consequently, many school districts in very rural or urban settings have difficulty meeting their teacher demand. Within these districts where more than 45% of the nation's students reside, many systems have had to hire teachers from alternative teacher licensure programs to meet their personnel needs when selecting their teaching staff. Increasingly, research is showing that well-conceived and implemented teacher induction and mentoring programs produce the high quality of teachers which successfully increase new teachers' job satisfaction, efficacy, and retention rates (Stronge, 2004). These effective curriculum components should be included in continuing to implement quality alternative licensure programs. This initiative is no doubt, an asset in supporting the need for maintaining a staff of qualified teachers. Being insightful in developing and implementing quality alternative licensure programs should assist colleges, universities, and public school divisions across the nation to continually implement highly effective alternative teacher licensure programs. Berry (2011) and Darling-Hammond (2001) provided research that

noted common themes in effective alternative licensure programs. According to their research, these programs should include at a minimum:

1. High standards and proper screening of candidate for entry;
2. Sufficient time 9-15 months for professional learning experiences before entering the classroom;
3. Strong academic instruction in pedagogy, subject matter, classroom management, and child development;
4. Comprehensive field experience to include internships or student teaching supervised by a master teacher;
5. An organized and comprehensive support system from experienced, trained mentors once placement in a school occurs;
6. Ongoing training, professional development, and opportunities for reflective academic experiences; and
7. Continuous monitoring, evaluation, and feedback of individual and group performance for professional development during the teaching experience.

Kaplan and Owings (2011) in their textbook *American Education: Building a Common Foundation*, provide insight into the moral purpose of education. They note that throughout the educational process there is a moral obligation to educate students in the local communities, as well as prepare them to adequately function in the larger society. Kaplan and Owings (2011) further state that within this moral purpose of education is the need to prepare students for responsible citizenship, provide them with essential knowledge and skills, help students and teachers build effective relationships,

and continually promote the ideals of good stewardship. Fullan (1993) and Goodlad (1990) believe those teachers and others within the academic community have a moral obligation to champion these roles. This research along with other empirical data supporting alternative teacher licensure programs may help to promote commitment for those willing to assume this moral obligation. In light of the ongoing focus on teacher quality, the demand is nationwide. Of the nation's teachers, 25% work in inner city schools where the population of minority is very high, another 25% of teachers work in very rural or school districts, approximately 20% of the teachers work in small school districts where there may be less than 300 students in the school, and the remaining 30% serve districts with more than 300 students. Many of the smaller school districts struggle meeting their demand for adequate staffing and research similar to this project may assist in helping them meet their personnel needs.

Research that provides empirical justification for alternative teacher licensure as a pathway into the classroom gives the administrative staff some leverage in refuting those individuals who have concerns about the impact alternatively licensed teachers have on student performance. This and similar research projects may eventually enhance the teaching profession by admitting competent individuals who would not otherwise enter the profession. Some studies have indicated that an increased number of minority teachers, male representatives, and those qualified to teach in specific content areas such as mathematics and science have entered the field of teaching through alternative teacher licensure programs (Feistritzer & Chester, 2003; Hawk, 1997; Wilson et al., 2001). Continued researched based studies needs to occur to further affirm the goal of using graduates of effective alternative teacher licensure programs in the classroom to help

augment the needs for continued student learning. As our nation continues to face an unprecedented shortage of teachers, that will no doubt give increased attention to teachers who successfully complete alternative routes to teacher licensure programs as one method of addressing the impending school-staff crisis.

This researcher's hypothesis was supported that there would be no significant differences in minority student SOL test scores in reading or math based on the teacher's route to licensure, either alternative or traditional. This indicates there may need to be less emphasis on how a teacher becomes licensed and more focus on the teaching skills they bring and its impact on student achievement. This researcher sees the need for ongoing empirical studies in this area to broaden the scope of the methodology, to more closely assess and evaluate any additional causal relationships between teacher preparation and student achievement, and to continue to implement studies that validate this particular outcome. Additionally, exploring areas such as age of teachers, years of teaching experience, gender or race of students, socio-economic status of students or specific subject areas can only help to enhance the empirical nature of this research topic. This study also reveals that school level student achievement data need to be collected in such a manner that researchers are able to identify teachers' effect on achievement. In order to complete more comprehensive and multivariate research in this area, data need to be stored in a centralized system where staff and other researchers have easier access.

