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The Impact of Teacher Certification Programs on Teacher Efficacy, Job Satisfaction, and Teacher Performance: A Comparison of Traditional and Alternative Certification

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THE IMPACT OF TEACHER CERTIFICATION PROGRAMS ON TEACHER
EFFICACY, JOB SATISFACTION, AND TEACHER PERFORMANCE: A
COMPARISON OF TRADITIONAL AND ALTERNATIVE CERTIFICATION

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

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

By
Christopher Mark Mueller

May 2012

THE IMPACT OF TEACHER CERTIFICATION PROGRAMS ON TEACHER
EFFICACY, JOB SATISFACTION, AND TEACHER PERFORMANCE: A
COMPARISON OF TRADITIONAL AND ALTERNATIVE CERTIFICATION

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To my parents—for inspiring me to believe that with hard work, persistence and faith in God anything is possible and for their unwavering confidence, encouragement and unconditional love.

To my wife—for being my staunchest supporter, my counselor, and my hero, but most of all for helping me become the man I am today and inspiring me to strive to be the man you believe I am.

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The method selected to prepare and certify teachers continues to be a widely debated issue. Advocates for alternative certification (AC) contend that allowing content specialists from fields outside of education into the classroom will help meet the demand for teachers in hard-to-fill areas like math, science, and special education. Proponents of traditional teacher certification (TC) programs maintain that placing individuals without strong backgrounds in teaching methods, learning strategies, and child development will impede student achievement.

This study compared the levels of teacher efficacy, job performance and job satisfaction of teachers between AC (N = 164) and TC (N = 960) in 32 school districts in south central and western Kentucky. Teachers self assessed on items related to teacher efficacy, job performance, and job satisfaction. Additionally, this study compared principals' (N = 106) ratings of teachers' job performance based on teachers' selected route to certification.

Results from the teacher responses indicated no difference in the levels of teacher efficacy, job performance, and job satisfaction between the two teacher groups. The demographic data of teacher age and teaching experience did produce some predictive value on job performance and satisfaction. However, the principals' ratings of teacher job performance produced significant levels of difference between teachers with

alternative and traditional certification, especially in the areas of classroom management skills and instructional planning.

Implications for alternative certification are that there must be sustained effort to ensure that teaching candidates have the necessary skills in classroom management and instructional planning prior to completion of an alternative certification program. An unanticipated implication was the emergence of an apparent divide between teachers' perceptions of their job performances contrasted with the perception of job performance as defined by a building principal. It is essential that administrators, especially at the building level, accurately communicate their expectations regarding effective teaching. Vague generalities and "catch phrases" regarding quality teaching will not help teachers improve their teaching and student learning. Regardless of the method selected to achieve teacher certification, principals must articulate what good teaching is and what it looks like in practice.

CHAPTER I: INTRODUCTION

*“There are three things extremely hard: steel, a diamond, and to know one’s self.”
Benjamin Franklin, Poor Richard’s Improved Almanac (1750)*

The focus on how to improve education is firmly focused on teachers and teacher preparation. Depending on the source, teachers are portrayed as either the hope or the bane of American schools and student success. A 2007 report by McKinsey and Company declares, “The quality of an educational system cannot exceed the quality of its teachers” (p. 16). Accountability for student learning, or lack of, has become a volatile issue for policy makers at all levels. Effective school reform is linked to ensuring that, “well-prepared, skilled teachers . . . fill classrooms in schools designed to support high quality teaching and learning” (Berry, 2011, p. 28). However, defining teacher quality, while determining how to perpetuate it, has become an elusive yet desirable goal. How to best equip teachers to enter the teaching profession has become a debate over traditional university-based teacher educational programs versus alternative programs to achieve teacher certification or licensure.

Colleges of education have long endured criticisms from those outside the field regarding the academic rigor and validity of their programs (Blair, 2004). This, combined with a growing teacher shortage which occurred during the 1980s, provided the impetus for two states, New Jersey and Virginia, to establish methods for alternative teacher certification. This approach to allow individuals to secure teacher certification without enrolling in a traditional teacher education program has continued to grow. Alternative certification programs have now been developed across the nation. In 2006, the U.S. Department of Education data indicated that 47 states had approved some procedure for

alternative teacher certification. According to the National Center for Alternative Certification (2011), “approximately one-third of new teachers are entering the teaching profession through some form of alternative certification” (p.1). Additionally, since the establishment of alternative certification programs in the mid-1980s, nearly 500,000 teachers have been certified through some form of alternative certification (Feistritzer, Griffin, & Linnajarvi, 2011).

Education in America was patterned after the European models with which the colonists were familiar. As a result, it was based on an elitist and religious orientation and tended to be structured much like the European counterparts, which were based on a rigid social-class pattern (Gordon, 1984). Many of the colonists were better educated than the people of England and continental Europe. In fact, by 1830 Americans had become the most literate people in the world (Reese, 2005). Yet, universal access to education and the ability to read and write was still primarily reserved for select segments of the population. Additionally, Gordon (1984) found that colonial schooling varied depending on the colony and social status. Although it varied from location to location, children from lower socioeconomic homes received elementary education framed around reading, writing, math, and religion. Children from the upper levels of society received wider educational offerings including the arts, science, and foreign languages, in addition to the basics of reading, writing, and mathematics. In New England parents were motivated to educate their children by the Protestant emphasis upon personal Bible reading.

Early education’s main objective was to enable young children to read the Bible so they could follow God’s directions (Marshall, 1962). Many of the new country’s ministers advocated for the necessity of basic education and called for government

support for its establishment. In 1883, Minister Benjamin O. Peers appealed for education in the basic subjects of reading, writing, and math, along with instruction in Christian morality. In doing so, he said, “In a society where every man may do pretty much as he pleases, it is of utmost importance that its members should be educated that they should choose to do right” (Reese, 2005, p. 22). Throughout early Colonial history, schools were viewed as important tools in maintaining morality and civility. Reverend Lyman Beecher equated the influence of schools and the church to leavening, without which he predicated commerce would corrupt the morals of the people, and the nation would perish from its prosperity (Reese, 2005). One of the most well-known early textbooks, the *McGuffey Reader*, was written by an ordained Presbyterian minister, William Holmes McGuffey. This seminal text provided excerpts from the Bible, *Hamlet*, and speeches by early leaders like Patrick Henry to promote the importance of honesty, courage, patriotism, diligence, and hard work (Reese, 2005). The strong relationship between religion and education helped in the creation of many of America’s colleges. Several of these were originally established to prepare young men for the ministry such as Harvard, William and Mary, Yale, Princeton, and Columbia. One notable exception was the University of Pennsylvania that Benjamin Franklin helped establish, which from the onset offered a broad practical and liberal arts education (Gordon, 1984).

Once America gained its independence, many of the nation’s early leaders recognized the need for an educated citizenry in the struggling democracy. Andrew Lunt, in an address before the Salem Charitable Mechanic Association in 1835, declared that “American democracy is supported by a thousand pillars . . . I mean; you must have anticipated me, our free schools. These are in truth, the bulwark of our Republic”

(Kaestle, 1983, p 1). One of the most influential leaders during our nation's infancy, Thomas Jefferson, viewed schooling as both a way to sustain democratic government and as a great sorting machine (Bracey, 2009). His often quoted statement, "If a nation expects to be ignorant and free . . . it expects what never was and never will be," is testament to his belief in the power of education (Marshall, 1962, p. 10). Jefferson shared a conviction that, left unchecked, rulers would establish an abusive form of government, and the only way to guard against such abuse was to improve the minds of the citizenry (Bracey, 2009).

Jefferson developed a design for an educational system for the state of Virginia in 1782 that would have divided up the state into sections, each with a state supported school free for the first three years. He proposed selecting the most intellectually gifted male from these schools to attend one of the 20 grammar schools created by his plan. At the end of an additional two years of schooling, he advocated that the best and brightest would be advanced on to additional years of schooling, eventually culminating in admission to the College of William and Mary. Jefferson felt that his system would select the most able-bodied men from the ranks of the commoner to develop the leadership and intellect needed to sustain our new nation. Bracey (2009) declared, "Jefferson might have felt all men were equal in some moral or legal sense but not in the realm of intellect" (p. 17).

Jefferson was not the only early leader that believed education was essential in our new republic. Author Noah Webster wrote in 1790, "The national character is not yet formed, common schools are needed to instill in American children an inviolable attachment to their own country" (Kaestle, 1983, p. 6). After the American Revolution,

leaders at both the national and local levels advocated for schools in promoting citizenship and democratic values (Reese, 2005).

As a result, universal education has been an historic constant in much of American history; however, educational inclusion for all members of our society was not immediate. This access to universal education developed slowly over the course of U.S. history. Since white males dominated early governance, politics, and business, it was not surprising that they also dominated early education. It would be years later in American history when women and minorities would be given full access to education.

Teachers in the early colonial educational institutions were usually approved by the local minister or religious institution. Teacher qualifications were not based on formal training but on the ability to read, write, and exhibit “good moral character” (Ornstein & Levine, 1981, p. 29). Formal teacher education in America began in the first public normal school in Lexington, Massachusetts, in 1839 (Coble, Edelfelt, & Kettlewell, 2004). The normal school was a place where prospective elementary school teachers studied the subjects they would teach, learned teaching methodology, and practiced teaching in model schools for up to one year prior to accepting responsibility for a class of students (Coble et al., 2004). The normal school focused on the art or craft of teaching, a practice in which pre-service teachers were taught to use intuition and their personal understanding of a situation to guide instruction (Doyle, 1990). The normal schools were designed to provide a systematic method to train teachers. The term “normal school” was coined from the desire that these programs would establish the “norm” for all teachers. However, the existence of the normal schools was short-lived. Reformers, in their quest to professionalize teaching, moved the training of teachers into colleges and universities.

Additionally, some of the early normal schools evolved into four-year degree-granting teacher colleges.

Two early leaders who had a significant impact on education and the training of teachers were Horace Mann and Henry Barnard during the early and mid-1880s. Horace Mann was a resilient activist for educating the masses, declaring “the schoolhouses are the Republican line of fortifications, and if they are dismantled and dilapidated, ignorance and vice will pour into their legions through every breach” (Reese, 2005, p. 22). As secretary of the Massachusetts Board of Education, Horace Mann generated public support for free tax-supported public schools, elevated the standards for teachers with the creation of the first state-supported teacher training school, and introduced compulsory attendance with a broader, more varied curriculum. These early public schools would become known as common schools. The desire was for all students to be educated together in a common school. Supporters of the common school believed that a common system would reduce class, religious, and racial tensions (Lucas, 1997).

Henry Barnard helped improve the schools in Connecticut and Rhode Island and was appointed as the first U.S. Commissioner of Education (Gordon, 1984). The growth of schools resulted in a dramatic increase in the need for teachers to staff those schools. These early leaders saw the need for more and better prepared teachers. Since many other potential, strong young male teaching candidates were being drawn to other more prestigious professions, from where would this new army of teachers come? If they could convince the public to accept it, the answer was simple: allow women to enter the teaching profession. Women had previously been allowed to provide education in their homes for the youngest children, but out of fear they would not be able to control older

students and had not been allowed to teach beyond elementary age children. Reformers were able to convince the general public that women would make good teachers due to their maternal instinct, high moral character, and their acceptance of a third of the pay men received (Public Broadcast System, n.d.).

This development of teacher preparation in colleges and universities, following the normal school movement, expanded significantly near the end of the 19th Century. It was 1873 when the first permanent university chairman in education was established (Coble et al., 2004). It was also during this era that behavioral sciences such as psychology, cognitive organization theory, and social science became intertwined with education through the contributions of scholars like William James, John Dewey, and Edward Thorndike (Berliner, 2007). Dewey may be one of the most influential educational reformers of the 20th Century. His challenge to the traditional rigid structure of schools would lead to the “progressive movement” in American education. Democracy, according to Dewey, should not only be taught in schools; it should exist there as well. As a result of Dewey’s philosophy, teachers would gain more independence and influence in educational decisions.

It also was during the early part of the 1900s that America began a shift from an agrarian base to one of an industrial emphasis, which impacted the political climate across all areas including education. Business and industry began to exert more influence on public policy across all aspects and levels of governance including education. The inclusion of a liberal arts curriculum would lead in the transformation of normal schools, and many would become teacher colleges. The first normal school to become a teacher’s college was the Michigan State Normal College (Coble et al., 2004).

State governments began to take a more direct role in shaping education during this period of U.S. history. This growing movement sought to establish uniform standards for teacher certification rather than relying on local community standards. The concept of a single standard for teacher certification across the country is still debated today, as each state has its own criteria for teacher certification. In 1950 Ralph McDonald, the Executive Secretary of the National Commission on Teacher Education and Professional Standards, was extremely critical of this system, referring to it as a “hodgepodge of programs and a travesty of professional education” (Cochran-Smith & Zeichner, 2005, p. 595). His contention was that, with a few rare exceptions, most state programs were not rigorous enough to stand up against close academic scrutiny. Critics of teacher education gained more ammunition in 1957 when the Soviet Union successfully launched *Sputnik*. The perceived lower quality of America’s schools was blamed on the low standards for entry and exit of teacher education programs. Critics accused educational programs of a reliance on pedagogy rather than subject mastery and labeled their courses as *Mickey Mouse* with little substance. This level of skepticism was significant and, in some circles, is still alive and well today.

The Soviet success with their space program led to the arms race and the federal government’s entry into America’s classrooms. Federal money began to flow into educational programs through grants to strengthen math and science curricula. The criticism aimed at all levels of American education significantly impacted teacher training during this time. The media attacked the progressive movement as being weak and devoid of rigorous instruction in the teaching of math and science. Vice President Richard Nixon declared that the nation needed better teachers and fewer soft courses.

President Eisenhower condemned the educational philosophy of John Dewey, implying that his influence on education was to blame for the embarrassment his administration had suffered (Herold, 1974). As a result, the standards movement would be ushered into the fabric of public education and teacher training. The standards movement received more attention after the 1983 report entitled *A Nation at Risk*, which had depicted schools staffed by under qualified teachers attempting to teach in the midst of deplorable conditions. This attitude has been increased with the passage of the No Child Left Behind Act (NCLB), signed into law by President George W. Bush in 2001. The federal government's major entrance into public schools during the 1950s and 1960s was focused on science and math, while NCLB's focus is on math and reading.

Teacher education has evolved greatly since 1839, when the first public normal school was established. Education and training requirements for teachers continue to increase, along with advances in science and increased standards for student accountability (Angus, 2001). Teacher training continued to evolve, and by the late 20th Century the United States had a teaching force with the highest levels of education in the world: 40% of public school teachers held a master's degree (Angus, 2001). However, the level of American student performance did not correlate with the high percentage of advanced teacher degrees. The often-cited concern about teacher quantity is the impetus for alternative means to teacher certification (Legler, 2002). The debate over how to improve the quality of America's schools, while increasing student achievement at all levels, is now fixed on teacher training.

Significance of the Problem

Determining the best method to prepare teachers to enter our nation's classrooms is of paramount concern for our society. School administrators faced with hiring responsibilities desire to hire the best teachers possible. Parents and guardians are entrusting schools to provide their children with the knowledge and skills that will enable them to be productive members of society. Colleges and universities want students with the ability to excel at the next level of academia. Employers and the nation's armed forces need to have the confidence that today's high school graduates can meet their expectations.

The proponents of traditional college or university-based teacher education programs argue that this method provides a check and balance linked to a rigorous, time-tested and standards-based approach to teacher education (Williamson, Backman, Guy, Kay, & Turley, 1984). Advocates for alternative routes for teacher certification contend that alternative certification has opened the teaching field to many individuals who bring real-world experience in specialized fields into America's classrooms. Programs like "Troops to Teachers" and "Teach America" have allowed individuals to "give back" to society, much like the Peace Corps did to impact America's foreign policy during the 1960s. Alternative programs vary from state to state, but most have similar characteristics among their programs that include a requirement that participants have at least a bachelor's degree, pass a screening process, begin teaching while engaging in on-the-job training, complete educational coursework, work with mentor teachers, and meet performance standards.

Significance of the Study

Do significant differences exist between teachers who were certified through a traditional college or university education program and those who were certified through an alternative program? This study will focus on the teacher characteristics of job satisfaction and efficacy and self-assessed job performance. Numerous studies indicate that high levels of job satisfaction and teacher efficacy contribute to teacher effectiveness (Ashton & Webb, 1986; Edwards, Green, & Lyons, 2002; Gibson & Dembo, 1984; Guskey & Passaro, 1994; Saari & Judge, 2004). Additionally, this study will compare principals' perceptions of alternatively and traditionally certified teachers' performance on Kentucky's 10 teacher standards. The results from teachers and principals regarding job satisfaction, teacher efficacy, and job performance could provide insight for decision makers when formulating policy and personnel decisions, both of which impact Kentucky's schools.

Conceptual Underpinnings for the Study

The ability to train and maintain a quality teaching force is an important component of America's public schools. Historically, the impact of public education has been an essential element in the development of America's democratic system of government and society (Kaestle, 1983). Teacher quality is essential for effective teaching and learning in America's schools (McKinsey & Co., 2007).

Efficacy and job satisfaction are critical components for both job performance and employee retention. Teacher efficacy is a critical attribute held by effective teachers (Stronge, 2007). When teachers believe they can make a difference, there is a higher likelihood that they will have a positive impact on their students (Edwards et al., 2002).

Job satisfaction is a factor impacting employee retention (Saari & Judge, 2004). Poor teacher retention is a growing problem within school districts across the nation. The cost of teacher turnover has been estimated by one study to range from a low of \$4,000 in New Mexico to a high of \$17,000 in Chicago (Barnes, Crowe, & Schaefer, 2007). Additional data indicated that a significant number of teachers leave the teaching profession within the first five years of teaching. The potential financial cost for replacing teachers leaving their profession so quickly is staggering (Kirby & Grissmer, 1993; National Education Association, 2003a; Schlechty & Vance, 1981). A greater consequence may be the effect of losing or not attracting many of the best and brightest to enter and stay in the teaching profession.

Accurately assessing teachers and effective teaching is one of the main functions of school administrators. Yet, how to best accomplish this task is a difficult challenge. “Classroom observations is at best an inexact science, historically plagued by the limitations of the human being doing the observation” (Waters, 2011, p. 34). There is a growing movement toward authentic self-assessment. Accurate self-reflection is an important step in individual growth and development. “The best teachers spend much time thinking about their teaching, what they are doing, why they are doing it, and how they can do it better” (Preskill, 1998, p. 350). Effective teachers continuously self-appraise their teaching and their students’ learning. Self-reflective assessment can provide both insight for increased student achievement and the basis for a teacher’s own professional growth (Stronge, 2007).

Research Questions

The research questions guiding this study are as follows:

Research Question 1: Are there significant differences in the three following areas between teachers who were certified through a traditional teacher certification program and teachers who were certified through an alternative program for teacher certification?

- a. teacher efficacy
- b. job performance
- c. job satisfaction

Hypothesis 1: There will be no difference between teachers who were certified through a traditional teacher certification program and teachers who were certified through an alternative program for teacher certification in the following areas:

- a. teacher efficacy
- b. job performance
- c. job satisfaction

Research Question 2: How does the teacher's certification method affect each of the outcome measures (i.e., teacher efficacy, job performance, and job satisfaction) when the factor is combined with a set of teachers' demographic variables (age, current year in teaching, and grade level taught)?

Hypothesis 2: There will be no difference in the outcome measures when the methods for teacher certification and teacher demographic factors are combined.

Research Question 3: Are there significant differences in principals' perceptions of teacher performance on the 10 Kentucky Teacher Standards between teachers who were certified through a traditional teacher certification program and those teachers who were certified through an alternative program for teacher certification?

Hypothesis 3: There will be no difference in principals' perceptions of teacher performance on the 10 Kentucky Teacher Standards between teachers who were certified through a traditional teacher certification program and those who were certified through an alternative program for teacher certification.

Research Question 4: How does the teacher's certification method affect principals' perceptions of teacher performance when the factor is combined with a set of principals' demographic variables (years in education, years as a principal, and current administrative assignment by grade and/or school level)?

Hypothesis 4: There will be no difference in the principals' perceptions of teacher performance when certification methods are combined with the principals' demographic variables.

Delimitations

The study will focus on the Kentucky public school districts which make up the Green River Regional Educational Cooperative (GRREC). The 36 school districts in GRREC will provide a total of 271 potential eligible schools to participate in this study. However, for schools within the GRREC region to be eligible to contribute to this study the school must have teachers who received their certification through an alternative certification program, as well as those who received teacher certification through a traditional college or university education program.

Limitations

Any study that allows individuals to self-select participation in an investigation will face numerous extraneous variables that could impact the results of the study. Teachers will be asked survey questions regarding teacher efficacy and job satisfaction.

Teachers also will be asked to self assess their performance on the 10 Kentucky Teacher Standards. It is possible that responses may not reflect accurate job performance, but those responses could be strongly impacted by the respondent's personal bias. Responses also will be impacted by the honesty and integrity of the individuals who elect to respond to the survey questions. Individual motivation for participation by the respondents also could impact the validity and reliability of the results.

Administrators will be asked to provide their perceptions of teacher performance on the 10 teacher standards in relationship to alternative and traditional teacher certification. Thus, years of experience and the quality of evaluative expertise of the administrators agreeing to participate in this study could impact the judgments of their responses. Individual administrators' personal views regarding alternative and traditional certification could affect their responses regarding teacher performance.

Although each of the 36 districts which make up the GRREC region will be contacted to participate, participation will be contingent upon the approval of district superintendents and building principals. This could limit the total number of potential participants. This also could significantly impact the size and scope of the sample population in the study.

Definition of Terms

Alternative Certification Program: Any program which is intended for degree-holding adults who want to be certified as teachers without attending and completing a traditional college education program.

Alternative Certified Teacher: A teacher who completed an approved alternative certification program and has been granted teacher certification by that state's education department.

Certified Teacher: A teacher who has received his or her teaching credentials from the state's Department of Education after completing all requirements through either the traditional route or an approved alternative certification program.

Common School: Early attempts to educate the children of the new country in a "common" educational setting where children, regardless of their socio-economic status, religion, or country of origin, would receive the same type of education while learning together and from each other (Leinward, 1992, p. 20).

Education Professional Standards Board (EPSB): The state agency created by the Kentucky General Assembly charged with establishing standards of performance for both preparation programs and practitioners; accrediting educator preparation programs at colleges, universities, local school districts, and private contractors; selecting assessments for teachers and administrators; and overseeing internship programs for new teachers and new principals (EPSB, 2011).

Highly Qualified Teacher: Under the provisions of NCLB (2008), a teacher is determined to be highly qualified if he or she (1) has a bachelor's degree, (2) holds full state certification or licensure, and (3) proves that he/she knows each subject taught.

Additional aspects of highly qualified status include:

- State Requirements: *NCLB* requires states to 1) measure the extent to which all students are taught by highly qualified teachers, particularly minority and disadvantaged students, 2) adopt goals and plans to ensure all teachers are

highly qualified, and 3) publicly report plans and progress in meeting teacher quality goals.

- **Demonstration of Competency:** Teachers (in middle and high school) must prove that they know the subject they teach with 1) a major in the subject they teach, 2) credits equivalent to a major in the subject, 3) passage of a state-developed test, 4) HOUSSE (for current teachers only, see below), 5) an advanced certification from the state, or 6) a graduate degree.
- **High, Objective, Uniform State Standard of Evaluation (HOUSSE):** *NCLB* allows states to develop an additional way for current teachers to demonstrate subject matter competency and meet highly qualified teacher requirements. Proof may consist of a combination of teaching experience, professional development, and knowledge in the subject garnered over time in the profession (U. S. Department of Education, 2004).

Job Performance: the degree to which an individual can perform the core substantive or technical tasks central to his or her job (Campbell, 1990).

Job Satisfaction: A pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences (Locke, 1976).

Kentucky Department of Education (KDE): The agency of state government which oversees and provides resources and guidance to Kentucky's public schools and districts. KDE also is the state's liaison for federal education requirements and funding (Kentucky Department of Education, n.d.).

Kentucky Education Reform Act (KERA): Passed in 1990 by the Kentucky General Assembly and was in response to a ruling the previous year by the Kentucky

Supreme Court that the Commonwealth's education system was unconstitutional. The court mandated that the legislature was to enact broad and sweeping reforms at a systemic level statewide. Major changes as a result of KERA included funding equalization by districts and schools and district accountability being based upon annual state-wide accountability measures.

Kentucky Teacher Internship Program (KTIP): KRS 161.030(5) requires that all new teachers and out-of-state teachers with less than two (2) years of successful teaching experience who are seeking initial certification in Kentucky shall serve a one-year internship (Legislative Research Commission, n.d.).

NCLB: The No Child Left Behind Act signed into law by President George W. Bush in 2001 requires all public schools receiving federal funding to meet set academic and non-academic improvement goals defined as Annual Yearly Progress (AYP). The areas measured are math, reading, graduation rate, and dropout reduction.

Normal School: A "normal school" was the term used in the late 1800s and early 1900s for a two-year public school teacher training program (Angus, 2001).

Public School: An elementary or secondary school in the United States supported by public funds and providing free education for children of a community or district.

Teacher Efficacy: Teachers' confidence in their ability to promote students' learning (Hoy, 2000).

Traditional Certification Program: The established method to achieve teacher certification by completing a four-year college or university education program designed to prepare students to become a certified teacher.

Traditionally Certified Teacher: Any teacher who has completed a traditional certification program and has been awarded teacher certification by the state's department of education.

U.S. Department of Education: Created in 1980 by combining offices from several federal agencies whose mission was to promote student achievement and preparation for global competitiveness by fostering educational excellence and ensuring equal access for students at all educational levels. Primary responsibilities and duties include:

- Establishing policies on federal financial aid for education and distributing, as well as monitoring, those funds
- Collecting data on America's schools and disseminating research
- Focusing national attention on key educational issues
- Prohibiting discrimination and ensuring equal access to education

CHAPTER II: LITERATURE REVIEW

Education in America has become one of the most volatile political issues in our society today. The debate is fueled by the concerns of educational policy makers, school administrators, teachers, employers, parents, and taxpayers who demand that our high school graduates can compete in a global economy. From this perspective, a growing focus on the quality of teachers in the nation's classrooms has emerged. A 2007 publication by McKinsey and Company, which examined the top performing school systems in the world, declares, "The available evidence suggests that the main driver of the variation in student learning at school is the quality of the teachers" (p. 10). Recently, the leadership in the states of California, Wisconsin, New York, Tennessee, and Colorado have either passed or introduced legislation that addresses teacher quality. In each case as policy makers and elected leaders attempt to tackle the issues of teacher tenure and teacher evaluation in relationship to teacher quality, opponents and supporters line up on opposite sides of the debate.

Experts even disagree about what constitutes a qualified teacher, how well today's preparation programs are training teachers, whether we can best improve teaching through new regulations or by relaxing old ones, and whether teaching leans heavily on innate skill or is primarily a matter of training and experience. (Hess, Rotherham, & Walsh, 2005, p. 1)

Interest and evaluation of the methods used to train and certify the nation's teachers are gaining tremendous momentum. Feiman-Nemser (2001) contends that, "a national consensus is building that the quality of our nation's schools depends on the quality of our nation's teachers" (p. 1013).

Ultimately, the success of the U.S. public education depends upon the skills of the 3.1 million teachers managing classrooms in elementary and secondary schools around the country. Everything else — educational standards, testing class size, greater accountability — is background intended to support the crucial interactions between teachers and their students. Without the right people in front of the classroom, school reform is a futile exercise. (Gordon, Kane, & Staiger, 2006, p. 5)

In a commencement address to the Columbia Teacher's college, Darling-Hammond (2011) defended current teacher preparation and confronted the new scientific managers who are attempting to blame teachers for what they call the failure of public education.

There is lots of talk of international test score comparisons, there is too little talk about what high-performing countries actually do: fund schools equitably; invest in high-quality preparation, mentoring, and professional development for teachers and leaders, completely at government expense; organize a curriculum around problem-solving and critical thinking skills; and test students rarely — and never with multiple choice tests. (Darling-Hammond, 2011, p. 4)

This study's review of the methods used to train teachers and the levels of teacher efficacy, job performance, and job satisfaction held by teachers is indeed warranted.

While schools of education still produce the majority of newly placed teachers in America's classrooms, alternative certification programs now supply one in five new teachers (Williamson, 2011).

Routes to Acquire Teacher Certification

The establishment of alternative methods for teacher certification has generated spirited debate from both sides of the ideological divide over the best method to prepare teachers to enter America's classrooms. Numerous studies defend traditional certification and cite the need to continue the proven practice that includes professional training, subject-matter knowledge, and high levels of pedagogical training. Their contention is that these skills are best developed through a traditional teacher education program. They further assert that the delivery of quality instruction in the classroom is compromised by alternative preparation programs (Roth, 1986; Shulman, 1986; Watts, 1986; Kennedy, 1991). The advocates for alternative certification programs maintain that many talented and potentially successful teaching candidates who possess high levels of subject matter knowledge would improve the quality of teaching if allowed to enter the classroom without completion of the traditional certification process (Lutz & Hutton, 1989).

An examination of two methods currently used to train and certify teachers is the focus of this study. The significance of a scholarly review of effective teacher characteristics, including job satisfaction and teacher efficacy, have been emphasized in the literature as extremely important. Prior studies indicate that teachers with high efficacy will adopt more difficult teaching strategies that have proven effectiveness such as small group instruction, cooperative learning, and hands-on activities, (Czerniak & Schriver-Waldon, 1991; Dutton, 1990; Tracs & Gibson, 1986, as cited in Ross, 1994). Additionally, teachers with high efficacy beliefs are more willing to accept and see the benefits of intensive professional development (Moore, 1990). Classrooms led by teachers with high efficacy are more positive, more proactive, and less reactive (Emmer

& Hickman, 1991; Woolfolk & Hoy, 1990). High efficacy teachers tend to be more creative and take personal ownership of the outcomes of their actions and those of their students (Ross 1998; Tschannen-Moran & Hoy, 2001). According to Judge, Thoresen, Bono, and Patton (2001), job satisfaction among professionals was found to be an important contributor to job performance, “Contrary to earlier reviews, it does appear that job satisfaction is, in fact, predictive of performance, and the relationship is even stronger in professional jobs” (p. 398). The impact of teacher retention and job satisfaction, according to Kirby and Grissmer (1993), indicates that, when there are low levels of job satisfaction, there is a greater probability that a teacher will exit the profession.

The significance of this study and its results are supported by the fact that very little research regarding alternatively certified teachers has been conducted within the Commonwealth of Kentucky. Additionally, much of the research comparing teachers certified through alternative and traditional methods has not included high schools. This study will include teachers at all grade levels and subject matters within the districts selected to participate.

Traditional Teacher Certification

The traditional method for training and certifying teachers has come under increased scrutiny (Ballou & Podgursky, 1998; Boyd, Goldhaber, Lankford, & Wyckoff, 2007; Darling-Hammond, Holtzman, Gatlin, & Vasquez-Heilig, 2005; Roth & Swail, 2000). The creation of alternative routes for teacher certification has challenged the status-quo, while bringing competition to a long-held monopoly for entrance into America’s classrooms. Beginning in the early 1800s, the standards to enter the teaching

profession were minimal and focused primarily on moral character (Ravitch, 2010).

During this time period, there was little or no consistency in teaching and an even wider discrepancy from state to state. When New York and Massachusetts became front runners in the establishment of academies for teacher training, other states began to follow with the establishment of both private and public “normal school to training teachers” (Cubberley, 1919). However, it would still be several decades before widespread acceptance of colleges of education for the training and preparation of teachers and administrators would become common across the nation. When early leaders in education sought to introduce pedagogical training into the liberal arts colleges, disagreements between professors of the arts and sciences and professors of education ensued. This debate created a split that still leads to conflicts in academia today (Ornstein & Levine, 1981).

The initial normal schools were replaced by colleges of education, which required courses outside of the more traditional liberal arts programs. The educational curriculum soon included courses that specifically addressed methods of teaching, the psychological development of children, a history of education, and assessment methods (Ornstein & Levine, 1981). The establishment of teacher training programs and procedures for licensing and certifying teachers within each state followed during the ensuing decades. Today, in order to teach in a public school, an individual must possess certification issued or accepted by the state in which he or she wishes to teach. Traditional certification is achieved through the completion of an approved program at an accredited college or university (Ornstein & Levine, 1981). This established method to enter the teaching profession faced little to no competition until the 1980s when a movement to establish

alternative routes for teacher certification gained momentum. This time period also saw various movements developed to address many of the criticisms of traditional teacher preparation programs. Near the end of the 1980s, reforms in teacher education began shifting programs toward a more integrated and structured design, which included greater emphasis on quality teaching. The changes that this movement brought into teacher education were a more intense focus and connection between clinical experiences and formal theoretical courses. The early 1990s found improvement in teacher education when the presented pedagogies were connected to actual classroom experiences and practices (Cabello, Eckmier, & Baghieri, 1995; Graber, 1996; Grossman & McDaniel, 1990; Hammerness & Darling-Hammond, 2002). The greatest change in teacher education during this time was that teachers must do more than present information to their students. Rather, teachers must be able to use the pedagogies that were proven to develop actual learning. For a teacher to be effective, he or she must be able to “think pedagogically, reason through dilemmas, investigate problems, and analyze student learning to develop appropriate curriculum for a diverse group of learners” (Darling-Hammond & Bransford, 2005, p. 392).

More recently the recognition that teachers must have an in-depth understanding of how students learn has impacted additional changes in traditional teacher education programs. Singley and Anderson (1989) determined that students learn best when they have material presented that is organized, categorized, and connected. Thus, changes in teacher preparation programs place greater emphasis on making sure that any given curriculum must have a “conceptual framework that allows students to see the big picture while also enabling them to recognize how the individual ideas and theories fit together

and relate to one another” (p. 397). Another significant change in teacher education today is that clinical experiences should begin early and continue throughout the preparation program. Putting concepts and theory into actual application is now a major part of most traditional teacher education programs. The realization that all students learn best when allowed to practice or apply concepts has now been applied to teacher education: “A key element for successful learning is the opportunity to apply what is being learned and refine it” (Singley & Anderson, 1989, p. 401).

Alternative Teacher Certification

Changes in the world economy and America’s decline in the fields of math and science fostered criticisms on the quality of instruction found in many high schools across the United States. In 1981 Secretary of Education Terrel Bell oversaw the development of *A Nation at Risk* (ANAR), one of the most critical reports of public education. When this report was released in 1983, it failed to address the educational issues of the Reagan administration and, thus, little direct attention was given to it (Bracey, 2009). However, despite questionable indicators regarding how and why our schools and students were at risk, ANAR continued to provide ammunition for the critics of public schools. This led to an increased focus on education reform and accountability in the mid-1980s. For example, as noted by Fletcher and Zirkle (2008), the Holmes Group published a major report in 1986 entitled, *Tomorrow’s Teachers* followed by *Tomorrow’s Schools* in 1990 and *Tomorrow’s Schools of Education* in 1995. Each of these reports facilitated an increased movement for educational improvement, especially in the area of teacher training and certification. In 2001 the passage of the No Child Left Behind Act (NCLB) became one of our country’s most far-reaching efforts to reform

education. One aspect of NCLB is that all public school teachers must be “highly qualified” if they are teaching in a core academic area defined as English, reading or language arts, mathematics, science, history, civics, government, geography, economics, the arts, and foreign language (U.S. Department of Education, 2006). These factors, coupled with a growing shortage of teachers and difficulty in staffing schools in urban and poverty areas, led to the creation of alternative routes for teacher certification (AC) and alternative teacher licensure programs (ATL). It is generally accepted that alternative teacher licensure (ATL) began in 1984 with the establishment of the New Jersey ATL project (Fletcher & Zirkle, 2008).

The growing need for teachers is not uniform across all disciplines and grade levels, nor is it consistent across demographic and geographic locations. Math, science, and special education positions are the most challenging to fill in almost any school. While not the sole reason, the disparity between potential earnings in math and science careers discourages many from choosing teaching in those fields; and, thus, just recruiting more teachers is not a realistic solution (Birkeland & Peske, 2004). Critics of the current method for establishing salary schedules for teachers claim that, by setting salaries based on a rigid single salary structure controlled by elected officials rather than having it reflect true labor market conditions, contributes to the undesirability of staffing high needs schools (Boyd, Lankford, Loeb, & Wyckoff, 2003; Rice, Roellke, Sparks, & Kolbe, 2009). The economic realities faced by individuals in a traditional teacher preparation program are another obstacle cited by Mitchell and Romero (2010). The cost associated with a traditional teacher training program provides “a significant barrier to entry — a year or more of unpaid leave and student teaching . . . the opportunity cost

associated with this unpaid absence from the labor market is too expensive when compared with other options” (Mitchell & Romero, 2010, pg. 10).

Another disparity impacting teacher shortages lies in the problems faced by many inner city and rural communities in teacher staffing. According to Fideler, Foster, and Schwartz (2000), “during the 2000 school year, 97.5 percent of Great City Schools reported an immediate need for special education teachers” (p. 17).

The retention of those already in the teaching profession may be just as critical as attracting new teachers to the vocation. Approximately 30% of new teachers leave the teaching profession within three years, and 40 to 50% leave within five years (Ingersoll & Smith, 2003). An additional factor which contributes to teacher shortages in difficult to staff schools, such as inner city and rural communities, is teacher migration. Studies in New York and Texas found that teachers who change schools in those states were more prone to move to schools in suburban rather than inner city settings, as well as schools whose students were non-minority, from higher socio-economic levels, and had higher academic achievement (Hanushek, Kain, & Rivkin, 2002).

Factors Impacting Teaching Quality

According to Tucker (2011), industrialized countries are in broad agreement that the quality of a country’s teachers is the key to high student achievement. There are those inside, as well as those outside the field of education, calling for more evidence to link methods for teacher training and certification to practice, according to Tournaki, Lyublinskaya, and Carolan (2009). In their review of recent studies, Tournaki et al. (2009) report that some studies find no differences in student achievement based on the route to teacher certification (Goldhaber & Brewer, 2000; Boyd, Grossman, Lankford,

Loeb, & Wyckoff, 2006), and yet others find just the opposite (Darling-Hammond, Berry, & Thoreson, 2001; Allen, 2003; Tsang, 2003; Nougaret, Scruggs, & Mastropieri, 2004). Numerous factors can contribute to teacher quality, including teacher efficacy, job performance, and job satisfaction. This study seeks to examine these three factors in relationship to the method used to gain teacher certification.

Teacher Efficacy

The concept of teacher efficacy is widely accepted as the belief held by a teacher that an individual teacher can make a significant impact on a student's learning, behavior, and achievement in spite of outside circumstances (Hoy, 2000). Teacher efficacy found its origin in Bandura's (1997) theory of self-efficacy. Bandura advocated that a person's appraisal of his/her own abilities to complete future tasks or assignments would directly impact the likelihood of his/her actually accomplishing the task or assignment. He further concluded that higher levels of self-efficacy resulted in the setting of and achieving higher goals. This concept was applied to teaching and became known as teacher efficacy. Teachers with high levels of teacher efficacy set higher goals for both themselves and their students and believe they can achieve those goals. They work harder to achieve them and persevere toward successful completion of them regardless of external forces or setbacks (Ross 1994). Labone (2004) and Wheatley (2005) found that teachers who reported a higher sense of efficacy tended to be more likely to stay in the profession, report higher job satisfaction, exhibit more effort and motivation, take on additional roles in their schools, and display a greater degree of resiliency throughout their teaching career.

Job Satisfaction

The term job satisfaction is generally used to describe an employee's mental concept of his or her position and the accompanying duties and responsibilities required for the assignment. Bruneberg (as cited in Suryanarayana, 2010) described job satisfaction as the favourableness or unfavourableness with which employees view their work. Job satisfaction is directly linked to level of agreement between what the employee expects his or her job will provide in the form of rewards and the level of expectations associated with that job. Assessing levels of job satisfaction among teachers has increased in response to the growing trend of qualified teachers leaving the teaching profession for reasons other than retirement (Ingersoll, 2003). Another important factor relating to job satisfaction is the impact it can have on attitude and performance. According to Cha (2008), "dissatisfied teachers are less likely to do their best work in the classroom, while highly satisfied teachers are less likely to switch schools or quit the profession" (p. 6).

According to a recent survey by the Society for Human Resource Management (2009), they report that "employees who are highly satisfied with their jobs are much more likely to stay with their employer" (p. 1). The retention rate of new teachers entering the profession is directly linked to the levels of satisfaction they experience in their schools and classrooms (Giacometti, 2005). Numerous factors contribute to levels of job satisfaction among teachers, including school culture, equitable compensation, job security, and pre-service preparation. Pre-service preparation refers to the method used to achieve teacher certification required to enter the teaching profession. Two studies (Harris, Camp, & Adkinson, 2003; Moore-Johnson & Birkeland, 2003) found that

teachers who were certified through an alternative certification program left the teaching at higher rates than those certified through a traditional teacher training program.

Job Performance

Efforts to increase quality in education have resulted in numerous reform attempts including standardized testing, smaller class sizes, and school accountability. Gordon et al., (2006) contend that these reform efforts will have only marginal impact on outcomes; rather, “the success of U.S. public education depends on the skills of the 3.1 million teachers in our classrooms” (p. 5). They further assert that only after the first two years in the classroom will the differences between the strong and weak teachers become apparent; thus, it is critical that job performance be authentically assessed annually.

Schacter (2001) declared that for over 35 years economists have examined inputs into teaching as they relate to student achievement rather than the characteristics of effective teaching or job performance. The temptation to compare successful job performance reforms in industry to teaching and education must be cautiously applied. Teaching is significantly different than manufacturing. There are several major differences referred to by Lazear (2001): “first, output in education is more difficult to define and measure; second, output is multidimensional; and last, what is best for one student is not best for another” (p. 2). However, the concept of linking teacher performance to accountability is receiving more support as states make changes in both evaluation models and tenure. This movement is in spite of three major studies that showed little to no effect on increases improving student achievement as a result of merit pay for teachers who were considered to be high performers (Wall, 2011).

The National Board for Professional Teaching Standards is currently the most well-known agency using performance-based accountability. In order for a teacher to receive National Board Certification, he or she must undergo a multi-part assessment that includes providing evidence of teaching performance. The National Board does not certify all teachers, only those who have demonstrated outstanding performance through their assessment system. The results from one study of National Board Certified teachers indicated, “Analysis of student work revealed that 75 percent of students taught by National Board Certified teachers comprehended the concepts taught compared to 30 percent of work samples taught by teachers without National Board Certification” (Schacter, 2001, p. 8).

One of the four major components of President Obama’s “Race to the Top” educational reform plan is to recruit, develop, reward, and retain effective teachers; and the primary ways to accomplish this, according to the proposal, is performance pay based on student achievement (U.S. Dept. of Education, 2009). According to a 2011 report by ICF International on teacher evaluation policies, it found that “21 states now required annual evaluations of all teachers not just those without tenure” (p. 3). As states compete for more federal education money, one of the main requirements is to implement more stringent standards regarding teaching evaluation and performance. According to the National Council on Teacher Quality (2011), 32 states and the District of Columbia Public Schools have made changes in the method used to evaluate teachers. The report additionally shows that 23 states currently link student growth and/or achievement as a component for teacher evaluations. This movement to reassess how teachers are evaluated represents a major change, as we move from defining teacher quality based on

“highly qualified” that was achieved by a teacher’s credentials, college major, and the passage of a content based exit exam. To an evaluation based on “highly effective” which still requires teachers to demonstrate content proficiency but will combine classroom observation with his/her student’s academic success and growth. This shift in educational policy marks a significant change for teachers and teacher preparation.

Traditional Certification and Alternative Certification Programs Compared

Tetenbaum and Mulkeen (1986) published a study which pointed out the need for improvement of teacher training, not its replacement or elimination. Their contention was that, during the early 1980s, the various reforms targeted components of schools from homework, curriculum, length of the school day and year, and student assessment; yet, teacher training was essentially unaddressed. One of the findings was that “teacher education programs have remained largely unchanged in content and structure since World War II” (p. 622). When the focus had previously turned on teachers, it had typically been on “salaries, certification requirements, standards for entrance into the profession and evaluation issues with little attention on teacher preparation” (p. 622). Teacher preparation programs in the 21st Century, according to Tetenbaum and Mulkeen, must address the following characteristics:

The twenty-first century will be knowledge-based, will see an increased information flow, will experience rapid change and impermanence, massive decentralization of organizations, institutions, and systems, will be people-oriented, and finally, will see major demographic shifts. (p. 625)

These anticipated characteristics have far-reaching implications in the potential design of teacher preparation programs. Tetenbaum and Mulkeen (1986) describe some

of the essential components they believe must be part of an effective teacher preparation program:

Students in the twenty-first century must become problem solvers who can address complex issues with organized and creative solutions. Thus teacher education programs must attract the best and brightest minds. Standards for entrance and completion should be strengthened rather than watered down.