SIGNIFICANCE OF THE STUDY

Education continues to be the primary source of economic and social growth. This growth expansion does come with a significant cost. According to the U.S. Department of Education (2010), school purchases of supplies, in addition to staff

salaries, totaled over \$1 trillion for the 2008-2009 school years. When student achievements decline and the cost for education is on the rise, there is a major public outcry. Therefore, it is essential for students to be taught by teachers who are highly qualified and committed to the profession. Providing our youth with a quality education is one of the mainstays for continued global expansion and competitive achievements. To effectively achieve this human work force requirement, quality teachers are needed. As the United States began to lose its position as an economic forerunner among the nations, the educational accountability standards became increasingly more stringent. It became imperative that the focus moved from manufacturing to other areas of achievement such as science and math and to regain a leadership role, the nation had to look at how students were taught and prepare to have the most qualified and competent teacher workforce possible. Thus, as the school achievement rates declined, teacher turnover increased, and global achievements were threatened, alternative teacher licensure programs originated and soon became the target for staunch critics. Today colleges and universities are reporting a steady decline in the number of students who are completing traditional teacher licensure programs in contrast to an increase in the number of students entering the nation's public schools, thus creating a teacher shortage (Feistritzer & Chester, 2005). This dilemma causes many school districts to frantically search for qualified teachers to assume the role. This research indicates that the pool of participants from alternative teacher licensure programs, is capable of assuming the role.

This research is significant because it adds to the body of research that indicates some students taught by teachers who completed alternative teacher licensure programs in this school district displayed positive student achievement on the Virginia Standards of

Learning test during this research period. As noted earlier, for the areas where there was a statistically significant difference in the variables no specific causality can be attributed to these results. In this study minority students were the selected population because in many instances their levels of achievement is substandard as compared to other students in the same grade levels. This research implies that void of any specific circumstances, there were few statistically significant differences in the achievement of students within the research group who were taught by teachers from either alternative or traditional licensure types.

An additional area of significance for this research is for principals and human resource staff to equally evaluate those candidates who seek entry into the teaching profession from alternative teacher licensure programs. The goal of reducing the high turnover rates has to become a priority. Ingersoll (2003) provided research indicating that 14% of beginning teachers left after one year, and another 10% left after the second year. Clearly, there is a need to ebb this flow of teacher exodus from the profession. Supporting graduates from alternative teacher licensure programs to have positive mentors, continue professional development, and shadow experienced teachers could help in this area as well. Educational deans have been challenged to look at teacher education programs and identify what is working and begin to eliminate what is not working. During the hiring process, principals should ask candidates from alternative teacher licensing programs about the make-up of the curriculum, how rigorous it was, what was the curriculum, and was there a mentoring component to their experience, along with other research-related questions. Also principals may want to select candidates from alternative teacher licensure programs who have completed five or more

years of teaching experience to retain their longevity and increase the level of commitment to the field. Research on the Troops to Teachers (Owings et. al. 2005), a funding vehicle to route non-traditional teachers into teaching positions, provided evidence which noted graduates often outperform teachers from a traditional teacher licensure program and are paid on the same salary scale as the new traditionally prepared teacher. This may indicate a cost effectiveness to certain alternatively licensed teachers.

A need for comprehensive assessments along with quality upgrades of teacher licensure programs could no doubt benefit the system and the social community as a whole. Additionally, the need to be fiscally prudent and continue to practice sound stewardship is essential. Educators must be mindful of the financial cost involved in educating students and the level of outcome as it relates to educational achievement. There is also a correlation between the cost of a quality education and the long range social impact. For each one-year increase in educational level, arrest rates and crime levels decrease by 11% (Lochner and Moretti, 2004). Additionally, it is noted that murder and assault decreased by 30%, motor vehicle theft by 20%, arson by 13%, and burglary by 6% as positive educational achievement occurs (Lochner & Moretti, 2004). If we maintain an effective teacher workforce, inclusive of teachers who complete alternative teacher licensure programs, as little as a one percent increase in the national graduation rate could save approximately \$2 billion annually in crime costs. (Lochner & Moretti, 2004). Too often minority students make up a disproportionate number of these crime rates and if having effective teachers from alternative teacher licensure programs could help to reduce this trend, and possibly cause these students social outcome to be brighter.