Students in tomorrow's classrooms will need to acquire critical thinking skills and problem solving skills. It will be as important to teach people the ability to search for and evaluate information as it once was to know it. (p. 626)

The authors also address claims by many critics of teacher education that it is too easy to become a classroom teacher. The often cited complaint is that the admission criteria of most teacher education programs are too low and that the best and brightest are not selecting education as a career option. What might appear to be a simple solution is much more complex: "Any model . . . with rigorous entrance requirements, in reality can only select from its applicant pool and the teaching profession is not attracting the best and the brightest, largely because of salary issues, status and working conditions" (p. 624). A glaring contradiction that affects this issue is the reluctance of the general public to support public education at levels equal to the outcomes they expect from public schools.

Typically, teachers have worked much like independent contractors in isolation; this must be replaced with a new type of professionalism that fosters collaboration, sharing, and problem solving from within those professional learning communities. In an article about the future of teacher preparation, Berry (2011) calls for a radical

transformation of the teaching profession. He asserts that teaching will gain the credit it deserves when, “teacher unions are transformed into professional guilds — focusing first and foremost on teaching and learning and expecting all members to meet performance standards” (p. 33). However, it is critical to improve the morale of those already on the job: “teachers already in the classroom are the ones who will help fix whatever is wrong with America’s public schools and that such teachers must be viewed as part of the solution, not the problem” (Tetenbaum & Mulkeen, 1986, p. 628). A major difference between this review and many others of traditional routes to certification is that, while the authors acknowledge problems with the existing system of certification, they seek to improve it, not dismantle or replace it.

Advocates for alternative certification contend that allowing content experts to enter the teaching field without the cumbersome requirements of traditional preparation programs has resulted in a much improved method for teacher training (Feistritz, 2007; Haberman, 2004; Hawley, 1992). Those who oppose alternative methods of certification defend traditional teacher training programs and assert that any deviation from that model tends to place unprepared and ill-equipped teachers in the most challenging classrooms (Darling-Hammond, Chung, & Frelow, 2002; Darling-Hammond et al., 2005; Darling-Hammond & Youngs, 2002; Lasko-Kerr & Berliner, 2003; Public Advocates, 2007).

Examining studies of both traditional and alternative routes for teacher certification, Boyd et al., (2007) sought to determine the effect of certification preparation on teacher quality. “The primary pathway into teaching has been historically governed by each individual state, and each state’s teacher certification program has served as the gateway into the teaching profession” (p. 46). This process has remained

unchallenged and with relatively few major changes since inception. Increased attention on public education due to teacher shortages, poor student performance, and a negative public perception of public schools has led to a closer critique of teacher preparation programs. Some critics blame the arduous requirements of traditional programs as a barrier for discouraging many potentially good teachers from considering the teaching profession. Opponents of traditional routes to teacher certification have long held that colleges of education and teacher's organizations were inhibiting many from entering the teaching profession with the many course requirements in methodology and pedagogy. Purists in fields like chemistry, physics, and math seem to resist the traditional course requirements associated with colleges of education. This, along with the fact that there is a major inequity of potential earning in other fields associated with math and science, would lead many to choose options other than teaching.

Additionally, critics of teacher training programs contend that typical teacher training programs require a minimum of four years to earn certification and lack rigorous academic-content knowledge and practical applications (Helton, 2008). The absence of a substantial body of research validating traditional teacher training is argued as a negative finding regarding the effectiveness of university preparation programs (Levine, 2006). However, concerns fueled by the 2001 No Child Left Behind Act have focused on the need to ensure a consistency in the quality of education being dispensed in all classrooms in America.

Dramatic disparities in the qualifications of teachers across schools and newly documented disparities in teachers' abilities to influence student achievement mean that poor, minority and low-performing students are much more likely to have

teachers who are inexperienced, uncertified and less academically able than their high-performing peers. (Boyd et al., 2007, p. 46)

It was from this perspective that reviews of traditional certification programs and the development of alternative certification programs emerged. Since each state establishes its certification requirements independently, the development of a national data base from which to evaluate and compare certification programs is critical.

The typical state-approved traditional certification program consists of course work in three broad categories: “foundational courses (i.e., learning and development, philosophy or history of education, multicultural education); pedagogical courses (i.e., methods of teaching or classroom management); and content or subject-matter knowledge” (Boyd et al., 2007, p. 48). In most states, once a teaching candidate completes the required state approved program, he or she needs only to pass the required state exam to be licensed or certified in that state.

Alternative routes for certification allow teachers to enter the classroom without many of the components of the traditional program. “More than half of such programs were created in the past fifteen years, and more than a third were created after 2000” (Boyd et al., 2007, p. 51). Just as each state establishes the criteria for traditional certification, there is tremendous variance between alternative certification programs within and across states. Some states require pre-service and in-service prior to entering the classroom; others require condensed coursework in classroom management and pedagogy. Three states, New Jersey, California, and Texas, get more than one third of all new teachers from some type of alternative certification program (Boyd et al., 2007).

The demand to ensure teacher quality has resulted in the examination of both methods to achieve teacher certification. Yet, “the extent to which teacher preparation and certification improve the quality of teaching is an empirical question. Answering it requires focusing on questions in four key areas: teacher preparation, certification exams, teacher supply, and hiring” (Boyd et al., 2007, p. 55). First, examinations of both traditional and alternative certification programs have yielded studies that, so far, have been inconclusive. Second, certification exams are used to establish baselines for entering into the teaching profession, but no concrete data is available that proves scores on such exams are directly linked to increased student achievement. Third, is our current supply of teachers being negatively impacted by the requirements of all types of teacher certification programs? Finally, when local decisions concerning hiring are made, what factors have the biggest impact on the decisions? After reviewing the research in each of these areas, the authors conclude that “evidence is insufficient to draw conclusions and that the research evidence is simply too thin to have serious implications for policy development” (Boyd et al., 2007, p. 64).

Criticisms of Traditional Certification and Alternative Certification Programs

As seen in the previous section, traditional and alternative certification programs each have their supporters; however, neither route for teacher certification is immune to strong opposition. In his article “Tear Down This Wall: The Case for Radical Overhaul of Teacher Certification,” Frederick M. Hess (2002) calls for a serious examination of the quality of teachers trained by traditional methods. His assertion is that, unlike other professions, there is “no cannon for educators” (p. 169). While some agree on what teachers should know, there is no consensus on how to achieve that goal. While he is

critical of traditional teacher training, he does not advocate abolishing teacher training programs; rather, he recommends the creation of a “competitive model for aspiring teachers” (p. 170). He contends that it is not just whether traditional programs are producing quality teachers; but, presently, the current system automatically prohibits potential teachers from classrooms just because they have not completed a teacher preparation program. Another criticism of the current system is the absence of concrete benchmarks or standards and a reliance on subjective judgments by public officials and independent licensing agencies.

While supporters of traditional certification cite its ability to effectively help police and screen the teaching profession, Hess (2002) insists that “even elite programs generally admit 50 percent or more of the applicants, and that once admitted, 95 percent of graduates of all teacher education programs receive licenses or certification” (p.173). Today’s public school classrooms are very different from those that most teacher educators experienced, if indeed they actually taught in a public school before teaching at the college level. Hess asks, “Why are practical courses like classroom discipline or lesson design taught by academics who may not have taught a K-12 class for decades?” (p. 179). In his final analysis, he argues that the “central problem is that professional educators desire licensure without concrete standards” (p. 180).

Numerous studies throughout the 1980s found that many teacher education programs lacked clear, concrete, conceptual, and structural design, and most were overly dependent on theory rather than practical application and often failed to garner a clear consensus within the educational faculty regarding courses (Feiman-Nemser, 1990; Goodlad, Soder, & Sirotnik, 1990; Zeichner & Gore, 1990). In many programs teaching

candidates were required to take courses that were unrelated and were part of a piece-meal program which met university and state requirements for certification but did not provide the tools needed for effective instruction (Darling-Hammond & Bransford, 2005).

Walsh's (2001) work, *Teacher Certification Reconsidered: Stumbling for Quality*, published through funding by the Abell Foundation, reviewed research on teacher certification specifically focused on the state of Maryland. From her findings she states empathically that "academic research attempting to link teacher certification with student achievement is astonishingly deficient" (p. 3). Much like the article by Hess (2002), Walsh presents evidence that much of the problem with traditional certification is the number of potential teachers deemed as unsuitable for the classroom due to the lack of certification. Her assertion is that verbal ability is the single attribute an individual can possess that can be measured and consistently is found to positively impact student achievement. From this perspective, her condemnation of traditional certification is her view that traditional teacher training "is an inhospitable process that deters many capable individuals from becoming public school teachers, notwithstanding that they possess the most powerful attribute identified for raising student achievement" (p. 6). Walsh cites three basic sources of teacher competence — intellectual ability, formal pre-service education, and on-the-job experience. She further supports this declaration with reference to a 1983 paper by Harvard professor Richard Murnane, whose research found that the most compelling evidence measuring teacher quality is found in a teacher's cognitive ability.

Duffrin (2004) declares that “research on whether teachers from alternative programs help or hurt student achievement is inconclusive, and many educators claim that such programs put under-pressure novices in the most challenging of schools” (p. 14). Others contend that, “The typical college graduate will be prepared in his or her academic content, but are unprepared regarding teaching methodology, learning styles, and strategies to build effective relationships with students” (Dunne & Hannah, 1985, p. 21). Due to the fact that the number of teachers certified through alternative routes doubled from 2000 to 2003, it is essential to determine if these individuals are providing quality instruction in public schools where they are employed. Some critics contend that a summer of classroom instruction typical of many alternative programs is not enough; yet, defenders counter with the fact that traditional routes for certification usually only require a semester of student teaching. The quality of a traditional student teaching experience is often directly affected by numerous factors. The role and effectiveness of the cooperating teacher, the course(s) and levels taught, as well as the school climate where the student teacher is assigned, will determine the success of a student teaching experience. This is just one more example critics cite as a lack of concrete standards across traditional certification programs.

Duffrin (2004) goes on to point out another ambiguous claim used by supporters of alternative certification programs — teacher retention. Current research provides conflicting results as to whether alternatively certified teachers are more likely to stay with the profession or leave after a year or two. Retention of teachers is a serious concern for administrators regardless of the route selected to achieve certification. A pilot study by the National Commission on Teaching and America’s Future (2007) identified

several key findings regarding the cost of teacher turnover. The financial cost for districts to recruit, train, and then replace teachers is significant, with ranges in the districts studied from “\$4,366 to over \$17,800 per teacher leaver” (Barnes et al., 2007, p. 4). One study on alternative certification found that more than half of those individuals who enter the teaching force through an alternative certification program left the profession within the first three years after completing their program (Berry, 2001). Another study of a North Carolina alternative certification program in math and science by Hawk and Schmidt (1989) also found poor teacher retention as a reoccurring issue. Darling-Hammond and Bransford’s (2005) work, *A Good Teacher in Every Classroom*, contends that no less than “30 percent of new teachers leave the profession within the first five years of entry” (p. 53). This report goes on to explain the high cost of individuals leaving the profession is not just in dollars but cites studies on teacher effectiveness after their initial entry into teaching.

According to two different studies by Hanushek, Kain, and Rivkin (1998) and Kain and Singleton (1996), after a teacher’s second year of teaching, there was a significant improvement in teacher effectiveness in the classroom. When this cost is factored into the average dollar amount found by Benner (2000) for replacing, recruiting, and retraining a teacher at \$8,000, the total cost to education is staggering. Teacher retention appears to be a growing problem across all methods used to acquire certification but appears to be even more prevalent among those certified through an alternative route.

Recent moves by elected leaders across several states regarding current teachers’ benefits and bargaining rights have resulted in a significant reduction in expertise in America’s classrooms. The beginning of the 2011 school year in Wisconsin witnessed a

record retirement of nearly 5,000 teachers across the state (Bauer, 2011). Controversial legislative changes led by the governor of Wisconsin that directly impacted teachers were cited as the chief reason for this huge increase in retirement. In one Wisconsin school district, the administration was only able to fill 40 of the 60 vacancies. Leaders in other states also are facing similar incidents that will increase the need for new teachers to fill the growing number of vacancies.

According to a *Wall Street Journal* article in December of 2008 (Anonymous, 2008), traditional routes to teacher certification may actually impede student achievement and learning. Citing research by Harvard professors Raul Peterson and Daniel Nadler, which compared national test results from states with genuine alternative certification programs and those where it exists in name only, they found that “students gained 4.8 points and 7.6 points in 4th- and 8th- grade math, respectively” (2008, p. A14). Gains also were seen in reading at the same two grade levels in states with a real pathway to teaching outside the scope of traditional certification programs. According to Peterson and Nadler, traditional certification has a chilling effect on many potentially strong teacher candidates who do not want to have to slug through an array of educational-related courses which may have little to no impact on quality teaching.

Although Peterson and Nadler (as cited in the *Wall Street Journal*, 2008) acknowledged that the increase they report in student achievement could be the result of other factors, they indicate it is up to others to disprove their assertion, “the burden of proof is now on the plaintiffs . . . who argue that traditional state certification is necessary to ensure teacher quality” (p. 74). The results they report of significant improvement in math and reading scores among 4th- and 8th- grade students are based on

a comparison of students' results from a single year to the next. Over generalization of a single year's assessment results would typically be plagued with significant limitations. The reliability of the results also may be limited due to the method used to select the states used for comparison. The assessment used as the basis for this study was the National Assessment of Educational Progress (NAEP) test. According to the NAEP (n.d.) website, students selected to be annually tested are "stratified random samples within categories of schools with similar characteristics" (NAEP, n.d.). Therefore, the collection of factors that could have impacted the outcomes in this study raises concerns about its validity and reliability.

Ballou and Podgursky (1998), in their article, "The Case Against Teacher Certification," argued that a call to increase teacher quality through refinement of teacher training and licensure came from education insiders and seeks to enlarge union control of our nation's schools. They cite the 1996 report released by the National Commission on Teaching and America's Future (NCTAF) as the basis for their accusation. NCTAF is not a commission in the traditional form, as they hold no commission from elected officials; but, rather, it is a private entity funded jointly by the Rockefeller and Carnegie Foundations with membership primarily comprised from the National Education Association (NEA) and the American Federation of Teachers (AFT) (Ballou & Podgursky, 1998, p. 1). One of the key recommendations of NCTAF "is for all teacher training programs to establish professional standards or be eliminated; this would be accomplished by receiving accreditation from NCTAF" (p. 2). An additional recommendation "is to establish a national independent board to set standards for licensure in each state" (p. 2): Currently, in most states this is done through a state's

department of education. The authors base this on the comparison with other professions such as law and medicine, where professional boards made up of practitioners set the standards for that profession. They contend that this would increase protection from the politics associated with most state governments.

Ballou and Podgursky (1998) are quick to point out that public money was used to fund a study which seeks to remove control for America's schools from elected officials responsive to the general public and potentially replace it with a decision-making body unaccountable to the general public. Given the makeup of the commission, the authors were not surprised to find a report that "advocates more teacher training" (p. 21). Their review concludes that increasing teacher training, while giving increased control to educational organizations that have a vested interest in opposing charter schools, school choice, and alternative routes for teacher certification, would do little to improve the quality of public education. The greatest threat to public education, according to Ballou and Podgursky would be to remove the accountability away from elected officials who are directly accountable to the public, to educational groups insulated from community answerability. In the final analysis, the parents whose children may be the pawns in a dangerous chess game of control for public education may have the most to lose in this educational battle.

Kramer's (1997) article on teacher culture charges that behind the veil of teacher certification is a political agenda that seeks social change. She claims that a desire for social change from the left is systemically embedded in our educational system due to "the emphasis on self-esteem and self-discovery, while reducing intellectual challenges in all core subjects" (p. 1). Kramer gathered her data by observing classes and interviewing

students, faculty, and the administration from numerous schools, colleges, and departments of education across the county. What she found was a vast number of uneducated teachers. Consistently, programs of education are made up of students with the lowest SAT scores of any entering freshmen in a given school. Once in programs of education, minimal attention is focused on the academic subject to be taught, while significant time and attention is placed on theory and methodology for teaching. Many teachers seeking to help students learn to read “have never read a book that wasn’t assigned in school and, when asked, cannot recall the title or author of a favorite one” (p. 2). Kramer’s contention is that, in most schools of education, “ideology is considered more important than learning” (p. 3). Prospective teachers are taught to avoid value words when evaluating student work, such as right and wrong, and that one should not correct a child’s inventive spelling. Kramer’s final analysis is that the watering down of rigor in schools of education has had a trickle-down effect on the intellectual standards found in most public school classrooms. Schools have replaced academic integrity with social therapy. While acknowledging overwhelming demands on teachers today, she advocates that the “politicization of the training of teachers and the turn toward pathologies has removed any idea of commonality” (p. 5). Yet, Kramer further concludes:

Citizenship is about our shared commitments to constitutional democracy and to individual liberty. To create a multiplicity of cultures, each consisting of victims of past exploitation entitled to special but equal treatment, is to move the nation toward fragmentation and its citizens away from the sense of common purpose that make real progress possible. And it robs individual children of the glimpses

of real greatness — in literature and the arts as well as in science and technology — which might inspire them to contribute to that progress. (p. 5)

Early Research (1980-1999) Traditional and Alternative Certification

In 1983 a series of reports on the quality of education led numerous reforms at all levels of education. To investigate if differences existed between teachers following a traditional route for teacher certification (TC) and those choosing an alternative route for teacher certification (AC), Nancy Martin and Alan Shoho (1999) examined management styles of each group, along with the attitudes and beliefs held by teachers certified by both types of teacher preparation programs. Classroom management is an essential element for any teacher to master if he or she is to be successful in the delivery of instruction. The authors declare that “although often used interchangeably, the terms classroom management and discipline are not synonymous” (p. 3). This study sought to examine classroom management styles of teachers, rather than methods for discipline, to determine if there were measurable differences between teachers depending on the route to teacher certification each had selected.

“Data were collected from a total of 228 teachers using the Attitudes and Beliefs on Classroom Control (ABCC) Inventory, which consisted of 26 Likert format statements and three scales” (Martin & Shoho, 1999, p. 6). In addition to the ABCC Inventory, additional demographic data were collected in order to examine potential patterns and differences between teachers from TC and AC programs. The data were analyzed using a series of t-tests. The analysis of the data found a significant difference between AC and TC teachers, with AC teachers indicating higher levels of intervention or control rather than modeling or coaching students (Martin & Shoho, 1999). Factors which may have

contributed to this difference are “AC teachers had less teaching experience, $M = 1.9$ years while the TC teachers $M = 8.7$ years” (p. 9).

Shen (1997) conducted a study comparing traditionally and alternatively certified teachers in public schools using the 1993-1994 Schools and Staffing Survey (SASS) because of the growth of AC programs across the country. “The number of states allowing alternative certification more than doubled from 18 in 1986 to 40 in 1992” (p. 276). This increase can be attributed to a variety of factors, including the shortage of qualified teachers in the subjects of math and science and the challenge to fill teaching vacancies in urban and high poverty schools. Thus, support for AC programs has developed as a method to help address teacher shortages, with the promise of attracting older professionals to the teaching profession that otherwise would not consider it. A recurring argument from supporters of alternative routes for teacher certification is that AC has opened the teaching field to many individuals who bring real-world experience in specialized fields into America’s classrooms. These advocates compare AC programs, like Troops to Teachers and Teach America, to the Peace Corps’ impact on America’s foreign policy during the 1960s.

The proponents of traditional college or university-based teacher education programs contend that TC programs provide a check and balance that is linked to a rigorous, time-tested, and standards-based approach to teacher education (Roth & Swail, 2000). Williamson et al., (1984) are clear in their opposition to AC, stating, “Teaching appears to be the only profession in which the solution to the problems of short personnel supply is to open the doors to the unprepared and the under qualified” (p. 2). Others critical of AC programs maintain that the cost and structure of most AC programs

cheapen the professionalism and status of teachers, along with inadequately preparing individuals for success in the classroom. The advocates for alternative certification claim that AC programs encourage older more experienced individuals from fields outside of education to enter the teaching profession and helps fill hard to staff schools.

Shen's (1997) study compared the characteristics of teachers in public schools to determine if differences existed between AC teachers and TC teachers. "Using the 1993 *Schools and Staffing Survey* (SASS93), an achieved sample size of 47,105 (weighted N = 2,561) was determined. Due to the growth of AC programs during the years prior to the study, the researcher limited the focus of his study to teachers achieving certification in the previous 10 years" (p. 277). There was no significant gender difference between TC and AC teachers; however, there was a difference in regard to race and ethnicity. This finding supports one of the assumptions of AC policy that it would aide in the recruitment of minorities into the teaching profession. However, the study did not find that AC programs recruited older people into the profession; in fact, there was a higher percentage of persons less than 30 in AC programs than in TC programs. The biggest surprise was the number of AC teachers who either came directly out of college or who had some type of prior experience in an educationally related position, often as an instructional assistant. "This suggests that AC policy brought some experienced people into teaching, but at the same time allowed many fresh college graduates to circumvent the TC process" (p. 279). Conclusions from this study showed that:

AC teachers appear to have lower academic qualification than TC teachers.

While AC policy has led to an increase in math and science teachers and minority recruitment into teaching, it has failed to recruit experienced

personnel from other occupations, and a lower percentage of AC teachers treat teaching as a lifelong career. (p. 276)

The results should be viewed in light of some limitations: “The data was cross-sectional rather than longitudinal and did not differentiate among alternative certification programs” (p. 281).

Recent Research (2000 - Present) Traditional and Alternative Certification

More recent studies comparing teachers who followed a traditional route for teacher certification with those who chose an alternative route for teacher certification, as well as studies which explore only alternative certification programs, have looked at various aspects of classroom performance. One study conducted by Linek et al., (2009) examined middle school science teachers who had followed an alternative route for teacher certification and teachers use of textbooks, science trade books, and resulting student achievement on state-mandated assessments. “The results of the study showed that AC teachers incorporated trade books containing science concepts into their instruction, the content was mostly scientifically accurate. However, the downside uncovered by this study was that AC teachers integrated very few trade books into their classroom instruction and relied heavily on textbooks” (p. 408). One additional result found in this study was, “the average passing rate of students on the state-mandated science assessment in the classrooms taught by AC teachers was lower than the average passing rate for the entire state” (p. 410). This study provides specific data on a core content area (science) and the method of instructional delivery. While this study assessed AC teachers’ use of trade books, journals, and magazines, no reference was given to the use of similar material by traditionally certified teachers.

A 2007 study by Cohen-Vogel and Smith, using data from the Schools and Staffing Survey (SASS), sought to test four core assumptions associated with Alternative Certification for teaching. The four assumptions were: AC attracts experienced candidates from fields outside of education; AC attracts top-quality, well-trained teachers; AC disproportionately trains teachers to teach in hard-to-staff schools; and AC alleviates out-of-field teaching.

Cohen-Vogel and Smith (2007) collected data from the 1999-2000 Schools and Staffing Survey, (SASS) which showed that 9,605 teachers were hired for their first year of teaching from 1995-1996 and 1999-2000 school years. The total number of first year or novice teachers was subdivided into groups of teachers with traditional certification (TC, 6,728) and alternative certification (AC, 1201). The remaining 1,676 teachers held either temporary certificates, emergency certificates, or no certificates. The analysis focused on the differences between TC teachers and those holding AC. The variables measured by this study were: (a) teacher certification type, (b) teacher academic qualifications, (c) teacher professional experience, (d) level of preparedness to teach, (e) hard-to-staff schools, and (f) out-of-field assignment. Teacher questionnaire responses on the SASS were used to measure teacher certification type and teacher academic qualifications. To determine professional experience for both TC and AC teachers, the study examined the prior year's work activities of the first-year teachers. Teachers who reported that their first-year teaching position at an elementary or secondary level was in 1999 or 2000 produced a sample size of $N = 2,215$ (Cohen-Vogel & Smith, 2007). Preparation to teach was measured using items asked of the subset of teachers hired between 1995-1996 and 1999-2000. The variables used in this measurement included:

(a) coursework on how to select and adapt instructional material, (b) coursework in learning theory and psychology, (c) observation of other classroom teaching, and (d) feedback on their teaching. Teachers also were asked how much practice teaching they had (none, less than 4 weeks, 5-9 weeks, 10 weeks or more) and how well prepared they felt their first year of teaching to: (a) handle classroom discipline and management, (b) teach subject matter, (c) use computers in classroom instruction, (d) use a variety of instructional methods, (e) plan lessons, (f) select curriculum materials, and (g) assess students.

Hard-to-staff schools were those identified by Cohen-Vogel and Smith (2007) as not being able to fill vacancies during the 1999-2000 survey year. The researchers also looked separately at vacancies in general education, elementary, special education, and core subject areas (i.e., English and language arts, social studies, mathematics, biology and life sciences, and physical sciences). To calculate out-of-field teaching, variables were established from the 1999-2000 SASS restricted data set. This area only pertained to teachers at the middle or high school or combined schools where classes were organized for departmental instruction.

To determine if teacher candidates in AC programs were from fields outside of education, Cohen-Vogel and Smith (2007) used a *t*-test to compare differences in the proportion of first-year AC and TC teachers with educational degrees who entered teaching directly from college or university teacher preparation programs, versus those from another job in education or non-education related occupations. To examine whether AC recruits were more “top-quality” teachers, the academic qualifications and selectivity of undergraduate institutions of AC and TC were compared. The placement of AC and

TC teachers was assessed to determine if AC teachers were more likely to teach in hard-to-staff schools. To examine whether AC teachers were more likely to teach subjects in which they were trained, a comparison was examined between AC and TC teachers who were teaching at least one course outside of their major and/or minor degree field during the 1999-2000 academic year. The resulting analysis of the SASS data did not support the claim that AC programs train experienced people from fields outside of education or that AC helps staff hard-to-staff schools. One third of AC teachers reported working in education during the past school year, and another 36% came to teaching directly from college. Consequently, AC teachers were no more likely to fill positions in urban, poor, or minority schools. While this study failed to confirm each of the four assumptions associated with AC programs, it also did not dismiss AC as a method to produce new teachers.

One of the most recent studies was conducted by Constantine, Player, Silva, Hallgren, Grider, and Deke (2009) under the direction of the U.S. Department of Education. The Mathematica Policy Institute sought to answer questions of relevance for school administrators confronted with the dilemma of deciding which teacher to hire; one from a traditional certification program or one certified by an alternative route for teacher certification. The study examined recently hired teachers certified by an alternative route for certification and compared them to novice teachers certified by traditional programs for teacher certification. “The study included 2,600 students in 63 schools across 20 school districts” (Constantine et al., 2009, p. 17). Students were randomly assigned to either the AC teacher or TC teacher within the same grade level to increase the likelihood that the groups would be similar, while reducing the impact of extraneous variables on

student outcomes. A comparison of teachers with AC and TC certification was done “at the same grade level within the same school and constituted a separate mini experiment” (p. 27). Researchers established a baseline for students in the study by testing them at the beginning of the school year, followed by an end-of-the-year test to determine outcomes. “Beginning in 2003, the researchers identified AC programs that had selective admission criteria which resulted in a potential pool of 165 programs in 12 states” (p. 20). The study was administered during the 2004-2005 and 2005-2006 school years. The focus was kindergarten through 5th grade in schools where there was at least one eligible teacher per grade level with certification from an AC and a TC program.

To be eligible, teachers (1) had to be relative novices (three or fewer years of teacher experience prior to 2004-2005, five or fewer years prior to 2005-2006); (2) had to teach in a regular classroom (for example, not in special education classrooms); and (3) had to deliver both reading and math instruction to all their students. (p. 20)

Under these criteria, the final sample included a total of 174 teachers, 87 from each type of certification. The majority of school districts were located in urban areas in seven different states. The principle findings from this study indicated that:

There were no statistically significant differences between the AC and TC teachers in this study, in their average scores on college entrance exams, the selectivity of the college that awarded their bachelor’s degree, or their level of educational attainment, and that there was no statistically significant difference in performance between students of AC teachers and those of TC teachers. (p. 28)

The authors of this study present this as valid proof that AC programs are providing an additional method to place quality teachers in public schools, and those critical of AC should recognize the importance of alternative routes to teacher certification. The increasing need for teachers, especially in hard-to-staff schools, necessitates multiple options for addressing the shortage, while providing quality instruction in all public schools.

Wayman, Foster, and Mantle-Bromley (2003) examined Colorado's AC program known as Teachers in Residence (TIR), which allows non-certified individuals to teach while earning their certification during 2001. Their study compared the concerns held by first year teachers from traditional routes for certification to first-year teachers in Colorado's TIR program. Any person beginning a career will experience anxiousness, and first-year teachers are no exception. The concerns associated with first-year teachers from traditional certification programs have been the focus of prior studies, and Wayman et al. sought to determine the concerns of first-year AC teachers to determine if there were correlations.

This study included 237 TC first-year teachers and 154 AC teachers, in Colorado, during their first year of teaching who were asked to respond to statements on a scale of 1- 5, 1 (caused apprehension) to 5 (caused high level of apprehension). The areas of focus included 'effective instruction, classroom environment, and collegial relationships.' (p. 36).

Results were analyzed in an item-to-item comparison using a t-test to determine if significant differences in the level and types of concerns expressed by first-year teachers existed between teachers with TC and AC. The researchers found little difference in the

ranking of concerns regardless of the route to teacher certification. “Discipline and differentiated instruction were the concerns which ranked highest among all teachers. Differences were found between AC and TC teachers in adjusting to school culture” (p. 36). However, AC teachers ranked all areas higher in concern than TC teachers in the areas associated with instructional strategies and pedagogy. This is of importance, since many AC programs do not provide as much content and training in these areas as do most TC programs and could be a factor in leading to the higher level of concerns expressed by those following an AC route to teacher certification.

In an attempt to examine the quality of current teachers entering classrooms through alternative routes to teacher certification, Adcock and Mahlios (2005) conducted a study of AC teachers in several Midwestern states, which included in-depth demographic information about the participants of AC programs. “The study included 101 teacher preparation programs which included a total of 6,617 graduates, 94% from a TC program and only 5.8% from an AC program” (p. 5).

Adcock and Mahlios (2005) found that participants of TC programs tended to be younger than those pursuing certification through an alternative route, although no major differences were found between TC and AC programs in regard to gender or ethnicity with one exception. More American Indians were enrolled in AC programs than in TC programs. One area of difference researchers observed was a consistency among TC candidates, in that they expressed a strong desire to return to the type of school they attended as a child, which was usually “suburban, largely white, and middle class” (p. 9). The final conclusions from this study were that first-year teachers must receive intensive preparation, support, and mentoring, regardless of the route to certification. The overall

data provided by this study depicts a much more positive image of AC programs by providing a more balanced assessment of the AC programs in the Midwestern states included in this study.

A 2003 study by Sokal, Smith, and Mowat investigated attitudes toward classroom management, a common concern for all teachers regardless of the route used to achieve certification or the years of classroom experience. Previous studies had examined the development of attitudes regarding classroom management in TC teachers, but little had been done with teachers from AC programs. “The study examined and described the development of attitudes concerning classroom management in teachers enrolled in AC programs” (p. 8). According to this study, “attitudes toward classroom management fit into three broad categories: noninterventionist, interactionist and interventionist” (p. 9). These three do not exist in a pure form, but rather are practiced at varying levels and are often blended together to create a model which ranges from low teacher control to one of high teacher control. “Most teachers will lean toward the use of one more often and in greater levels within his or her classroom, thus establishing their attitude toward classroom management” (p. 9).

To determine how and which attitudes regarding classroom management developed and are most often used by those in AC programs, Sokal et al. (2003) designed and included “82 students enrolled in the same AC program, all held a baccalaureate degree prior to enrollment in the AC program” (p. 10). While all study participants were in the same AC program, they were not all at the same point in the program. Sokal et al. noted that “38 had just begun the program, 27 had completed the first year of a two-year program, and 17 had completed the entire two-year program; however, none of the

participants had begun their teaching career” (p. 11). Students were asked to complete the Attitudes and Beliefs in Classroom Control Inventory (Martin, Yin, & Baldwin, 1998), as well as demographic data. The inventory used a 4-point Likert scale, with statements divided into three major aspects of classroom management as dependent variables: “(1) instructional management, (2) people management and (3) behavioral management” (p. 12). The results according to Sokal et al. (2003) indicated that AC teachers do not follow the same attitudinal development as do individuals in TC programs. Additionally, it was found that students enrolled in AC programs in their 20s demonstrated more change in attitudes concerning classroom management than AC teachers in their 30s and 40s.

Recent analyses by Feistritzer (2007) indicate that the establishment of alternative certification teacher programs has made an impact on teacher education. Trend data suggest that alternative certification will continue to produce a substantial percentage of the new teachers entering America’s classrooms into the 21st Century. Only two states, Alaska and Oregon, do not have an alternative certification program. This report also shows that several states, including Kentucky, are experiencing increases in the number of new teachers being produced through some type of alternative certification program. “New Jersey reports that 40 percent of new hires are from alternative routes, and Texas and California report about one-third of their states’ new hires come through alternative routes” (p. 2).

A report by Feistritzer et al. (2011), through the National Center for Educational Information, provides more in-depth information on the effect that alternative certification is having on the demographics of teachers and their attitudes. According to their report, Feistritzer et al. show that women still dominate the teaching profession at 84

% Yet, alternative certification programs “produce a higher proportion of male teachers” (p. 12). The report also indicates that alternative programs produce a 17% increase in minority recruitment into the teacher profession. During the past five years, according to their study, Feistritzer et al. found that 4 of every 10 new hires have been produced through an alternative program. The growth of alternatively certified teachers in the teaching profession could become a powerful influence in reshaping the educational landscape. Teachers certified through a traditional certification program and those from an alternative route have very different stands on some of the more controversial proposals to improve education such as tenure, merit pay, and seniority (Figure 1).

Teachers' Opinions on Educational Reform Proposals

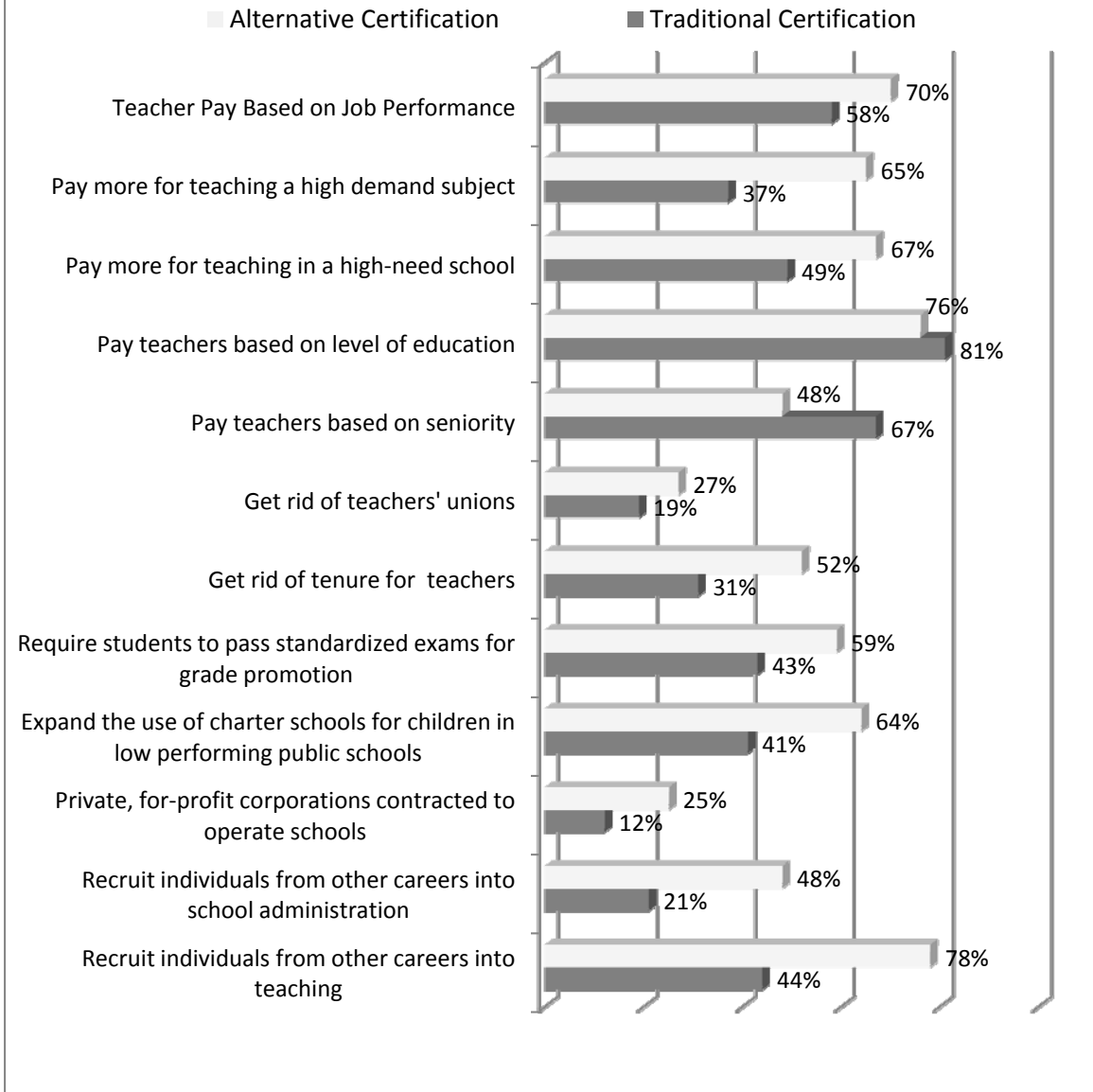


Figure 1. Opinions on Educational Reform (Feistritzer et al., 2011)

As can be seen in the data in Figure 1, many of the conventional positions held by educators on teacher pay, tenure, school administration, and teacher recruitment are not shared by many of the new teachers entering the profession from alternative routes. Holding starkly different views should not alone be the basis for suspicion or opposition

to the growth of alternatively certified teachers entering today's classrooms. Educators have long fought for the right to freely express ideas and views that may have gone counter to established norms as a part of academic freedom. However, protecting the integrity of public education as a stalwart in the preservation of American society is critical. The need to provide the best possible teachers for the students in our nation's classrooms necessitates that we consider every available option, including alternative routes for certification. The focus on teacher preparation also must ensure the continued assessment and professional development of traditional routes as well. This is why it is important to continually examine all the methods used to prepare individuals to become teachers.

Conclusion

The growing demand for education accountability at all levels, along with the development of new methods for teacher evaluation and student assessment, provides the impetus for studying the methods used to gain teacher certification. A study to determine if potential differences exist between traditionally and alternatively certified teachers, is warranted with the growing impact of alternative certification on teaching and teachers along with a review of traditional certification programs. The 2011 study by the National Center for Alternative Certification declares that, "There is mounting evidence that alternative certification routes are growing at an increasingly fast pace. A flurry of academic research is now underway to determine the effectiveness of individuals entering the teaching profession through alternative routes" (p. 3). However, it is equally important to ensure that traditional methods for teacher certification are preparing teachers for the challenges they will confront as they enter the modern-day classroom.

CHAPTER III: METHOD

The focus of this study is to investigate if differences exist between teachers in Kentucky's K-12 classrooms relevant to the method they followed to achieve teacher certification, either Alternative Certification (AC) or Traditional Certification (TC), as determined and defined by the Education Professional Standards Board (EPSB, 2011). Improving the quality of education in America's schools has become a major focus for educational policymakers at all levels today. Harris and Sass (2007) focused on various types of teacher training, the resulting level of teacher quality, and the impact it had on student achievement. They acknowledge, "That even after decades of research there is no general consensus on what factors enhance or signal teacher quality" (p. 2).

Additionally, a major component of NCLB is the requirement that, in every classroom, the teacher must be classified as "highly qualified," as defined by NCLB. However, this study will not attempt to link student performance or student assessment scores as outcomes of teacher quality. As prior studies have shown (Anonymous, 2004; Baker et al., 2010; Nye, Konstantopoulos, & Hedges, 2004; Sawchuk, 2011), it is difficult to isolate student achievement as the outcome measure of teacher quality. Numerous extraneous variables impact student achievement including, but not limited to, the student's own ability and interests, the power of peer influence among students, and the school's climate and culture. Moreover, rarely are students assigned to teachers or classrooms under typical scientific research criteria. Furthermore, establishing a pure control group in a school for the purpose of determining if one teacher or method of instruction was more effective, would be considered unethical.

The focus of this study is to determine if differences exist in the areas of teacher efficacy, job satisfaction, and self-reflection on job performance between teachers who were certified following a TC program and those certified by an AC method. This study also will seek to gather demographic data on the teachers participating in this study, which could provide additional insight into teachers selecting TC and AC programs. Demographic data to be collected will include gender, age, ethnicity/race, previous work experience, education level held prior to beginning the selected teacher preparation program, current year in teaching, grade level taught, and subject matter taught. Teachers also will be asked to indicate the likelihood that they will remain in teaching or seek other employment outside of education.

This study also will seek to determine if there is a difference in principals' perceptions regarding job performance on the 10 Kentucky Teacher Standards established by the Education Professional Standards Board between TC and AC teachers employed in their schools. The 10 Kentucky Teacher Standards (Appendix C) are the basis for most school districts' formal evaluation plans for certified teachers, as well as for the Kentucky Teacher Internship Program (KTIP). Each of the standards provides a descriptor of the primary focus of that standard along with sub-divisions that provide specific defining language of how the standard could be successfully demonstrated. More details regarding the 10 Kentucky Teacher Standards will be discussed later in this chapter.

This study investigates these areas using the following questions:

1. Are there significant differences between teachers who were certified through a traditional teacher certification program and those teachers who were certified through an alternative program for teacher certification in the following areas?
 - a. teacher efficacy
 - b. job performance
 - c. job satisfaction
2. How does the teacher's certification method affect each of the outcome measures (i.e., teacher efficacy, job performance, and job satisfaction) when the factor is combined with a set of teachers' demographic variables (age, current year in teaching, and grade level taught)?
3. Are there significant differences in principals' perceptions of teacher performance on the 10 Kentucky Teacher Standards between teachers who were certified through a traditional teacher certification program and those teachers who were certified through an alternative program for teacher certification?
4. How does the teacher's certification method affect the principal's perceptions of teacher performance when the factor is combined with a set of the principal's demographic variables (years in education, years as a principal, and current administrative assignment by grade and/or school level)?

Participants

This study will focus on the 36 school districts which make up the Green River Regional Educational Cooperative (GRREC). There are a total of 271 schools comprised of 137 elementary schools, 5 intermediate schools, 43 middle schools, 42 high schools,

37 alternative schools, and 7 vocational and technical schools within GRREC (Appendix B).

The 36 school districts that make up GRREC contain many of the same characteristics found in the majority of schools across Kentucky. All of the districts are structured following traditional school divisions of an elementary school, a middle school, and a high school, with the exceptions of Hart and Logan Counties. Hart and Logan Counties each has five elementary schools that house grades preschool through 8th grade. Logan and Hart Counties each has only one high school that receives their students upon completion of the 8th grade at their elementary schools. Several of the larger districts have multiple elementary schools; Warren and Hardin Counties have the most with 13, followed by Daviess County with 12. Meade and Barren Counties have eight and seven elementary schools, and Ohio County and Owensboro Independent each has six. All of the GRREC school districts contain a single high school, with the exceptions of Daviess and Meade Counties which have two high schools, Hardin with three high schools, and Warren County which has the most in the region with four high schools. It is notable that, within the GRREC districts, the number of alternative schools totals 37. The Warren County School District has the greatest number of alternative schools, with a total of six, followed by Hardin and Daviess Counties each with four.

There are a total of 8,059 certified teachers currently employed in the 36 school districts across the GRREC region. As shown in Table 1, the cumulative number of teachers earning TC and AC across the GRREC region are 6,383 and 1,676, respectively. According to the Kentucky Department of Education website, the first year that AC teachers were employed in the GRREC region was during the 2002-2003 school year,

when a total of 28 AC teachers were employed in 15 of the 36 districts. During the most recent school year 2010-2011, there was a total of 194 AC teachers employed across 36 GRREC school districts. The number of AC teachers employed by districts across the GRREC region at the beginning of the school year 2002-2003 through the school year 2010-2011 is shown in Appendix C. The growth of AC teachers employed within the GRREC school districts is consistent with the growth pattern of AC teachers across the entire state of Kentucky.

This study will focus on comparing the responses of TC and AC teachers regarding teacher efficacy, job satisfaction, and job performance (reflected on self-assessment on the 10 Kentucky Teacher Standards).

Table 1

Number of Teachers in GRREC School Districts by Gender, Ethnicity, and Teacher's Certification Method

	<i>N</i>	<i>%</i>
Gender		
Male	1,672	21
Female	6,387	79
Ethnicity		
White	7,848	97
Black	151	2
Asian	15	.02
Indian	2	.001
Hispanic	36	.04
Other	6	.008
Teacher Certification (2002-2010)		
Traditional	6,383	79
Alternative	1,676	21

Note. The original source of the descriptive statistics reported in this table can be found at the Education Professional Standards Board (EPSB, 2011).