Another area of discussion from this research is the need to find and retain those teachers who have a commitment to the profession regardless of their route to licensure. These individuals may make more of a contribution and not drain the educational system of valuable resources. These are all reasons to explore the most viable candidates possible to educate our students. Based on the outcome of this research, there is little to no difference between the SOL scores of students taught by teachers from alternative or traditional licensure programs and those individuals who interview and hire teachers should not weigh one group more favorably than another after they have had at least one year of teaching experience. This study's findings expand and confirm that there are minimal differences in student achievement when taught by teachers from traditionally or alternatively licensed programs. While the study's limitations suggest caution in generalizing from these data, implications for using this teacher pool to address student achievement in minority students may be beneficial.

LIMITATIONS

The research design was intended to examine differences in minority student achievement of students taught by teachers from alternative teacher licensure and traditional teacher licensure programs. This researcher completed a statistical analysis to compare statistically significant differences as a function of subject, grade level, socioeconomic status, gender, ethnicity, and proficiency levels. However, numerous barriers were encountered during the data collection process, which had to do with data access, availability of data, and in the limited storage of data on local and statewide levels. No central system for collecting and maintaining these data exists in the state and as such

data had to be collected from the school division, the state department, and two local universities.

These modifications were primarily related to limitations in the researcher's ability to collect, and more importantly link related variables or covariates that would have allowed for more dimensional inferential statistics such as an *ANOVA* or *ANCOVA* analysis. Given these challenges, the initial design had to undergo several modifications in order to identify and collect appropriate data to investigate the potential relationships. Social Science research almost always involves hierarchical systems where the individuals under study are tested within different levels of an organization and their larger social setting. In this way, direct comparisons between variables are challenges since these observations are not independent of the other complex sets of variables involved. As such, conducting an *ANCOVA* where all assumptions are verified and Levine's test is utilized to determine equality within each group that does not assume the independence of each observation would have provided more comprehensive research compared to the independent paired sample analyses that were used.

Another major limitation with this research project was the inability to retrieve and compare data from some proven alternative teacher licensure programs such as Troops to Teachers and Career Switchers where the research clearly shows students taught by teacher from these programs show tremendous gains in their student proficiency rates and in some cases outperformed students taught by teachers from traditional teacher licensure programs.

During the development of the research proposal, members of the research team met with a representative from the designated school system and it appeared that the data

requested could be obtained within a reasonable amount of time. Unfortunately, internal systems within the school district did not have the infrastructure in place to provide the data without causing the process to become extremely labor intensive. A major limitation in this project is that this researcher looked at participants from all alternative teacher licensure programs and did not limit to any specific programs. Owings and Kaplan (2005), have contributed substantial research on the graduates from the Troops to Teachers citing graduates from these alternative teacher licensure programs significantly outperform participants from other such teacher licensure programs. In their *Supervisor Perceptions of the Quality of Troops to Teachers Program Completers and Program Completer Perceptions of their Preparation to Teach: A National Survey* (2005), they reported principals stating over 90% of Troops to Teachers graduates were more effective in classroom instruction and management than traditionally-prepared teachers with similar years of teaching experience and over 85% of the principals stated that these teachers had a more positive impact on student achievement than teachers with comparable years of teaching experience (Owings & Kaplan, 2005).

RECOMMENDATIONS FOR FURTHER STUDY

Additional research that focuses on length of teaching experience, gender, or socio-economic factors, larger sample size, as well as rural areas for analysis could increase the power and greater ability to detect any significant differences if they indeed exist. This project does not, however, lay the foundation for additional research to be conducted in the area of alternative licensure. Looking at years of teacher experience, teacher attrition rates, conducting a multi-year longitudinal study to include a student growth model, in addition to developing a more user-friendly process for data acquisition

are topics that could benefit from future study. This research studied traditional versus alternative teacher licensure programs in general, but there is also a need for continued exploration of specific alternative programs that replicate the Troops to Teachers program which provide for sound research in the ability of graduates from these programs to support and often enhance student achievement. Nunnery, et al. (2009) in their study of the effects of Troops to Teachers on student achievement found students taught by these teachers performed equally well in reading and had a significant edge in their math scores.

The study could be replicated to include other subjects i.e., English, science, and social studies. The role of special education teachers also merits examination. As the Virginia Department of Education increases its accountability standards and the teacher turnover rates continue to increase, increasing the inclusion of teachers who complete alternative preparation programs could help to maintain an active sufficient level of manpower.

Additional research in this area is warranted to help supporters of traditional teacher licensure programs to begin to embrace the valuable talents of teachers from alternative licensure programs. Research is needed to continue to support the data that alternatively prepared teachers produce students who perform at comparable levels as traditionally prepared teachers. It would also be beneficial to determine if the length of teacher experience of alternatively prepared teachers and traditionally prepared teachers is significant following 3-5 consecutive years of teaching experience.

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APPENDICES

APPENDIX A

IRB REQUEST FOR EXEMPTION

The purpose of this study is to determine if there are significant differences in the academic performance of minority students taught by traditionally prepared (TTP) and alternatively prepared (ATP) teachers. The participants in this study will consist of teachers who completed traditional preparation programs, paired with teachers who completed alternative preparation programs, and the Standards Of Learning scores for students in grades three through eight from 2005—2008.

According to 2003 data from the U. S. Department of Education's National Center for Education Statistics (NCES), the student enrollment for 2007 in both elementary and secondary schools in the United States was approximately 55 million students, of which 49 million were estimated to be enrolled in public schools. To guide these young learners, the NCES projected a total teacher population in the United States of approximately 3.6 million, about 3.2 million of whom taught in public schools.

According to the Virginia Department (2007), many school districts have difficulty hiring qualified and effective teachers. The No Child Left Behind Act accountability mandates further exacerbates this problem by imposing sanctions for those school districts not meeting their Adequate Yearly Progress (AYP). Other factors impacting teacher retention and availability are retirement, insufficient salaries, workplace conditions, and the current conditions of student behaviors.

The results of this study will assist in providing additional empirical data to determine if there are advantaged to any teacher preparation route toward licensure.

For this project, alternatively licensed teachers in the state of Virginia are defined as any teacher who completed any pathway into the classroom other than the 4-5 year teacher preparation programs provided at colleges or universities. Traditionally licensed teachers are those teachers who have completed teacher education programs at 4-5 year colleges or universities. This study will be important for academic stakeholders such as human resource personnel, principals, and college professors who teach in traditional preparation programs as well as, provide implications for recruiting, selecting, and training teachers.

The literature review related to the evaluation of alternative teacher preparation programs strongly suggest that these programs vary in their composition, as well as, how they are implemented (Feistritzer & Harr, 2008; Humphrey & Weschsler, 2005; Feistritzer & Chester, 2000; Zumwalt, 1996). Subsequently, the majority of the research regarding ATP and TTP program utilized qualitative designs. This project will contribute to the developing quantitative research on teacher preparation types and its impact on student achievement.

Other quantitative studies have shown significant student achievement gains in some alternatively licensed teachers' classes (Owings et al, 2006; Nunnery et al, 2009). Nunnery et al.(2009) revealed in a Florida study of Troops to Teachers participants that there were significant reading and math gains in student achievement through a matched pair design.

In light of the literature supporting the importance of content on the effectiveness of teacher preparation programs, this study will utilize a single school district with common policies, central administration, curriculum, and resources. This will provide

the best means of controlling for a large number of confounding influences on teacher behaviors and student outcomes. A large school district will be the focus of this study to ensure a population of statistical significance. In order to establish validity, a strong connection between teachers and students must be established for this study in order to attribute teacher effects, particularly preparation routes with student achievement.

Students of teacher of the matched pair samples are normally randomly assigned to the classrooms based on various factors. The random selection process should address any issues of student ability, poverty levels, parental education levels, or student exceptionality. Additionally, the random selection will allow the data to be a representative sample of the minority student's population within the entire school. Each category of student selected for this study should have an equal chance of being in a class with a teacher who completed a traditional or alternative teacher preparation program. Methodology is essential to ensure the validity and reliability of results. Replication is only possible when clarity and specificity of the methodology is addressed within the process. This study will focus on the impact alternatively prepared teachers had on minority student proficiency rates based on the Virginia Standards of Learning (SOL) reading and mathematics tests as compared to the impact of student proficiency rates of traditionally prepared teachers in grades three through eight during the 2005-2008 school years.

An Ex post Facto quantitative design will be implemented. Teacher selection will be based on the availability of the teachers trained in the alternative preparation programs during the selected research period. The SOL tests are considered valid and reliable because in 1999 The Technical Advisory Committee (TAC) was developed and met

regularly from 1999 to 2001 to review the content and construct of the SOL. TAC was composed of teachers and administrators in public education, state college and university professors, officials from the Virginia Department of Education and Prentice Hall representatives whose sole mission was to review administration of the tests, content of the curriculum and to make recommendations for revisions. TAC members also discussed curriculum framework, blueprints and the creation of future test questions to be utilized in focus groups. Once questions were created, they were integrated into the current test as field questions. These field questions were analyzed at the state level for validity and reliability. Those field questions determined to be valid and reliable were administered on future tests (Virginia Department of Education, 2001).