Measures

The teacher efficacy instrument (Appendix J) used in this study is the Teacher Efficacy Scale (short form) developed by Hoy and Woolfolk (1993). The scale has 10 items scored on a 6-point Likert scale from “Strongly Agree” to “Strongly Disagree.” According to the instrument’s manual the results consistently show three correlated

factors: “efficacy in student engagement, efficacy in instructional practices, and efficacy in classroom management” (p. 799). Internal consistency of the instrument was assessed as an index of reliability. The alpha value (α) for the overall measure was .90, indicating that the instrument is highly reliable. Alpha values reported for the three subsection areas were .81, .86, and .86 for engagement, instruction, and management, respectively.

Job performance will be measured through the use of two different survey forms: teacher’s survey (Appendix D) and principal’s survey (Appendix E). First, the teacher survey asks teachers to self-reflect on the frequency of their application of the 10 Kentucky Teacher Standards. Second, the principal’s survey asks principals to provide their perceptions of teachers’ performances on the 10 Kentucky Teacher Standards. The 10 Kentucky Teacher Standards were established by the Education Professional Standards Board and the state agency with the statutory authority to issue teacher certification in the state of Kentucky. The 10 Kentucky Teacher Standards address multiple facets of teacher performance. For instance, Standard 1 focuses on (1) Content Knowledge and provides five sub-points which include: (1.1) communicates content accurately, (1.2) connects content to real-life, (1.3) uses appropriate strategies with content delivery, (1.4) provides various perspectives in presenting content, and (1.5) identifies and clarifies student misconceptions regarding content (see <http://www.kyepsb.net> for more details). Standard 2 addresses planning and designing authentic instruction and has five sub-domains. Standard 3 focuses on the learning environment and also includes five sub-standards. Standard 4 refers to the implementation and management of instruction and has five sub-domains. Standard 5 concentrates on assessment and communication of assessment results; it also is the first

standard to have six sub-categories. Standard 6 focuses on technology use by both the teacher and students and has five sub-domains. Standard 7 deals with teacher reflection and analysis; it has three sub-standards. Standard 8 addresses the issue of collaboration and has four sub-domains. Standards 9 and 10 focus on professional development and leadership. Standards 9 and 10 have only four sub-domains. A complete listing of all 10 of the standards and their sub-domains can be found in Appendix F.

As shown in Appendix D, the teacher survey also asks teachers to respond to specific demographic questions: (1) route followed to achieve teacher certification, traditional or alternative; (2) age; (3) gender; (4) race/ethnicity; (5) career/employment prior to entering a teacher education program; (6) educational level prior to entering a teacher education program; (7) current year in teaching; (8) current grade level taught; (9) subject taught; and (10) the likelihood of staying in teaching. Job satisfaction will be assessed based on the response to the question, “How satisfied are you with your job?” using a 5-point Likert scale ranging from one for highly dissatisfied to five for highly satisfied.

The principals’ survey (Appendix E) will use the 10 Kentucky Teacher Standards as the basis for the responses coded on a 5-point Likert scale ranging from one for very ineffective to five for very effective. Principals will rank their overall perception of teachers with whom they have worked and supervised from each of the two methods for teacher certification. Principals also will be asked four demographic questions: (1) years as a building principal, (2) school level, (3) years in the classroom before becoming an administrator, and (4) method they received teacher certification.

Procedures

With approval from the Internal Review Board of Western Kentucky University (Appendix A), the researcher e-mailed each of the 36 superintendents in the GRREC region (Appendix G) request permission to contact building principals within their districts in order to requesting their participation in this study. Once consent had been received from the superintendents, principals were sent letters (Appendix H) that explained the study and requested their participation. Permission also was requested to send invitations to eligible teachers in their schools (Appendix I) to participate in this study. Principals were provided a link in the e-mail letter to access Survey Monkey, an online survey website. This researcher had uploaded the survey to this website. A copy of the survey questions are found in Appendix E, Principal's survey form. The survey instrument used the 10 Kentucky Teacher Standards adopted by the Education Professional Standards Board as the state agency responsible for teacher certification in Kentucky. The 10 Kentucky Teacher Standards can be found in Appendix F. Principals were asked to provide a rating of their perceptions of teacher effectiveness using a 5-point Likert scale ranging from one for very ineffective to five for very effective. This rating was to be based on a collective perception formed by the principal's work with AC and TC teachers during the principal's administrative tenure.

After receiving permission from both their superintendent and principal, teachers received a letter of invitation (Appendix I) to participate in the study. The letter included a brief explanation, purpose, and potential benefits of the study. Teachers also received a link to Survey Monkey, the same online website used by their principals. Teachers were asked to respond to the teacher survey (Appendix D). The survey included questions on

teacher efficacy and sought to determine how much each teacher felt they could contribute to their students' learning. The survey also included questions for self-reflection based on the 10 Kentucky Teacher Standards. The survey asked teachers to respond to a question regarding job satisfaction and to provide specific demographic data that could determine information regarding the general characteristics of teachers certified by an AC program. The demographic data collected included gender, race/ethnicity, previous work experience, education level held prior to beginning the selected teacher preparation program, current year in teaching, grade level taught, and subject matter taught. Teachers were additionally asked to indicate the likelihood they would remain in teaching or seek other employment outside of education.

Data Analysis

The purpose of Research Question 1 is to determine if levels of significance exist between the AC teachers and TC teachers in the means scores from each of the survey instruments in the areas of teacher efficacy, job satisfaction, and self-assessment of job performance. A series of *t*-tests will be used to answer this question. Teacher efficacy, job satisfaction, and teacher self-assessment regarding job performance will be the dependent variable in each of the *t*-tests. The method selected by the teachers in the study to acquire teacher certification, either a traditional certification program or an approved alternative route for certification, will be the independent variables in this study. Teachers will self-assess their performance on the 10 Kentucky Teacher Standards, thus, producing a score for each of the standards. One method would be to run 10 separate independent sample *t*-tests for each of the teacher standards as the job performance measure. However, by creating an average score based on teachers' responses to the 10 Kentucky

Teacher Standards, data analysis would be accomplished with the use of a single *t*-test. This would be completed by comparing the results between the averages of teachers depending on the route used to receive teacher certification. The potential score for job performance based on teacher responses to the 10 Kentucky Teacher Standards would generate a range from a low of 10 to a high of 50. Teachers were asked to rate their own performance on each of the 10 standards using a 5-point Likert scale ranging from one for “never” to five for “regularly/daily.”

Research Question 2 addresses the effect of teacher certification method (AC or TC routes) on each of the three outcome measures after controlling teachers’ demographic factors of age, years in teaching, and grade level taught. Three separate multiple regression models for teacher efficacy, job satisfaction, and job performance will serve to answer Research Question 2. The analyses for Research Question 2 would be a regression model with the DVs = teacher efficacy, job performance, and job satisfaction and IVs = method for teacher certification, age, years in teaching and grade level taught. Comparing the results from Research Question 1 with the results in research question 2 will assist in determining the effects of teacher certification, while simultaneously considering the effects of demographic factors. Entering the demographic factors in Step 1 and entering teacher certification in Step 2 will result in a hierarchical regression approach and will produce an increment in *R*-square from Step 1 to Step 2. This increment should indicate whether teacher certification increased the prediction of the dependent variable (teacher efficacy, job performance, or job satisfaction) after accounting for prediction by demographic factors. Alternatively, the opposite order could be specified. The increment in *R*-square obtained from this order of variable entry would

indicate whether demographic factors predicated the dependent variable beyond the effects of teacher certification. In both orders, the final step in regression will provide information regarding the unique predictive effects of teacher certification and demographic factors considered simultaneously.

Research Question 3 seeks to determine if there are significant differences in principals' perceptions of teacher performance on the 10 Kentucky Teacher Standards between AC and TC teacher groups. Similar to the analyses for Research Question 1, a *t*-test will be used to answer the question. The teacher certification method, either a traditional certification program or an approved alternative route for certification, will be the independent variable; and the dependent variable will be principals' perceptions of teacher performance on the 10 Kentucky Teacher Standards in this analysis.

The primary concern of Research Question 4 is to evaluate how the teacher's certification method affects the principal's perceptions of teacher performance when the factor is combined with a set of principal demographic variables (years in education, years as a principal, and current administrative assignment by grade and/or school level). In a multiple regression model, principals' perceptions of teacher performance will be analyzed by the teacher's certification method as a predictor and a set of principals' demographic variables as control variables. The analyses for Research Question 4 would be a repeated measure analysis of variance with the DVs = job performance and IVs = method for teacher certification, years in education, years as a principal, and current administrative assignment. Comparing the results from Research Question 3 with the results in Research Question 4 will assist in determining the effects of teacher certification while simultaneously considering the effects of demographic factors.

Entering the demographic factors in Step 1, and entering teacher certification in Step 2, will result in a hierarchical regression approach and will produce an increment in *R*-square from Step 1 to Step 2. This increment should indicate whether teacher certification increased the prediction of the dependent variable (job performance) after accounting for prediction by demographic factors. Alternatively, the opposite order could be specified. The increment in *R*-square obtained from this order of variable entry would indicate whether demographic factors predicted the dependent variable beyond the effects of teacher certification. In both orders, the final step in regression will provide information regarding the unique predictive effects of teacher certification and demographic factors considered simultaneously.

Dummy Coding

This study includes two categorical variables with two or more levels on each. Multi-level categorical predictor variables cannot be entered directly in a regression model and be meaningfully interpreted, thus additional steps are needed. The categorical variables must be recoded into a number of separate dichotomous variables called dummy codes. The dummy coding scheme was used for current school level taught (elementary, middle, high, and other).

Using dummy coding, a categorical variable with k levels is transformed into $k-1$ variables each with two levels. Setting the first level on the predictor (i.e., elementary as a reference value in the coding scheme, level) the three dummy variables are created for the school level as:

$$Z'_1 = \begin{cases} 1 & \text{if level = middle} \\ 0 & \text{otherwise} \end{cases}$$

$$Z'_2 = \begin{cases} 1 & \text{if level = high} \\ 0 & \text{otherwise} \end{cases}$$

$$Z'_3 = \begin{cases} 1 & \text{if level = other} \\ 0 & \text{otherwise} \end{cases}$$

Description of the Variables

Table 2 summarizes types of variables used to answer each of the research questions.

Table 2

Types of Variables Used in the Study

Research Question	DV	IV		Statistical Method
	Dependent Variable	Target Variable	Control Variable	
1. Are there significant differences between teachers who were certified through a TC program and those teachers who were certified through an AC program in teacher efficacy, job performance, and job satisfaction?	teacher efficacy, job performance, and job satisfaction	teacher's certification method (AC or TC)		<i>t</i> -test
2. How does the teacher's certification method affect each of the outcome measures (i.e. teacher efficacy, job performance, and job satisfaction) when the factor is combined with a set of teachers' demographic variables (age, ethnicity/race, previous work experience, education level, current year in teaching, grade	teacher efficacy, job performance, and job satisfaction	teacher's certification method (AC or TC)	teacher's age, ethnicity/race, previous work experience, education level, current year in teaching, grade level and subject taught	multiple regression analysis

level, and subject matter taught)?				
3. Are there significant differences in principals' perceptions of teacher performance on the 10 Kentucky Teacher Standards between teachers who were certified through a TC program and those teachers who were certified through an AC program for teacher certification?	principal's perception of teacher performance	teacher's certification method (AC or TC)		<i>t</i> -test
4. How does the teacher's certification method affect principal's perception of teacher performance when the factor is combined with a set of principals' demographic variables (years in education, years as a principal, and current administrative assignment by grade and/or school level)?	principal's perception of teacher performance	teacher's certification method (AC or TC)	principal's years in education, years as principal, current administrative assignment	repeated measures analysis of variance

Conclusion

Determining if significant levels of differences exist in teacher efficacy, job satisfaction, and teacher's self-assessment may provide insight into both TC and AC programs. According to Stronge (2007), teacher efficacy is an important attribute held by effective teachers and the; "truly effective teacher believes that all students can learn . . . they also believe they must know their students, their subject and themselves" (p. 29). Additionally, job satisfaction and motivation are indispensable if long-term growth is to be achieved in our educational system. According to a study by Ololube (2006), "job satisfaction ranks alongside knowledge, skills, resources, and strategies" (p. 1) in the impact each contributes toward successful performance in an educational setting. The

balance between employee investment and employee rewards, according to Adams' (1963) equity theory (as cited by Ololube), directly contributes to job satisfaction and motivation. Clarifying whether the selected method for teacher certification has an impact on teacher satisfaction is an important consideration due to the growth of AC programs. Furthermore, an examination of levels of job satisfaction for both AC and TC teachers could provide insight for attracting individuals into the teaching profession. Finally, there is a growing movement toward self-assessment and reflection as a part of teacher evaluation and individual professional growth. Authentic self-assessment by teachers is linked to the growth of increased teacher efficacy and provides a guide for goal setting and sustained effort for professional growth (Ross, 2007). The ability to accurately assess one's own performance could provide ongoing feedback necessary for positive professional growth. Typically, most teachers receive evaluative insight based on one to three observations during a school year. The traditional observation model is "plagued by the limitations of the human being doing the observation: There's only so much the eyes can see, ears can pick up, or pens can record in a given moment" (Waters, 2011). The recognition of the power of self-assessment by teachers in their own professional growth has resulted in the development of a new tool for self-assessment.

Dubbed *Reflect*, the system marries a 360-degree digital video camera with an online software package *Teachscape*. The result is a classroom observation tool that captures a panoramic view of a lesson and makes it available on the web via password-protected video sharing and management software. . . . The system uses two high-definition digital cameras and two wireless microphones. One microphone is worn by the teacher and the other microphone is designed to pick up student discussions and

student-teacher interaction. One camera focuses on what's going on at the front of the classroom, while the other one grabs a 360-degree panoramic video of the entire classroom. . . . *Teachscope* insists that self-reflection and evaluation is the primary use for the *Reflect* technology. (pp. 34-36)

This cutting-edge approach is being piloted by the Gates Foundation and was launched in 2009.

Today, current trends have increased the focus of educational reform on the quality of teachers and teacher training. This investigation into the levels of self-efficacy, job satisfaction, and self-assessment held by teachers and the perception of their principals regarding teachers' performance on the 10 Kentucky Teacher Standards is an important area for consideration. Comparing those levels to the method selected to achieve teacher certification, and determining if significant differences are observed, could provide insight into both AC and TC teacher preparation programs.

CHAPTER IV: RESULTS

To determine if differences existed between teachers certified through an alternative certification program and teachers certified through a traditional teacher preparation program, this study compared the levels of teacher efficacy, job performance, and job satisfaction between each group. This study also examined the perceptions of building principals regarding the job performance of teachers certified by an alternative certification method compared to the job performance of teachers certified through a traditional certification program. Teachers and principals were surveyed to measure perceptions and preferences.

The survey (Appendix K) was sent to 208 building principals in the 32 Kentucky school districts in the Green River Regional Educational Cooperative (GRREC) agreeing to participate in this study. Principals had two weeks to complete the survey. A follow-up reminder e-mail was sent three days prior to the close of the survey. A total of 106 principals responded to the survey, resulting in a response rate of 51%. Principals were also asked to forward the teacher survey to the teachers in their buildings. Teachers also had two weeks to respond to their survey. A follow-up reminder e-mail was sent by this researcher to the teachers near the end of the survey window. The 208 schools within the 32 districts agreeing to participate in the study included a total possible population of 5,894 certified teachers. According to data from the Kentucky Education Professional Standards Board, the 32 participating districts employ a total of 1,200 teachers certified through an alternative certification program, and the remaining 4,694 teachers were certified through a traditional teacher training program. A total of 1,138 teachers responded to the survey, resulting in a response rate of 19%. From the 1,138 teachers responding, 960 teachers (85.4 %) indicated they received their teacher certification

through a traditional teacher education program, 164 teachers (14.6 %) indicated they had followed an alternative route to gain teacher certification, and 14 individuals elected not to respond to this question. The percentage of teachers certified by each method in the sample population of this study was consistent with national trend data reported by Feistritzer, Griffin, and Linnajarvi (2011): “in 2011 teachers following a traditional certification program comprised 84% of the teaching profession, while teachers from an alternative method totaled 16%.” Table 3 shows the demographic data that were used as independent variables in the analysis of Research Question 2.

Table 3

Demographic Information of Participating Teachers (N = 1,138)

Variable	Level	N	%
Age	20-24	66	5.8
	25-29	162	14.3
	30-34	160	14.1
	35-39	140	12.3
	40-44	191	16.8
	45-49	135	11.9
	50-54	144	12.7
	55-59	91	8.0
Current year in teaching	60-Older	45	4.0
	1 st	59	5.2
	2 nd	66	5.8
	3 rd	55	4.9
	4 th	43	3.8
	5 th	42	3.7
	6-10	251	22.1
	11-15	182	16.0
Grade level taught	16-20	171	15.1
	+20	265	23.4
	Elementary School	462	40.8
	Middle School	209	18.5
	High School	379	33.5
	Other	81	7.2

Appendix L reports additional demographic data gathered from teachers agreeing to participate in this study. This data includes gender, race, education level, employment held prior to beginning a teacher preparation program, and the subject area currently taught by the individuals responding to the study. Demographic data gathered from this sample population during this study is similar to many of the national trends found in Feistritzer et al. (2011). They discovered that the teaching profession is overwhelmingly dominated by females (84%) and Caucasians (84%). Their study also indicated an increase in the number of teachers with one to five years of experience (26%), which was consistent with the sample population in this study (23%), signifying a shift in the level of experience found in many schools across both the nation and the GRREC region. Appendix L reports the specific sample demographics that confirm the consistency between national trends and the sample set, with the majority of teachers responding to the survey being female (78.1%) and Caucasian (97%). Teachers participating in this study were relatively equally distributed in age ranging from 25 to 54, as shown in Table 3. In regard to the number of years in teaching, the largest portion of the respondents indicated 20 or more years (23.4%), followed by teachers with 6-10 years (22.1%), as shown in Table 3. The grade level most often represented was the elementary level (40.8%), and special education was the area most often taught by respondents (22.2%).

Principal demographics are presented in Table 4 and include years of administrative experience, primary administrative responsibility, number of years as a teacher before becoming a principal, and the method followed to receive their initial teacher certification. In regard to administrative experience, first-year principals

represented the smallest percentage of the sample (15.4%); principals with 2-5 years experience represented the largest percentage of the sample (35.6%).

Table 4

Demographic Information of Participating Principals (N = 106)

Variable	Level	N	(%)
Years as a principal	1 st year	16	15.4
	2-5 years	37	35.6
	6-10	29	27.9
	10+ years	22	21.2
Grade Level	Elementary	40	38.5
	Middle School	27	26.0
	High School	32	30.8
	Other	5	4.8
Years Experience	1-5	17	16.3
	6-10	48	46.2
	11-15	22	21.2
	16-20	10	9.6
	+20	7	6.7
Method for certification	Alternative Certification	5	4.9
	Traditional Certification	98	95.1

Elementary principals represented the largest percentage of the sample (38.5%). The total number of years in the classroom before becoming a principal revealed that 5-10 years was the highest percentage (46.8%). It was interesting to note the percentage of principals

with only 1-5 years teaching experience (16.3%) prior to the move into administration due to the graduate level course work needed to acquire administrative certification.

Analysis of Research Question 1

The independent variable associated with the first hypothesis was the method used to receive teacher certification, either an alternative certification program or a traditional teacher education program. The first research question sought to determine if differences existed between teachers who were certified through an alternative method for teacher certification and teachers who were certified through a traditional teacher certification program in the following areas: job performance, job satisfaction, and teacher efficacy as the dependent variables. Teachers were asked to self-assess the frequency with which they performed each of the 10 Kentucky Teacher Standards using a Likert scale: 5 = regularly/daily, 4 = frequently/weekly, 3 = sometimes, 2 = seldom, and 1 = never. Teachers were asked to rate their level of satisfaction in the current teaching assignment using a Likert scale: 5 = highly satisfied, 4 = it's ok, 3 = neither satisfied nor dissatisfied, 2 = no real satisfaction, and 1 = highly dissatisfied. Finally, teachers were asked to respond to a series of questions regarding teacher efficacy using a Likert scale: 6 = strongly agree, 5 = moderately agree, 4 = agree slightly more than disagree, 3 = disagree slightly more than agree, 2 = moderately disagree, and 1 = strongly disagree. A composite score was obtained by computing a mean score for each of the two teacher groups based on the method selected to achieve their teacher certification regarding job performance, teacher efficacy, and job satisfaction.

Descriptive statistics and *t*-test results are summarized in Table 5 and show the *N* and mean for each tested variable according to the method to achieve teacher

certification. The level of teacher efficacy produced the highest rated item for traditionally certified teachers ($M = 4.31$) and job satisfaction produced the highest rated item for alternatively certified teachers ($M = 4.40$).

Table 5

Descriptive Statistics and t-Test Results for Efficacy, Job Performance, and Job Satisfaction

Variable	TC			AC			<i>t</i>
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	
Efficacy	861	4.31	.55	147	4.26	.54	1.11
Performance	892	4.27	.42	154	4.32	.37	-1.49
Satisfaction	957	4.29	.75	164	4.40	.78	-1.75

Note: AC= Alternative Certification, TC=Traditional Certification

This data was analyzed using an independent *t*-test. According to Levene's Test for Equality of Variance, equal variances were assumed for the two groups. The comparison found that there was no significant level of difference, $t = 1.11$ and $p = .949$, between teachers certified by an alternative method and teachers certified through a traditional method in the area of teacher efficacy. The comparison regarding job satisfaction indicated there was no significant level of difference, $t = -1.49$ and $p = .055$, between teachers certified by an alternative method and teachers certified through a traditional method in the area of job performance. The result for teacher efficacy found that there was no significant level of difference, $t = -1.75$ and $p = .237$ between teachers certified by an alternative method and teachers certified through a traditional method in the area of job satisfaction.

Analysis of Research Question 2

Research Question 2 investigated the selected demographic factors of teachers' age, years in the classroom, and school level taught (independent variables) were greater predictors of potential differences in teacher efficacy, job performance, and job satisfaction, as the dependent variables, than the method to achieve teacher certification. Correlation and multiple regression analyses (MRA) were conducted to examine the relationship between the dependent factors and the independent variables as potential predictors. Table 6 summarizes the descriptive statistics for teacher efficacy and the demographic factors of teacher age, years in the classroom, and school level taught. In this analysis the composite score for teacher efficacy was entered as the dependent variable, while the route to certification, teacher age, years of experience in teaching, and school level taught were entered as the independent variables (note: school level was dummy coded for elementary, middle, and high school).