The comparison of mean student achievement levels for students taught by both traditionally and alternatively prepared teachers will be accomplished using t-tests. The independent sample t-tests are particularly appropriate for comparing means between two groups for post test only experimental designs because there is no need to measure covariance between pre and post test variables as are customarily accomplished in and analysis of variance (Shadish, Cook, & Campbell, 2002). The use of t-tests is also an appropriate initial method of exploring differences between two groups of test subjects. All data will be kept confidential by assigning codes to each class. The school division, school, or teacher names will not be revealed.

EXEMPT PROPOSAL CONFIRMATION

Proposal Number 200901042

Your proposal submission titled, **“The Impact of Teacher Preparation Programs on Minority Student Achievement”** has been deemed EXEMPT by the Human Subjects Review Committee of the Darden College of Education. If any changes occur, especially methodological, notify the Chair of the DCOE HSRC, and supply any required addenda requested of you by the Chair. You may begin your research.

PRIOR TO THE START OF YOUR STUDY, you must send a signed and dated hardcopy of your exemption application submission to the address below.
Thank you.

Edwin H. 

Edwin Gómez, Ph.D.
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APPENDIX C

LETTER OF INVITATION TO SCHOOL SYSTEM

Dear Fellow Educator:

I am a doctoral student at Old Dominion University in the Darden School of Education, Educational Leadership Services program with great interest in the rapid growth of the number of alternative licensed teachers in the classrooms. My Chair is Dr. William Owings, Professor and Graduate Program Director for Educational Leadership at ODU, and a previous Division Superintendent in Virginia.

I am specifically interested in sharing with your district the impact alternatively prepared teachers have on student achievement. The findings from my research will provide valuable information for your system in the areas of staff development, personnel, and perhaps classroom assignments. With the No Child Left Behind accountability indicators, it is imperative that school systems are aware of any factors that affect student achievement.

I am conducting a research study that examines the proficiency rates on Virginia's end of year tests for minority students taught by traditionally and alternatively prepared teachers in grades three through eight during the 2005- 2008 school years. To participate in the study requires minimal investment in time and personnel. At no time do I need to have direct contact with students or any members of the teaching staff. Strict confidentiality will be maintained. The only personnel involved will be the licensure specialist for your stem and the school system testing coordinator.

If there are specific documents required for permission to conduct the research, please forward them to me at rduke003@odu.edu. Thank you for your assistance. I look forward to working with you.

Respectfully,

Rose Duke, MS ED.

APPENDIX D

DATA REQUEST

Identification of the Problem

The purpose of this study is to determine if there are significant differences in the academic achievement of minority students taught by traditionally and alternatively prepared teachers.

Statement of the study's purpose and the hypotheses to be tested

The primary research question is whether there are significant differences in the academic achievement of minority students as measured by the Virginia Standards of Learning (SOL) tests, in grades five through eight for mathematics and reading of students taught by traditionally and alternatively prepared teachers.

Research Design

Teachers will be selected based on a match pair design. The design will consist of a teacher completing an alternative teacher preparation matched with a teacher completing a traditional teacher preparation program matched by gender, subject, grade, ethnicity, and proficiency level.

Students of teachers of the matched pair samples are normally randomly assigned to the classrooms based on various factors.

Specific data being requested:

- a. Type of license (alternative or traditional)
- b. Degree type
- c. Years of experience
- d. Blind coded Teacher ID
- e. Gender
- f. Ethnicity

Student variable (need to narrow to make it manageable)

- a. Race/Ethnicity
- b. Raw SOL Math and Reading scores
- c. Grade level
- d. Blind Coded Teacher of record ID
- e. Gender
- f. Special Education status
- g. Proficiency level

VITA

Rose Cook Duke was born in Youngstown, Ohio to Foort and Helen Cook. She graduated from The Rayen High school in Youngstown, Ohio. She completed her undergraduate studies from Youngstown State University, earning a Bachelor's in Psychology from the College of the Human Sciences in 1972. She earned a Master of Education from Old Dominion University (ODU) in 1995 and entered the doctoral program in Educational Leadership Services at ODU in 2006. Rose has extensive career experiences in community-based and city government administration, clinical services, has functioned as a trainer and has worked as a research assistant with the Ethelyn Strong School of Social Work at Norfolk State University.

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