Table 6

Descriptive Statistics of Selected Factors Related to the Level of Teacher Efficacy

Variable	<i>M</i>	<i>SD</i>
Efficacy	4.30	.55
Certification	.15	.35
Teacher age	4.68	2.21
Current year in teaching	6.37	2.37
Elementary	.40	.49
Middle	.19	.39
High	.34	.48

The resulting R-squared value of .016 indicates that 1.6% of the variation in composite teacher efficacy scores was predicted by the independent target variables: method for certification, teacher's age, years of classroom experience, and grade level taught. Table 7 presents the results of the MRA regarding teacher efficacy as the dependent variable with the teacher's route to certification, age, current year in teaching, and school level currently teaching as the independent variables.

Table 7

Multiple Regression Results for Teacher Efficacy (N = 999)

Variables	β	t	p .	VIF
Certification	-0.02	-0.56	0.58	1.14
Teacher age	0.02	0.44	0.66	2.21
Current year in teaching	0.08	1.57	0.12	2.36
Elementary	-0.06	-0.93	0.35	4.29
Middle	-0.06	-1.00	0.32	3.18
High	0.01	0.20	0.84	4.11

Since the VIF was less than 10 for each factor, the results indicated a lack of multicollinearity (Myers, 1990). The result of the MRA indicates that the certification method and the set of demographic factors (i.e., teacher's age, years of experience, and grade level taught) do not significantly contribute to the level of teacher efficacy.

The dependent variable of job performance was examined using correlation analysis and an MRA to determine if the set of predictors, including certification method,

and the demographic factors have influence on teachers' job performance. Descriptive statistics are presented in Table 8 for job performance and the selected demographic factors.

Table 8

Descriptive Statistics of Selected Factors Related to the Level of Job Performance (N = 1,037)

Variable	<i>M</i>	<i>SD</i>
Job performance	4.27	.41
Certification	.15	.35
Teacher age	4.68	2.20
Current year in teaching	6.38	2.36
Elementary	.41	.49
Middle	.19	.39
High	.34	.48

Table 9 presents the results of the MRA for job performance and the selected demographic factors of teacher's age, years of experience, and grade level taught. The resulting *R-squared* value of .042 indicates that 4.2% of the variation in composite job performance scores was explained by the predictor variables: method for certification, teacher's age, years of classroom experience, and grade level taught.

Table 9

Multiple Regression Results for Job Performance (N = 1,037)

Variable	β	t	$p.$	VIF
Certification	.04	1.11	.27	1.14
Teacher age	.10	2.15*	.03	2.20
Current year in teaching	-.11	-2.40*	.02	2.37
Elementary	-.04	-.65	.52	4.38
Middle	-.15	-2.79*	.01	3.21
High	-.22	-3.57*	.00	4.18

* $p < .05$

As shown in Table 9, the multicollinearity issue did not occur in this analysis since VIF values were less than 10 for all variables. The result of the MRA indicates that teacher age, current year in teaching, and grade level taught at middle and high school have influence on teachers' job performance level. However, route to certification and the grade level taught at the elementary level did not affect the level of job performance.

Table 10 summarizes the descriptive statistics for job satisfaction. In this analysis, job satisfaction was entered as the dependent variable, while the route to certification, teacher age, years of experience in teaching, and grade level taught were entered as the independent variables.

Table 10

*Descriptive Statistics of Selected Factors Related to the Level of Job Satisfaction
(N = 1,110)*

<i>Variable</i>	<i>M</i>	<i>SD</i>
Job satisfaction	4.30	.75
Certification	.15	.35
Teacher age	4.70	2.19
Current year in teaching	6.42	2.35
Elementary	.41	.49
Middle	.18	.39
High	.34	.47

The resulting *R-squared* value of .027 indicates that 2.7% of the variation in composite job satisfaction scores was accounted for by the predictor variables: method for certification, teacher's age, years of classroom experience, and grade level taught. The results of the MRA regarding job satisfaction as the dependent variable, with the teacher's route to certification, age, current year in teaching and school level currently teaching as the independent variables, are presented in Table 11.

Table 11

Multiple Regression Results for Job Satisfaction (N = 1,110)

Variable	β	t	p .	VIF
Certification	.03	.93	.35	1.14
Teacher age	.12	2.81*	.01	2.20
Current year in teaching	-.14	-3.02*	.00	2.37
Elementary	.08	1.30	.19	4.09
Middle	-.07	-1.28	.20	3.00
High	-.03	-.47	.64	3.87

* $p < .05$

The result of the MRA found statistically significant effects of teacher's age and years of experience on the area of job satisfaction. However, route to certification and the grade level taught were not found to be significant predictors for job satisfaction level. Since the VIF was less than 10 for each factor, the results indicated a lack of multicollinearity.

Analysis of Research Question 3

Research Question 3 explored the possibility of differences in principals' perceptions of job performance related to the 10 Kentucky Teacher Standards based on the method to achieve teacher certification. Principals used a 5-point Likert scale: 5 = very effective, 4 = effective, 3 = somewhat effective, 2 = ineffective, 1 = very ineffective to rate their perception of teacher performance on each of the 10 Kentucky Teacher Standards based on either alternative teacher certification or traditional teacher certification. A series of paired t-test was used to compare responses for each of the 10

Kentucky Teacher Standards with regard to the two teacher groups. The mean, standard deviation, and *N* for each are shown in Table 12.

Table 12

Principals' Perceptions of Teacher Performance on the 10 Kentucky Teacher Standards

KY Teacher Standard	<i>N</i>	TC		AC		<i>t</i>
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Standard 1: Content Knowledge	101	4.27	.51	3.62	.94	7.27*
Standard 2: Plans Instruction	99	4.17	.61	3.41	.90	8.33*
Standard 3: Maintains Learning Climate	99	4.14	.64	3.42	.86	7.99*
Standard 4: Manages Instruction	96	4.14	.57	3.40	.79	9.08*
Standard 5: Assess and Communicates Learning	99	3.97	.69	3.42	.90	6.90*
Standard 6: Technology Use	98	4.02	.69	3.83	.89	2.45*
Standard 7: Reflects and Evaluates Teaching	99	3.93	.64	3.52	.86	5.18*
Standard 8: Collaboration	100	4.00	.59	3.66	.79	4.28*
Standard 9: Professional Development	98	3.95	.66	3.54	.84	4.64*
Standard 10: Leadership	99	3.97	.66	3.53	.87	4.82*
Job Performance (Composite Score)	102	4.06	.49	3.55	.70	7.56*

**p* < .05

The standards dealing with instructional planning and classroom management, standards two, three, and four, produced the greatest difference in mean scores between alternatively certified and traditionally certified teachers. A composite score was generated from the results to create a score for overall job performance based on the selected route for teacher certification. The composite scores for job performance of principals' perception of overall job performance for alternatively certified teachers was

3.55, and principals' perception of overall job performance for traditionally certified teachers was 4.06.

The analysis of principals' rating of teacher performance on the Kentucky Teacher Standards indicated significant differences between the two teacher groups. Levels of significant differences between alternatively certified and traditionally certified teachers were found for all standards: Standard 1 ($t = 7.27$ and $p = .000$); Standard 2 ($t = 8.33$ and $p = .000$); Standard 3 ($t = 7.99$ and $p = .000$); Standard 4 ($t = 9.08$ and $p = .000$); Standard 5 ($t = 6.91$ and $p = .000$); Standard 6 ($t = 2.45$ and $p = .016$); Standard 7 ($t = 5.18$ and $p = .000$); Standard 8 ($t = 4.28$ and $p = .000$); Standard 9 ($t = 4.64$ and $p = .000$); and Standard 10 ($t = 4.82$ and $p = .000$). The principals' rating of overall teacher performance on the ten Kentucky Teacher Standards also suggested significant differences between the two teacher groups ($t = 7.56$ and $p = .000$), implying that principals' ratings of job performance differ between teachers certified through an alternative method and teachers certified by a traditional preparation program.

Analysis of Research Question 4

The objective of Research Question 4 sought to determine if the demographic factors of years of administrative experience; current level of administrative responsibility (elementary, middle, high, or other); and total years in education were a greater predictor for principals' perception of job performance than a teacher's method to achieve certification. A series of regression analyses was conducted as a preliminary analysis to determine the effect of the predictors (e.g., certification method) on each of the dependent measures, and none of the predictors showed significance. In the main analysis phase, a repeated measure analysis of variance (ANOVA) was used to examine

the principals' perception of job performance according to the method for teacher certification as within subject effect and years as principal, school level, and total years in education as between subject effects.

Descriptive statistics of the composite scores by the demographic factors are summarized in Table 13 for principals by school level and years as principal.

Table 13

Descriptive Statistics for Principals and Demographic Factors of School Level and Years as Principal (N = 101)

Principal's Rating	School Level	Years as a principal	<i>M</i>	<i>SD</i>	<i>N</i>	
Traditional Certification Job Performance	Elementary	1st year	3.74	.37	5	
		2-5 years	3.99	.19	12	
		6-10 years	4.02	.71	11	
		10+ years	4.11	.52	9	
		Total	4.00	.49	37	
	Middle	1st year	4.14	.56	7	
		School	2-5 years	4.01	.45	9
			6-10 years	4.01	.49	7
			10+ years	4.45	.64	4
			Total	4.11	.51	27
	High	1st year	4.03	.38	4	
		School	2-5 years	4.11	.53	11

(continued)

		6-10 years	4.03	.36	9
		10+ years	4.04	.67	8
		Total	4.06	.49	32
	Other	2-5 years	4.28	.55	4
		6-10 years	4.40	.	1
		Total	4.30	.48	5
	Total	1st year	3.99	.47	16
		2-5 years	4.06	.41	36
		6-10 years	4.04	.53	28
		10+ years	4.15	.59	21
		Total	4.06	.49	101
Alternative Certification	Elementary	1st year	3.37	.29	5
Job Performance		2-5 years	3.67	.40	12
		6-10 years	3.26	.77	11
		10+ years	3.80	1.00	9
		Total	3.54	.70	37
	Middle	1st year	3.58	.54	7
	School	2-5 years	3.68	.61	9
		6-10 years	3.44	.46	7
		10+ years	3.55	1.08	4
		Total	3.57	.61	27

(continued)

High	1st year	4.08	.22	4
School	2-5 years	3.65	.69	11
	6-10 years	3.44	.63	9
	10+ years	3.34	.95	8
	Total	3.57	.72	32
Other	2-5 years	3.23	1.34	4
	6-10 years	3.70	.	1
	Total	3.32	1.18	5
Total	1st year	3.64	.47	16
	2-5 years	3.62	.67	36
	6-10 years	3.38	.63	28
	10+ years	3.58	.97	21
	Total	3.55	.70	101

Note: N = 1 No Standard Deviation is Displayed

Examination of the mean scores for principals' ratings of job performance based on school level and years as principals indicated differences between teachers as a result of the route to certification. Elementary principals consistently produced higher mean scores for traditional certified teachers, except for elementary principals with 10+ years' experience who rated alternative teachers higher. However, the overall total group mean for elementary principals was higher for traditional teachers.

Examination of the mean scores for middle school principals indicates differences in mean scores for job performance composite scores based on the route for teacher certification. These findings were consistent at each level of principal's experience and

for the group mean for middle school principals, producing a higher mean for traditional teachers.

The mean scores for high school principals indicated differences in job performance composite scores based on the route for teacher certification. The mean score produced by first-year high school principals was slightly higher for alternative teachers. However the remaining mean scores for high school principals were consistently higher for teachers with traditional certification at all administrative experience levels for high school principals and at each level for total experience and total group mean.

The results presented in Table 13 for principals of schools identified as other included alternative schools, technical, and vocational schools. Examination of the mean scores for principals of schools identified as other indicated differences in mean scores for job performance composite scores based on the method to achieve teacher certification. The mean scores for principals at all levels of experience indicated higher scores for teachers with traditional certification.

Examination of the mean scores for principals of all school levels combined indicated differences in mean scores for job performance composite scores based on the method to achieve teacher certification. These findings were consistent at each level of principal experience. The total mean for principals was higher for traditional certified teachers.

The results of the repeated measures ANOVA are presented in Table 14 for the composite job performance scores. The Mauchly test statistic (1.000) was not significant

($p < .05$), so the sphericity-assumed F value was used to test significance for certification method, school level, years of administrative experience, and total years in education.

Table 14

ANOVA Results of Job Performance within Factors and Between Factors

Effect	Factor	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	η^2
Within	Method of certification	4.65	1	4.65	16.09*	0.23
	Error	15.32	53	.28		
Between	Years as principal	1.70	3	.56	.96	.05
	School level	.855	3	.28	.48	.02
	Total years in education	3.77	4	.94	1.60	.11
	Error	31.23	53	.58		

* $p < .05$

The significance within-subjects effects for composite scores of principals' perceptions of teachers' job performance ($F = 16.088, p < .05$) suggests that the composite score increased significantly depending on the method used to acquire initial teacher certification. Years as principal, school level, and total years in education did not suggest significant effects on principals' perceptions of teacher's job performance.

Summary

The purpose of this study was to determine whether differences existed between teachers certified through an alternative certification program and teachers certified through a traditional teacher preparation program with respect to teacher efficacy, job satisfaction, and job performance. In addition to the certification method, this study also examined the relationship between teacher's demographic factors of age, experience, and grade level taught as potential predictors for teacher efficacy, job satisfaction, and job

performance. This study also examined the perceptions of building principals regarding the job performance of teachers certified by an alternative certification method compared to the job performance of teachers certified through a traditional certification program. The principal demographic factors of administrative experience, years in education, and school level were examined to determine potential impact on principal's perception regarding teacher's job performance. Teachers and principals were surveyed to measure perceptions and preferences. No significant levels of differences were found between the two teacher groups in the area of teacher efficacy, job performance, and job satisfaction based on the analysis of teacher responses in Research Questions 1 and 2. Analysis of principals' ratings of teacher performance indicated levels of difference on all of the Kentucky Teacher Standards as well as the overall rating for job performance between the two teacher groups.

CHAPTER V: DISCUSSION

The nucleus of this study was to investigate whether the current methods to acquire teacher certification produce significant differences in selected factors commonly associated with effective teaching. Additionally, this study examined the perceptions of current principals regarding observed differences in job performance on the 10 Kentucky Teacher Standards based on a teacher's method to achieve teacher certification. This study is relevant when considering the importance of placing well-trained individuals in public schools. The need to ensure that authentic and appropriate teacher training is provided to all teaching candidates, regardless of the certification route, is critical.

The focus on how best to prepare teachers, and to license or certify them, has gained increased attention in response to state and federal accountability models. The prevailing shift toward increased teacher evaluation and accountability has led to an increased scrutiny on the quality of teacher preparation programs and methods. According to the National Council on Teacher Quality (2011), "Currently, in 19 states and the District of Columbia, teachers are eligible for dismissal based on teacher evaluation results, and 14 of those states tie teacher evaluations to student performance" (p. 2). Therefore, the important issue of teacher certification is not the route chosen by a teaching candidate but rather the overall quality of the total program, albeit traditional or alternative.

Discussion of Research Question 1

The first research question sought to determine whether there were differences in the levels of teacher efficacy, job performance, and job satisfaction among teachers depending on the method to achieve teacher certification. The composition of teachers

certified through a traditional program (85.4%) and those from an alternative certification program (14.6%) participating in this study was consistent with national data reported by Feistritzer et al. (2011), who reported the number of traditionally certified teachers (83%) compared to alternatively certified teachers (16%).

Job performance was assessed based on the frequency teachers indicated their performance on the Kentucky Teacher Standards. Teachers' responses in rating their performance on each of the standards were compared. A comparison also was completed of the overall job performance rating created from a composite mean score from all 10 of the teacher standards for each certification group. For the first research question, the *t*-test results reveal that there was no difference in job performance scores between teachers who were certified through a traditional teacher certification program and teachers who were certified through an alternative program for teacher certification.

Findings related to job performance for both alternative and traditional certified teachers were valuable. The increased presence of teachers certified through an alternative certification program necessitates the need to examine the quality of alternative certification. These findings appeared to indicate that current programs for alternative certification are producing teachers with levels of job performance comparable to teachers from a traditional teacher preparation program within the GRREC region. Findings were consistent with other studies (Adcock & Mahlios, 2005; Constantine et al., 2009; Wayman et al., 2003), which found that alternative certification programs did prepare teachers to enter the classroom at levels consistent with traditional programs in regard to content knowledge and teacher competences.

The next area of comparison asked teachers to rate their present level of job satisfaction. The mean score for alternative teachers was 4.40, and the mean score for traditional teachers was 4.29. Analysis of the teacher responses found no statistically significant difference ($p = .237$) in the levels of job satisfaction between teachers certified through an alternative method and those teachers certified by a traditional teacher preparation program. As a result of these findings, the null hypothesis (that stated there will be no difference between teachers who were certified through a traditional teacher certification program and teachers who were certified through an alternative program for teacher certification in the area of job satisfaction) was accepted. The percentage of teachers who were highly satisfied with their job was significantly higher for alternative teachers (51%) than traditional teachers (40%). The second ranking, “it’s ok,” regarding job satisfaction indicated that traditionally certified teachers rated higher (54%) than alternative teachers (42%). When the responses were combined, there was essentially no difference in the totals between alternative and traditional teachers regarding the levels of job satisfaction. An additional question that was not included in this analysis, but was part of demographic data gathered, was the likelihood that the respondent would remain in the education profession. The percentage of alternatively certified teachers (91%) and the percentage of traditionally certified teachers (93%) indicated high levels of expectancy to remain in education. Gaging the level of job satisfaction was viewed as important due to the growing number of teachers leaving the classroom within the early years of teaching (Barnes et al., 2007). This trend, paired with the number of existing teachers reaching retirement age, increases the need to retain new teachers.

The final area examined in this question was to compare levels of teacher efficacy between the two target groups. Using the teacher efficacy scale developed by Hoy and Woolfolk (1993), this study found that there were no differences in teacher efficacy between teachers who were certified through a traditional teacher certification program and teachers who were certified through an alternative program.

High levels of teacher efficacy were reported by this study among both alternative and traditional prepared teachers. The confidence levels expressed by a teacher in his or her ability to be successful can directly impact the outcomes realized in the classroom. The findings regarding the levels of teacher efficacy discovered in this study should contribute to positive outcomes for both teachers and students. The levels of teacher efficacy indicated by teacher responses are supported by the previously reported levels of job performance as self-efficacy can be linked to productivity (Gist & Mitchell, 1992). Coladarci (1992) observed a link between teacher efficacy and a commitment to the teaching profession, which also would be validated by the high levels of job satisfaction found in this study among both alternative and traditional certified teacher groups.

Discussion of Research Question 2

Research Question 2 examined the additional factors of teacher's age, classroom experience, and grade level taught as additional factors that could impact the outcomes in regard to teacher efficacy, job performance, and job satisfaction. The results, based on a multiple regression analysis, found that the addition of demographic factors in combination with the method to achieve certification had minimal effect on the dependent variables of job performance, job satisfaction, and teacher efficacy.

Teacher efficacy was analyzed using an MRA, which found no levels of significance for route to certification, teacher's age, current year in teaching, elementary school level, middle school level, and high school level. This is consistent with the results found in the analysis of Research Question 1 regarding levels of efficacy between the two teacher groups. Studies on teacher efficacy (Hoy, 2000; Tschannen-Moran & Hoy, 2001; Wheatley, 2005) indicated some increased levels of efficacy as teachers have effective experiences in teaching. The levels of teaching experience represented within each of the two teacher groups had the potential to contribute to the levels of efficacy indicated in this study. The number of teachers with 6-10 years' experience was alternative teachers (43.3%) and traditional teachers (18.5%).

Job performance was analyzed using an MRA, which indicated that teacher age ($p = .03$), current year in teaching ($p = .02$), middle school level ($p = .01$), and high school level ($p = .00$) contributed to levels of job performance. The practical significance of this finding was small producing an r -square of .042 indicating 4.2 percent of the variation in composite scores were explained by the predictor variables. The percentage of teachers who indicated they were above the age of 30 among alternative teachers (81.9%) and traditional teachers (79.7%) should represent a level of maturity and life experience not found among the typical entry level teacher. Additionally, the number of teachers who indicated they had six or more years' experience in teaching, alternative teachers (57.9%) and traditional teachers (80.1%), could be a significant factor in impacting job performance. No statistically significant difference was indicated due to the route to certification or at the elementary school level, according to the results of the MRA.

Job satisfaction was analyzed using an MRA and determined that differences existed in the level of job satisfaction based on the demographic factors of teacher age and current year in teaching. The levels of maturity and teaching experience represented within the teacher sample have the potential to significantly impact job satisfaction. No statistically significant difference was indicated due to the method of certification or school level.

Due to the results indicated in Research Question 2, the null hypothesis (that stated there will be no difference in the outcome measures when the method for teacher certification and teacher demographic factors of age, current year in teaching, and school level are combined) was accepted for the area of teacher efficacy. In the area of job performance, the null hypothesis was rejected for the demographic factors of teacher age, years of experience, and middle school level and high school level and accepted for the route to certification and the demographic factor for teaching at the elementary school level. In the area of job satisfaction, the null hypothesis was rejected for the demographic factors of teacher's age and current year in teaching and accepted for the demographic factors of grade level taught and route to certification.

Discussion of Research Question 3

Principals consistently rated teachers certified through a traditional teacher education program higher on each of the 10 Kentucky Teacher Standards than the teachers who were certified by an alternative certification method. Analysis from the results of principals' responses regarding their perceptions of job performance between alternative and traditional teachers on the Kentucky Teacher Standards indicated statistically significant differences on each of the standards and the composite score for

job performance. Based on these results, the null hypothesis (which stated there will be no difference in principals' perceptions of teacher performance on the Kentucky Teacher Standards between teachers who were certified through a traditional teacher certification program and those who were certified through an alternative program for teacher certification) for Research Question 3 was rejected. The perceptions of building principals regarding job performance by any teacher in his or her building will directly impact the results of staffing and evaluation decisions. The Kentucky Teacher Standards are the basis for the Kentucky Teacher Internship Program and most districts' policies for evaluation of certified personnel. The results of this study are significant due to the fact that a majority of principals are responsible for hiring certified staff. Additionally, building principals in many districts are the primary evaluator for certified staff, especially non-tenured teachers and teacher interns. Principals also make decisions regarding placement of certified staff, contract renewal, and non-renewal of contracts.

The most significant areas of difference between alternatively and traditionally certified teachers, as indicated by principals, were those dealing with classroom management and instructional planning. The ability of any teacher to effectively manage his or her classroom is one of the most critical skills any teacher can develop (Oliver & Reschly, 2007). According to Emmer and Stough (2001), a teacher's ability to organize and manage his or her classroom and student behavior is essential to producing positive educational outcomes. This finding is consistent with other studies on classroom management (Berliner, 1986; Browsers & Tomic, 2000; Espin & Yell, 1994) that found teachers with poor classroom management skills are less effective in the classroom and report higher levels of job dissatisfaction. According to Ingersoll and Smith (2003), poor

classroom management skills and the resulting disruptive behavior of students are primary reasons that many teachers leave education.

Discussion of Research Question 4

Further examination of additional factors that could have predicted principals' perceptions of teachers' job performance was the basis of Research Question 4. The demographic factors of years as a principal; current school level (elementary, middle, high, or other); and total number of years in education were analyzed to determine their impact on principals' perceptions of teachers' job performance. A repeated measure ANOVA was used to compare the level of significance, as already revealed in the paired *t*-test in Research Question 3 with the principal demographic factors. The results indicated that the method to achieve certification was the most significant factor that impacted principals' perceptions of teacher job performance. However, analysis of the demographic data indicated that principals at all school levels consistently rated traditionally certified teachers higher in job performance than teachers certified through an alternative program, with one exception. First-year high school principals rated alternative teachers ($M = 4.08$) slightly higher than traditional teachers ($M = 4.03$). As a result of the analysis of Research Question 4, the null hypothesis (that stated there will be no difference in the principals' perceptions of teacher performance when certification methods are combined with the principals' demographic variables) is accepted for all the principals' demographic factors except first year high school principals and for that group the null is rejected.

Implications

Due to the design and findings from this study, the implications did not follow prescribed formula along the research questions guiding this investigation. Results from all four research questions appear to indicate that teachers and principals define effective job performance on the 10 Kentucky Teacher Standards differently. In any school or district it is important that the individual responsible for personnel evaluation and those whom he or she evaluates have corresponding definitions regarding effective job performance. By law, all teachers must have the school and district's evaluation policy reviewed and explained annually. This study revealed the presentation of the procedures and process used for certified evaluation of teachers may not be sufficient. These findings indicated that the assumption that all teachers have a clear understanding of how his or her principal defines good teaching and what it looks like is faulty. It would be problematic if a disparity existed between the evaluator's definition of effective job performance and that of those teachers being evaluated. How can a classroom teacher accurately self-assess his or her job performance if he or she did not have a clear understanding of the principal's perception of effective job performance? This implication also would be essential in order to facilitate a teacher's ability for authentic self-reflection and self-improvement. Additionally, when the principals and teachers are more closely aligned in their appraisal of job performance, professional development and opportunities for professional growth would be enhanced. The most important aspect of an accurate alignment of effective performance on the Kentucky Teacher Standards would be in the potential outcomes for student achievement and learning. Effective teaching should be the goal of all administrators, teachers, and teacher preparation

programs; thus, communicating how effective teaching and quality job performance is defined as a principal is critical.

Another major implication of this study, as determined by Research Question 3, is the level of significant difference between alternatively certified teachers and traditionally certified teachers in the areas of classroom management and instructional planning. Principals' responses suggested that these specific areas provided the most significant difference in job performance for alternatively certified teachers. The alternative certification programs represented by the alternatively certified teachers in the sample population must make substantial efforts to guarantee that graduates of their programs are prepared to demonstrate competence in the classroom in all areas.

Classroom management is essential to student learning, and "the inability to effectively manage classroom behavior often leads to low achievement of at-risk students and excessive referrals for special education" (Oliver & Reschly, 2007, p. 1). Various studies (Clotfelter, Ladd, & Vigdor, 2005; Clotfelter, Ladd, Vigdor, & Wheeler, 2007; Peske & Haycock, 2006) have shown that marginal and novice teachers are disproportionately assigned to classrooms with the most economically and disadvantaged students; thus, these teachers are assigned the most challenging students who often have the lowest achievement levels. Alternative certification programs must take steps to further address the specific areas indicated by the results of this study.

Acknowledgement of Limitations

Limitations of the study include issues with the nature of an internal study and the generalizability of the results. As stated in Chapter III, this study was limited to the school districts within the GRREC region. The 32 districts that agreed to participate did

not include the two largest districts within the GRREC region that also employ the largest percentage of alternatively certified teachers. Additionally, the participating districts did not include a major urban area in the sample population. Further limitation regarding the generalizability from the results of the study is that the study was limited to a group of school districts in the south central and western regions of Kentucky. The school districts were made up of similar demographics, and the majority were rural county districts, many with more than 60% poverty status. Thus, the results are not generalizable to all public K-12 school districts. This study was conducted during one academic year and includes data from the sample population during a single year. The lack of longitudinal data produced over time to determine if the results would remain constant is another limitation regarding generalizability.

Another limitation relates to the self-reporting data. The findings from Research Questions 1 and 2 support the results of studies which indicated that alternative certification is preparing teachers to enter the classroom at a level of competency comparable to those who have followed a traditional teacher education program (Adcock & Mahlios, 2005; Constantine et al., 2009; Feistritzer, 2007; Feistritzer et al., 2011; Wayman, Foster et al., 2003). The findings from Research Questions 3 and 4 support the results found in studies that report teachers entering the classroom from a traditional certification program are better prepared to meet the challenges of teaching than those following an alternative method for certification (Berry, 2001; Darling-Hammond & Baratz-Snowden, 2005; Hawk & Schmidt, 1989; Williamson et al., 1984). The glaring contradictions found by this researcher could be attributed to the fact that data for Research Questions 1 and 2 were produced by teachers self-reporting their job

performance based on their perceptions. The data used to assess teachers' levels of job performance, job satisfaction, and teacher efficacy relied on a self-assessment instrument. The potential for inflation of individual ratings is increased due to the nature of a self-assessment instrument. According to Dunning, Heath, and Suls (2004), "Research suggests that self-assessment of skill and character are often flawed in substantive and systematic ways. In general people's self-views hold a tenuous to modest relationship with their actual behavior and performance" (p. 69). Data from Research Questions 3 and 4 was produced by principals rating teachers whom they have had the responsibility to supervise and evaluate. However, due to the design of this study, there is no way to determine if the teachers and principals participating in this study were from the same schools and districts. Therefore, there is no way to determine if the results actually contradicted one another or if the principals and teachers in the study represent different schools and districts.

This researcher is a high school principal responsible for the evaluation of all non-tenured and intern teachers in the high school. Additionally, this researcher followed a traditional teacher education program to acquire teacher certification. As a principal, this researcher has worked with both traditional and alternatively certified teachers. Although measures were followed to reduce the potential for researcher bias, there is the potential that bias existed as a result of these factors.

An additional factor that also could have impacted these results is the alternative teacher certification program coordinated by the Green River Regional Educational Cooperative in the development of teachers through alternative teacher certification. The GRREC program works with school districts and potential teacher candidates in the

screening, recruitment, hiring, and mentoring of teachers following an alternative certification track. The program works to ensure that individuals accepted into the program are suitable for the teaching profession. Additionally, placement of alternative teaching candidates in this program is a coordinated effort between GRREC and the school districts accepting the alternative candidate. This could have increased the potential quality of alternatively certified teachers in the sample population within the GRREC region, thereby affecting the level of performance demonstrated by alternatively certified teachers through the GRREC region.

Factors that may have impacted the levels of teacher efficacy suggested by Research Questions 1 and 2 for both traditional and alternatively certified teachers are the demographics of the sample population. More than 50% of the teachers participating in this study indicated they had more than 10 years experience in the classroom. The probability that effective teaching practices impacted levels of efficacy within this sample population is plausible. Additionally, when the level of experience was expanded to include all teachers with six or more years of teaching experience, the percentage increased to 77%. The levels of teaching experience represented in this sample population could have been a factor that impacted the degree of teacher efficacy suggested by this study.

Recommendations for Further Study

The results of this study point to several recommendations for future research. The study was conducted during the school year 2011-2012 within the GRREC region. Replicating the study would produce longitudinal data that would provide additional opportunities to identify data trends and would also increase the validity of the results

depending on the outcome of additional studies conducted over extended periods of time. Additionally, since the two largest districts in the GRREC region did not participate in the study, it would be beneficial if they or similar districts were included in future studies.

The level of significant difference in principals' perceptions between traditional and alternatively certified teachers in the area of teacher performance on the Kentucky Teacher Standards indicated a need to examine the effectiveness of current alternative certification programs. Standards two, three and four deal with some of the most critical aspects associated with effective teaching: instructional planning and classroom management. Determining if these areas are being addressed so that completers of alternative certification programs in Kentucky are prepared to enter public school classrooms would be advantageous to both alternatively certified teachers and the students they would be teaching.

The disparity between teachers' self-assessment and principals' rating of job performance indicated a significant difference regarding administrators' and teachers' definition of appropriate job performance. A study that would clearly establish what building principals define as effective job performance, coupled with more definitive examples for teachers to use for self-assessment, could be the basis for a comparison of how teachers and principals view effective job performance. As the state of Kentucky follows the movement to change how teachers are evaluated, consistency in the definition of job performance could be a valuable tool for both administrators and teachers. This also would be beneficial in helping districts in the planning and implementation of professional development for increasing teacher effectiveness. The development of an

instrument that would facilitate teacher self-assessment that is aligned with and mirrors the evaluations of principals would be an effective tool with which teachers would be able to plan and assess their own professional growth.

Another recommendation would be to design a study that would compare principal ratings with those of teachers within their respective schools and districts regarding job performance. The disparity between principals' perceptions of job performance and teachers' self-assessment of job performance found in this study was an unanticipated outcome. A study designed to identify this disconnect could provide the opportunity for administrators and teachers to more accurately articulate effective job performance. This understanding could be beneficial for teachers who are expected to more accurately self-assess and reflect on methods for their own professional growth and development and, therefore, impact the quality of instruction.

Conclusion

The impact and importance of public education necessitates that all individuals entering classrooms in any school or district are appropriately prepared regardless of the method used to acquire their certification. It may be difficult for the nation's colleges of education to fill the vacancies existing in many urban and rural schools today through traditional certification routes. Additionally, the growing shortage of teachers in specific fields such as mathematics, science, foreign languages, and special education are a harsh reality that also must be addressed. The development of alternative certification was established in an attempt to meet those needs. In the best interest of the students entrusted to America's public schools, it is vital to ensure that all teachers are sufficiently prepared regardless of the method followed for certification, rather than attempting to prove that

one method for preparation is superior to the other. It should be the mission of all those involved in educational policy development, educational preparation programs and educational leadership to guarantee that any teacher completing any teacher certification program has the content knowledge, classroom management skills, and professional attributes necessary to be a successful and effective teacher.

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APPENDIX A
Internal Review Board Approval



A LEADING AMERICAN UNIVERSITY WITH INTERNATIONAL REACH
HUMAN SUBJECTS REVIEW BOARD

In future correspondence, please refer to HS12-022, August 9, 2011

Chris Mueller
c/o Dr. Wagner
Educational Leadership
WKU

Chris Mueller:

Your research project, *Traditional and Alternative Teacher Certification Programs: A Comparison of Teacher Efficacy, Job Satisfaction and Teacher Effectiveness*, was reviewed by the IRB and it has been determined that risks to subjects are: (1) minimized and reasonable; and that (2) research procedures are consistent with a sound research design and do not expose the subjects to unnecessary risk. Reviewers determined that: (1) benefits to subjects are considered along with the importance of the topic and that outcomes are reasonable; (2) selection of subjects is equitable; and (3) the purposes of the research and the research setting is amenable to subjects' welfare and producing desired outcomes; that indications of coercion or prejudice are absent, and that participation is clearly voluntary.

1. In addition, the IRB found that you need to orient participants as follows: (1) signed informed consent is not required; (2) Provision is made for collecting, using and storing data in a manner that protects the safety and privacy of the subjects and the confidentiality of the data. (3) Appropriate safeguards are included to protect the rights and welfare of the subjects.

This project is therefore approved at the Exempt from Full Board Review Level.

2. Please note that the institution is not responsible for any actions regarding this protocol before approval. If you expand the project at a later date to use other instruments please re-apply. Copies of your request for human subjects review, your application, and this approval, are maintained in the Office of Sponsored Programs at the above address. Please report any changes to this approved protocol to this office. A Continuing Review protocol will be sent to you in the future to determine the status of the project. Also, please use the stamped approval forms to assure participants of compliance with The Office of Human Research Protections regulations.

Sincerely,

A handwritten signature in blue ink that reads "Paul J. Mooney".

Paul J. Mooney, M.S.T.M.
Compliance Manager
Office of Research
Western Kentucky University



cc: HS file number Mueller HS12-022

The Spirit Makes the Master

Office of Sponsored Programs | Western Kentucky University | 1906 College Heights Blvd. #11026 | Bowling Green, KY 42101-1026
phone: 270.745.4652 | fax: 270.745.4211 | email: paul.mooney@wku.edu | web: <http://www.wku.edu/Dept/Support/SponsPrg/grants/index.php?page=research-compliance>

APPENDIX B

Schools by type and district within the GRREC Region

District	Schools	Elementary	Intermediate	Middle	High	Alternative	Other
Adair	6	2	1	1	1	1	
Allen	5	1	1	1	1		1
Barren	12	7		1	1	2	1
Bowling Green Ind.	10	5		1	1	2	1
Breckinridge	6	4		1	1		
Butler	6	2		1	1	2	
Campbellsville Ind.	4	1		1	1	1	
Caverna	3	1		1	1		
Clinton	5	2		1	1	1	
Cloverport Ind.	3	1		1	1		
Cumberland	3	1		1	1		
Daviess	21	12		3	2	4	
Edmonson	5	2	1	1	1		
Elizabethtown	5	2		1	1	1	
Glasgow	6	2		1	1	2	
Grayson	7	4		1	1	1	
Green	4	1	1	1	1		
Hancock	4	2		1	1		
Hardin	25	13		5	3	4	
Hart	6	5			1		
LaRue	4	2		1	1		
Logan	6	5			1		
Meade	12	8		1	2		1
Metcalfe	7	3	1	1	1	1	
Monroe	5	3		1	1		
Muhlenberg	11	5		2	1	2	1
Ohio	10	6		1	1	2	
Owensboro Ind.	11	6		2	1	2	
Russell Co.	6	4		1	1		
Russellville	2	1		1*			
Simpson	6	3		1	1	1	
Taylor	4	1		1	1	1	
Todd	4	2		1	1		
Union	9	4		1	1	1	2
Warren	27	13		4	4	6	
West Point Ind.	1	1					
GRREC Total	271	137	5	43	42	37	7

KDE Annual Superintendent's Report for Enrollment

**Combined Jr./Sr. High*

APPENDIX C

Alternative Certified Teachers employed across the GRREC region from 2002-2011

District	02/0 3	03/0 4	04/0 5	05/06	06/07	07/08	08/09	09/10	10/11	Total
Adair	6	26	6	8	10	9	1	2	2	70
Allen	1	0	5	3	4	3	1	5	8	30
Barren	0	2	3	3	7	5	4	6	6	36
Bowling Green Ind.	0	3	0	2	0	2	5	2	2	16
Breckinridge	0	1	2	4	8	9	6	7	9	46
Butler	0	1	5	9	6	7	8	5	1	42
Campbellsville Ind.	1	2	2	4	3	3	3	1	2	21
Caverna	0	0	4	6	5	2	1	0	0	18
Clinton	0	0	0	5	2	5	3	2	1	18
Cloverport Ind.	0	0	0	2	1	1	3	3	1	11
Cumberland	0	0	0	0	1	1	0	0	2	4
Daviess	0	9	3	17	17	5	8	6	2	67
Edmonson	1	4	6	9	5	3	1	1	1	31
Elizabethtown	0	0	1	5	6	5	9	5	3	34
Glasgow	2	0	1	3	1	1	0	0	1	9
Grayson	2	4	5	9	6	3	2	6	10	47
Green	0	0	2	6	6	7	5	6	4	36
Hancock	0	0	1	3	5	4	2	1	2	18
Hardin	2	20	28	61	55	50	38	34	34	322
Hart	1	3	2	5	6	6	6	8	2	39
LaRue	2	5	4	6	5	6	5	3	6	42
Logan	2	2	7	9	10	13	11	10	5	69
Meade	1	3	5	11	9	5	5	7	5	51
Metcalfe	0	1	5	8	10	7	4	1	3	39
Monroe	0	0	1	4	6	4	6	5	8	34
Muhlenberg	0	1	2	3	5	7	5	7	8	38
Ohio	2	3	9	11	8	8	9	6	1	57
Owensboro Ind.	0	4	3	10	21	17	11	10	4	80
Russell	2	4	4	8	12	12	3	3	0	48
Russellville	1	0	2	6	3	2	4	4	3	25
Simpson	0	1	1	2	1	5	7	3	1	21
Taylor	1	3	2	8	5	3	2	2	4	30
Todd	0	1	0	6	9	6	6	5	6	39
Union	1	0	2	8	6	6	4	25	27	79
Warren	0	0	6	14	17	17	9	16	20	99
West Point Ind.	0	1	4	1	1	0	2	1	0	10
GRREC Total	28	104	133	279	282	249	199	208	194	1676
State Total	651	902	982	1988	2144	2109	1848	1685	1548	14368

Educational Professional Standards Board 2011

APPENDIX D
Survey for Teachers

1. What was your route to certification?
 - Traditional college based program
 - Alternative Route

2. What is your age?
 - 20-24
 - 25-29
 - 30-34
 - 35-39
 - 40-44
 - 45-49
 - 50-54
 - 55-59
 - 60-older

3. What is your gender?
 - Female
 - Male

4. What is your race?
 - American Indian or Alaska Native
 - Asian
 - Black or African American
 - Hispanic or Latino
 - Native Hawaiian or Other Pacific Islander
 - White or Caucasian
 - Other

5. What was your previous full-time employment/career prior to entering a teacher education program?
 - K-12 Education, instructional aide, school secretary, bus driver, or other classified position
 - Post-Secondary degree other than teaching
 - Business/Finance/Administration
 - Manufacturing/Construction
 - Agriculture
 - Sales
 - Military
 - Architecture /Engineering
 - Legal/Government
 - Healthcare
 - Student
 - Unemployed

7. What education level did you complete prior to beginning your teacher certification program?
- High School
 - Associates Degree
 - BA or BS
 - Master's Degree
 - Doctoral Degree
8. What is your current year in teaching?
- 1st
 - 2nd
 - 3rd
 - 4th
 - 5th
 - 6-10
 - 11-15
 - 16-20
 - 20+
9. What grade level do you currently teach?
- Elementary
 - Middle School
 - High School
 - Other
10. What subject is your primary teaching responsibility?
- Self-contained Primary
 - Self-contained Intermediate
 - Self-contained Middle Grades
 - Special Education
 - Math
 - Science
 - Language Arts
 - Social Studies
 - Vocational
 - Fine Arts
 - Health/PE
 - Foreign Language
11. What is the likelihood you will continue teaching?
- Definitely Yes
 - Yes, likely
 - Maybe
 - No, not likely
 - Definitely Not
12. How Satisfied Are You With Your Job?
- Highly satisfied - I can't wait to start work in the morning
 - It's OK. There are times when I feel really satisfied
 - Neither satisfied or dissatisfied

- No real satisfaction but it's a job
- Highly dissatisfied. Help me get out of here!

Please rate the frequency that you implement each of the following statements regarding your classroom instruction/preparation/and strategies.

- | | | | | | | |
|-----|--|-----------------|-------------------|-----------|--------|-------|
| 13. | I communicate with my students using appropriate vocabulary and attempt to connect course content with real life experiences. | Regularly/Daily | Frequently/Weekly | Sometimes | Seldom | Never |
| 14. | I state learning objectives based on pre-assessment data, and at the beginning of each class, differentiate my instruction. | Regularly/Daily | Frequently/Weekly | Sometimes | Seldom | Never |
| 15. | I establish clear standards of conduct, and create a classroom respectful and safe for all my students. | Regularly/Daily | Frequently/Weekly | Sometimes | Seldom | Never |
| 16. | I use a variety of instructional strategies that engage my students, while completing non-instructional tasks with minimal loss of instructional time. | Regularly/Daily | Frequently/Weekly | Sometimes | Seldom | Never |
| 17. | I use formative assessments to monitor student progress and guide instruction and summative assessments to measure student achievement. I communicate learning results to both students and parents that provide a clear and timely understanding of student learning. | Regularly/Daily | Frequently/Weekly | Sometimes | Seldom | Never |
| 18. | I use technology to design, plan instruction and implement instruction as well as integrating student use of technology to enhance learning outcomes and meet diverse student needs. | Regularly/Daily | Frequently/Weekly | Sometimes | Seldom | Never |
| 19. | I reflect on and accurately evaluate student learning, instructional practice and identify areas for my professional growth using appropriate data. | Regularly/Daily | Frequently/Weekly | Sometimes | Seldom | Never |
| 20. | I identify one or more of my students whose learning could be enhanced by collaboration and further design a plan to enhance student learning which includes all parties in the collaborative effort. | Regularly/Daily | Frequently/Weekly | Sometimes | Seldom | Never |

21. I identify areas for professional growth by assessing my performance on the Kentucky Teacher Standards, using self-assessment, student performance and feedback from colleagues. I design a clear, logical professional growth plan which shows clear evidence of my professional growth.

Regularly/Daily Frequently/Weekly Sometimes Seldom Never

22. I identify leadership opportunities in the school, community, or professional organizations and select one with the potential for positive impact on learning or the professional environment and develop a leadership plan to accomplish that objective.

Regularly/Daily Frequently/Weekly Sometimes Seldom Never

For the following series of question please indicate your personal opinion about each statement by circling the appropriate response at the right of each statement.

KEY: 1=Strongly Agree 2=Moderately Agree 3=Agree slightly more than disagree
4=Disagree slightly more than agree 5=Moderately Disagree 6=Strongly Disagree

23. The amount a student can learn is primarily related to family background. 1 2 3 4 5 6

24. If students aren't disciplined at home, they aren't likely to accept any discipline. 1 2 3 4 5 6

25. When I really try, I can get through to most difficult students. 1 2 3 4 5 6

26. A teacher is very limited in what he/she can achieve because a student's home environment is a large influence on his/her achievement. 1 2 3 4 5 6

27. If parents would do more for their children, I could do more. 1 2 3 4 5 6

28. If a student did not remember information I gave in a previous lesson, I would know how to increase his/her retention in the next lesson. 1 2 3 4 5 6

29. If a student in my class becomes disruptive and noisy, I feel assured that I know some techniques to redirect him/her quickly. 1 2 3 4 5 6

30. If one of my students couldn't do a class assignment, I would be able to accurately assess whether the assignment was the correct level of difficulty. 1 2 3 4 5 6

31. If I really try hard, I can get through to even the most difficult or unmotivated students. 1 2 3 4 5 6

32. When it comes right down to it, a teacher really can't do much because most of a student's motivation and performance depends on his or her home environment. 1 2 3 4 5 6

APPENDIX E
Survey for Principals

Principals, please use the scale below to indicate your perception of teacher effectiveness among teachers you have worked with in your role as an administrator. Rankings should be based on the 10 teacher standards as established by the Kentucky Education Professional Standards Board. You should assign a ranking on each of the 10 standards for teachers who were certified through a traditional teacher certification program and one for those teachers who were certified through an alternative route for teacher certification. This ranking should be based on your overall perception of skills collectively possessed by teachers certified through each of the options for teacher certification.

1=Very Ineffective: Seldom meets established standards

2=Ineffective: Sometimes meets established standards but lacks consistency, seldom exceeds and often falls short of desired results

3=Somewhat Effective: Meets and occasionally exceeds established standards

4=Effective: Consistently meets and frequently exceeds expected levels of performance (established standards)

5=Very Effective: Consistently meets and almost always exceeds standards of performance

1. The teacher demonstrates applied content knowledge. The teacher demonstrates a current and sufficient academic knowledge of certified content areas to develop student knowledge and performance in those areas.

	Very Effective	Effective	Somewhat effective	Ineffective	Very ineffective
Alternative Certified Teachers	1	2	3	4	5
Traditional Certified Teachers	1	2	3	4	5

2. The teacher designs and plans instruction. The teacher designs and plans instruction that develops student abilities to use communication skills, apply core concepts, become self-sufficient individuals, become responsible team members, think and solve problems, and integrate knowledge.

	Very Effective	Effective	Somewhat effective	Ineffective	Very ineffective
Alternative Certified Teachers	1	2	3	4	5
Traditional Certified Teachers	1	2	3	4	5

3. The teacher creates and maintains learning climate. The teacher creates a learning climate that supports the development of student abilities to use communication skills, apply core concepts, become self-sufficient individuals, become responsible team members, think and solve problems, and integrate knowledge.

	Very Effective	Effective	Somewhat effective	Ineffective	Very ineffective
Alternative Certified Teachers	1	2	3	4	5
Traditional Certified	1	2	3	4	5

Teachers					
-----------------	--	--	--	--	--

4. The teacher implements and manages instruction. The teacher introduces, implements, and manages instruction that develops student abilities to use communication skills, apply core concepts, become self-sufficient individuals, become responsible team members, think and solve problems, and integrate knowledge.

	Very Effective	Effective	Somewhat effective	Ineffective	Very ineffective
Alternative Certified Teachers	1	2	3	4	5
Traditional Certified Teachers	1	2	3	4	5

5. The teacher assesses and communicates learning results. The teacher assesses learning and communicates results to students and others with respect to student abilities to use communication skills, apply core concepts, become self-sufficient individuals, become responsible team members, think and solve problems, and integrate knowledge.

	Very Effective	Effective	Somewhat effective	Ineffective	Very ineffective
Alternative Certified Teachers	1	2	3	4	5
Traditional Certified Teachers	1	2	3	4	5

6. The teacher demonstrates the implementation of technology. The teacher uses technology to support instruction; access and manipulate data; enhance professional growth and productivity; communicate and collaborate with colleagues, parents, and the community; and conduct research.

	Very Effective	Effective	Somewhat effective	Ineffective	Very ineffective
Alternative Certified Teachers	1	2	3	4	5
Traditional Certified Teachers	1	2	3	4	5

7. The teacher reflects on and evaluates teaching and learning. The teacher reflects on and evaluates specific teaching or learning situations or programs.

	Very Effective	Effective	Somewhat effective	Ineffective	Very ineffective
Alternative Certified Teachers	1	2	3	4	5
Traditional Certified Teachers	1	2	3	4	5

8. The teacher collaborates with colleagues, parents, and others. The teacher collaborates with colleagues, parents, and other agencies to design, implement, and support learning programs that develop student abilities to use communication skills, apply core concepts, become self-sufficient individuals, become responsible team members, think and solve problems, and integrate knowledge.

	Very Effective	Effective	Somewhat effective	Ineffective	Very ineffective
Alternative Certified Teachers	1	2	3	4	5

Traditional Certified Teachers	1	2	3	4	5
---------------------------------------	---	---	---	---	---

9. The teacher evaluates teaching and implements professional development. The teacher evaluates his or her overall performance with respect to modeling and teaching Kentucky's learning goals, refines the skills and processes necessary, and implements a professional development plan.

	Very Effective	Effective	Somewhat effective	Ineffective	Very ineffective
Alternative Certified Teachers	1	2	3	4	5
Traditional Certified Teachers	1	2	3	4	5

10. The teacher provides leadership within the school, community, and profession. The teacher provides professional leadership within the school, community, and education profession to improve student learning and well-being.

	Very Effective	Effective	Somewhat effective	Ineffective	Very ineffective
Alternative Certified Teachers	1	2	3	4	5
Traditional Certified Teachers	1	2	3	4	5

11. How many years have you been a building principal?

- 1st year
- 2-5 years
- 6-10 years
- 10+ years

12. What level is your primary administrative responsibility?

- Elementary
- Middle School
- High School
- Other

13. How many years were you in the classroom before becoming a principal?

- 1-5
- 6-10
- 11-15
- 16-20
- +20

14. By what method did you receive your initial teacher certification?

- Traditional Certification
- Alternative Certification

APPENDIX F
Ten Kentucky Teacher Standards

16 KAR 1:010. Standards for certified school personnel

RELATES TO: KRS 161.020, 161.028(1)(a), 161.030, 161.048(1)(d), 161.095, 161.120

STATUTORY AUTHORITY: KRS 161.020, 161.028(1)(a), 161.030

NECESSITY, FUNCTION, AND CONFORMITY: KRS 161.028(1)(a) requires the Education Professional Standards Board establish standards for obtaining and maintaining a teaching certificate. This administrative regulation establishes the standards required for certified school personnel to obtain or maintain certification.

Section 1. Kentucky Teacher Standards for Preparation and Certification The standards established in this section shall be used in the evaluation and assessment of a teacher for initial or advanced certification and for the accreditation of teacher preparation programs.

(1) Standard 1. The teacher demonstrates applied content knowledge. The teacher demonstrates a current and sufficient academic knowledge of certified content areas to develop student knowledge and performance in those areas.

(2) Standard 2. The teacher designs and plans instruction. The teacher designs and plans instruction that develops student abilities to use communication skills, apply core concepts, become self-sufficient individuals, become responsible team members, think and solve problems, and integrate knowledge.

(3) Standard 3. The teacher creates and maintains learning climate. The teacher creates a learning climate that supports the development of student abilities to use communication skills, apply core concepts, become self-sufficient individuals, become responsible team members, think and solve problems, and integrate knowledge.

(4) Standard 4. The teacher implements and manages instruction. The teacher introduces, implements, and manages instruction that develops student abilities to use communication skills, apply core concepts, become self-sufficient individuals, become responsible team members, think and solve problems, and integrate knowledge.

(5) Standard 5. The teacher assesses and communicates learning results. The teacher assesses learning and communicates results to students and others with respect to student abilities to use communication skills, apply core concepts, become self-sufficient individuals, become responsible team members, think and solve problems, and integrate knowledge.

(6) Standard 6. The teacher demonstrates the implementation of technology. The teacher uses technology to support instruction; access and manipulate data; enhance professional growth and productivity; communicate and collaborate with colleagues, parents, and the community; and conduct research.

(7) Standard 7. The teacher reflects on and evaluates teaching and learning. The teacher reflects on and evaluates specific teaching or learning situations or programs.

(8) Standard 8. The teacher collaborates with colleagues, parents, and others. The teacher collaborates with colleagues, parents, and other agencies to design, implement, and support learning programs that develop student abilities to use communication skills, apply core concepts, become self-sufficient individuals, become responsible team members, think and solve problems, and integrate knowledge.

(9) Standard 9. The teacher evaluates teaching and implements professional development. The teacher evaluates his or her overall performance with respect to modeling and teaching Kentucky's learning goals, refines the skills and processes necessary, and implements a professional development plan.

(10) Standard 10. The teacher provides leadership within the school, community, and profession. The teacher provides professional leadership within the school, community, and education profession to improve student learning and well-being.

(26 Ky.R. 503; Am. 750; eff. 10-11-99; recodified from 704 KAR 20:730, 7-2-2002; 34 Ky.R. 1074; 1686; eff. 2-1-2008.)

APPENDIX G

Permission Letter for Superintendents

Christopher M. Mueller
PO Box 314
Munfordville, KY 42765

June 22, 2011

Dear Mr./Ms. _____ Superintendent
School
Address
Somewhere, KY 42101

Dear Mr./Ms. _____:

My name is Christopher Mueller and I serve as principal of Hart County High School. I am also a doctoral candidate at Western Kentucky University currently working toward the completion of my dissertation. The purpose of this letter is to request permission for employees within your district to participate in my research by completing a short survey. Participation is strictly voluntary and all responses will be kept confidential.

Purpose of the Study:

My study is titled *Traditional and Alternative Teacher Certification Programs: A Comparison of Teacher Efficacy, Job Satisfaction, and Teacher Effectiveness*. The purpose of this study is to compare levels of teacher efficacy, job satisfaction, and teacher effectiveness between traditionally certified teachers and those gaining certification through a Kentucky approved alternative certification program. The results of this study may provide insight relative to the value of alternative certification programs.

Explanation of Procedures:

This study has selected the school districts which make up the Green River Regional Educational Cooperative for the sample population. Principals and selected teachers will receive a letter explaining the specific procedures and links to the online surveys if you grant permission for your district to participate in this study. Principals will be asked to rate their perception of teacher effectiveness using the ten Kentucky Teacher Standards. Teachers will be asked to respond to questions regarding teacher efficacy, self-reflection and job satisfaction.

To be eligible to participate a school must have teachers on staff with less than five years' experience certified through an alternative method for teacher certification.

Discomfort and Risks:

There is minimal risk to those involved in the study. Responses will only be known to the survey participant and, anonymously, to the researcher. No individual school will be recognized as part of the study's results.

Benefits:

One anticipated benefit of the study is a better understanding of the level of preparation provided by teachers who complete programs to receive teacher certification. Comparing the responses of current teachers who received certification through a traditional teacher training program with teachers certified through an alternative certification program could provide insight into possible difference between the two methods for teacher certification.

Confidentiality:

If your teachers and principals choose to participate, confidentiality will be maintained by keeping the data in a secure, protected file on the researcher's computer.

Refusal/Withdraw:

Any person may withdraw from the study at any time by either choosing to leave the online survey during data entry or by sending an e-mail or letter to the researcher. Anyone who agrees to participate in this study is free to withdraw from the study at any time with no penalty.

Please understand that it is not possible to identify all potential risks in an experimental procedure, and that reasonable safeguards have been taken to minimize both the known and potential but unknown risks.

If you have any questions regarding this research, please contact my dissertation chair, Dr. Bud Schlinker at bud.schlinker@wku.edu or me at Christopher.mueller606@topper.wku.edu. Thank you in advance for your consideration of this invitation.

Best regards,

Christopher M. Mueller

APPENDIX H

Permission Letter for Principals

Christopher M. Mueller
PO Box 314
Munfordville, KY 42765

June 22, 2011

Dear Mr./Ms.____Principal
School
Address
Somewhere, KY 42101

Dear Mr./Ms._____:

My name is Christopher Mueller and I serve as principal of Hart County High School. I am also a doctoral candidate at Western Kentucky University currently working toward the completion of my dissertation. Your district's superintendent has granted permission for your district to participate in this study. The purpose of this letter is to invite you to participate in my research by completing a short survey. If you choose to participate, your name will be entered into a drawing for one of four \$100 gift cards.

Purpose of the Study:

My study is titled *Traditional and Alternative Teacher Certification Programs: A*

Comparison of Teacher Efficacy, Job Satisfaction, and Teacher Effectiveness.

The purpose of this study is to compare levels of teacher efficacy, job satisfaction, and teacher effectiveness between traditionally certified teachers and those gaining certification through a Kentucky approved alternative certification program. The results of this study may provide insight relative to the value of alternative certification programs.

Explanation of Procedures:

This e-mail contains a link to an online survey. The survey asks you to provide an overall assessment of your perception of teacher effectiveness on the ten Kentucky Teacher Standards. You will be asked to do a general rating for all teachers with whom you have under your supervision who received teacher certification through a traditional teacher preparation program and one for teachers who were certified through an alternative method of teacher certification. **If you do not have teachers in your school with less than five years' experience certified through an alternative method for teacher certification, you need not participate in this study.** The survey should take approximately 10 minutes to complete. Once you click on the link you may begin answering the questions.

If you choose to participate by completing the online survey, once your survey is submitted, I will send you a link for teachers in your school with **5-years or less** of teaching experience. The teachers will be invited to participate in the study by completing a survey seeking their opinions on teacher efficacy, a self-assessment on the 10 Kentucky Teacher Standards and on job satisfaction. **PARTICIPATION IN THIS SURVEY IS VOLUNTARY AND, IF YOU CHOOSE TO PARTICIPATE, YOUR RESPONSES WILL BE STRICTLY CONFIDENTIAL.** Identification of individuals completing the survey will be unknown to the researcher. Once the study is complete, you will receive a summary of the results.

Discomfort and Risks:

There is minimal risk to those involved in the study. Your responses will only be known to you and, anonymously, to the researcher. No individual school will be recognized as part of the study's results.

Benefits:

One anticipated benefit of the study is a better understanding of the level of preparation provided by teachers who complete programs to receive teacher certification. Comparing the responses of current teachers who received certification through a traditional teacher training program with teachers certified through an alternative certification program could provide insight into possible difference between the two methods for teacher certification.

Confidentiality:

If you choose to participate, your confidentiality will be maintained by keeping the data in a secure, protected file on the researcher's computer.

Refusal/Withdraw:

You may withdraw from the study at any time by either choosing to leave the online survey during data entry or by sending an e-mail or letter to the researcher. Anyone who agrees to participate in this study is free to withdraw from the study at any time with no penalty.

Please understand that it is not possible to identify all potential risks in an experimental procedure, and believe that reasonable safeguards have been taken to minimize both the known and potential but unknown risks.

If you have any questions regarding this research, please contact my dissertation chair, Dr. Bud Schlinker at bud.schlinker@wku.edu or me at Christopher.mueller606@topper.wku.edu. Thank you in advance for your consideration of this invitation.

Best regards,

Christopher M. Mueller

APPENDIX I

Permission Letter for Teachers

Christopher M. Mueller
PO Box 314
Munfordville, KY 42765

June 22, 2011

Dear Mr./Ms. _____ Educator
School
Address
Somewhere, KY 42101

Dear Mr./Ms. _____:

My name is Christopher Mueller and I serve as principal of Hart County High School. I am also a doctoral candidate at Western Kentucky University currently working toward the completion of my dissertation. Your district's superintendent has granted permission for your district to participate in this study. The purpose of this letter is to invite you to participate in my research by completing a short survey. If you choose to participate, your name will be entered into a drawing for one of four \$100 gift cards.

Purpose of the Study:

My study is titled *Traditional and Alternative Teacher Certification Programs: A Comparison of Teacher Efficacy, Job Satisfaction, and Teacher Effectiveness*. The purpose of this study is to compare levels of teacher efficacy, job satisfaction, and teacher effectiveness between traditionally certified teachers and those gaining certification through a Kentucky approved alternative certification program. The results of this study may provide insight relative to the value of alternative certification programs.

Explanation of Procedures:

This e-mail contains links to three brief online surveys. The first survey will allow you to express how you feel that you can contribute to your students' achievement, the second survey will be a self-reflection survey based on your performance on the ten Kentucky Teacher Standards, and the final survey is a survey on job satisfaction. Each of the surveys should take approximately 10 minutes to complete. Once you click on the link you may begin answering the questions.

PARTICIPATION IN THIS SURVEY IS VOLUNTARY AND, IF YOU CHOOSE TO PARTICIPATE, YOUR RESPONSES WILL BE STRICTLY

CONFIDENTIAL. Identification of individuals completing the survey will be unknown to the researcher.

Discomfort and Risks:

There is minimal risk to those involved in the study. Your responses will only be known to you and, anonymously, to the researcher. No individual school will be recognized as part of the study's results.

Benefits:

One anticipated benefit of the study is a better understanding of the level of preparation provided by teachers who complete programs to receive teacher certification. Comparing the responses of current teachers who received certification through a traditional teacher training program with teachers certified through an alternative certification program could provide insight into possible difference between the two methods for teacher certification.

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You may withdraw from the study at any time by either choosing to leave the online survey during data entry or by sending an e-mail or letter to the researcher. Anyone who agrees to participate in this study is free to withdraw from the study at any time with no penalty.

Please understand that is not possible to identify all potential risks in an experimental procedure, and that reasonable safeguards have been taken to minimize both the known and potential but unknown risks.

If you have any questions regarding this research, please contact my dissertation chair, Dr. Bud Schlinker at bud.schlinker@wku.edu or me at Christopher.mueller606@topper.wku.edu. Thank you in advance for your consideration of this invitation.

Best regards,

Christopher M. Mueller

APPENDIX J

Teacher Efficacy Scale (Short Form)*

A number of statements about organizations, people, and teaching are presented below. The purpose is to gather information regarding the actual attitudes of educators concerning these statements. There are no correct or incorrect answers. We are interested only in your frank opinions. Your responses will remain confidential.

INSTRUCTIONS: Please indicate your personal opinion about each statement by circling the appropriate response at the right of each statement.

KEY: 1=Strongly Agree 2=Moderately Agree 3=Agree slightly more than disagree 4=Disagree slightly more than agree 5=Moderately Disagree 6=Strongly Disagree

1. The amount a student can learn is primarily related to family background.
1 2 3 4 5 6
2. If students aren't disciplined at home, they aren't likely to accept any discipline.
1 2 3 4 5 6
3. When I really try, I can get through to most difficult students.
1 2 3 4 5 6
4. A teacher is very limited in what he/she can achieve because a student's home environment is a large influence on his/her achievement.
1 2 3 4 5 6
5. If parents would do more for their children, I could do more.
1 2 3 4 5 6
6. If a student did not remember information I gave in a previous lesson, I would know how to increase his/her retention in the next lesson.
1 2 3 4 5 6
7. If a student in my class becomes disruptive and noisy, I feel assured that I know some techniques to redirect him/her quickly.
1 2 3 4 5 6
8. If one of my students couldn't do a class assignment, I would be able to accurately assess whether the assignment was at the correct level of difficulty.
1 2 3 4 5 6
9. If I really try hard, I can get through to even the most difficult or unmotivated students.
1 2 3 4 5 6
10. When it comes right down to it, a teacher really can't do much because most of a student's motivation and performance depends on his or her home environment.
1 2 3 4 5 6

*In Hoy, W.K. & Woolfolk, A.E. (1993). Teachers' sense of efficacy and the organizational health of schools. *The Elementary School Journal* 93, 356-372.

APPENDIX K

GRREC Region School Districts and Schools Participating in this Study

District	School	Elem.	Inter.	Middle	High	Alternative	Other
Adair	6	2	1	1	1	1	
Allen	5	1	1	1	1		1
Barren	12	7		1	1	2	1
Bowling Green Ind.	10	5		1	1	2	1
Breckinridge	6	4		1	1		
Butler	6	2		1	1	2	
Campbellsville Ind.	4	1		1	1	1	
Caverna	3	1		1	1		
Clinton	5	2		1	1	1	
Cloverport Ind.	3	1		1	1		
Cumberland	3	1		1	1		
Daviess	21	12		3	2	4	
Edmonson	5	2	1	1	1		
Glasgow	6	2		1	1	2	
Grayson	7	4		1	1	1	
Green	4	1	1	1	1		
Hancock	4	2		1	1		
Hart	6	5			1		
LaRue	4	2		1	1		
Logan	6	5			1		
Meade	12	8		1	2		1
Metcalfe	7	3	1	1	1	1	
Monroe	5	3		1	1		
Muhlenberg	11	5		2	1	2	1
Ohio	10	6		1	1	2	
Owensboro Ind.	11	6		2	1	2	
Russell Co.	6	4		1	1		
Russellville	2	1		1*			
Taylor	4	1		1	1	1	
Todd	4	2		1	1		
Union	9	4		1	1	1	2
West Point Ind.	1	1					
GRREC Total	208	106	5	32	33	25	7

KDE Annual Superintendent's Report for Enrollment

**Combined Jr./Sr. High*

APPENDIX L

Additional Teacher Demographics Gathered in this Study

GRREC Additional Teacher Demographics of Participating Teachers (*N* = 1,138)

Variable	Level	Number	%
Gender	Female	881	78.1
	Male	247	21.9
Race	American Indian or Alaska Native	6	.5
	Asian	5	.4
	Black or African American	7	.6
	Hispanic or Latino	9	.8
	Native Hawaiian or Other Pacific Islander	0	0
	White or Caucasian	1102	97.2
	Other	7	.6
Employment before entering teacher education	K-12 Education, instructional aide, school secretary, us driver, or other classified position	93	8.3
	Post-Secondary degree other than teaching	40	3.6
	Business/Finance/Administration	98	8.7
	Manufacturing/Construction	66	5.9
	Agriculture	14	1.2
	Sales	101	9.0
	Military	15	1.3
	Architecture/Engineering	11	1.0
	Legal/Government	26	2.3
	Healthcare	36	3.2
	Student	584	52.0
Unemployed	38	3.4	
Education Level Prior to entering teacher education	High School	537	47.4
	Associates Degree	103	9.1
	BA or BS	388	34.2
	Master's Degree	104	9.2
	Doctoral Degree	1	.1
Subject Taught	Self-contained primary	161	14.7
	Self-contained intermediate	39	3.6
	Self-contained middle grades	5	.5
	Special Education	243	22.2
	Math	135	12.4
	Science	86	7.9
	Language Arts	160	14.6
	Social Studies	81	7.4
	Vocational	70	6.4
	Fine Arts	63	5.8
	Health/PE	32	2.9
Foreign Language	18	1.6	