Impact of an In-Field Teaching Degree on the Quality of Teaching as Measured by Student Performance

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ABSTRACT

Recently, in both federal and state governments, legislation has been presented that would link teacher compensation to student performance on standardized tests. This change in compensation would abandon the traditional method of compensating teachers based on experience and level of degree earned. This study examines the relationship between student performance on the Criterion Referenced Competency Test and teachers earning Advanced In-Field education degrees. Many similar studies have been conducted on this topic, however the vast majority of those studies used either solely comparative analysis or utilized a value added model. Additionally, many of these studies do not differentiate the field of the advanced degree. This study uses a pre-test, post-test design to measure growth of teachers who have recently earned an Advanced In-Field degree and compares that growth to a control group of similar peers who have not recently earned an advanced degree. A statistically significant difference was discovered in both the control and the Advanced In-Field Degree groups between the pre-test and post-test. However, the difference in the Advanced In-Field Degree group was more highly significant than the control, indicating that the Advanced In-Field Degree group did outpace the control.

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DEDICATION

This work is dedicated to my family. To my bride, best friend, and soul-mate Pamela, thank you for being my wife, I cannot even imagine my life without you in the center of it. To my daughters Abigail and Caroline, you are my whole world and I could never find the words to express how much I love you. To my mother, Charlene, and my grandmother, Saralyn, you have supported and encouraged me not just through this process but in all of my endeavors; you are the first two women of my life, and I love you both so very much. To Billy Holt Thompson, my grandfather and the greatest man I have ever known, I hope that I have made you proud, and I struggle every day to become half of the man that you were; thank you for all that you taught me.

Chapter I

INTRODUCTION

In 2009, the United States Federal Government passed the American Recovery and Reinvestment Act of 2009. Although this legislation encompassed many areas of the American infrastructure and workforce, many provisions of its funds were dedicated strictly to education (United States Department of Education, 2009). Embedded in the document is the federal government's latest attempt for sweeping school reform through a competitive grant for states titled "Race to the Top" (United States Department of Education). This latest grant, similar to previous federal legislation, is another item in a long list of reforms, grants, and mandates created by the federal government in an attempt to move all schools forward. In Georgia's application for the "Race to the Top" grant, the current model of teacher compensation based on degree level and years of experience will be abandoned for a model that rewards high student performance as measured largely by standardized testing (State of Georgia, 2010). Logic for this new compensation model and the value of advanced degrees in improving student performance comes from multiple studies which will be discussed in chapter two. This research, which is discussed in detail in chapters three, four and five, intends to also consider the impact of an Advanced In-Field degree utilizing a methodology and specificity not specifically found in the literature.

The American Recovery and Reinvestment Act of 2009 is the latest in a long line of federal education reform initiatives. Another prime example of this reform legislation is the No Child Left Behind Act of 2001 which strictly measured the progress of schools through student performance on standardized tests.

Modern school reform began with the Elementary and Secondary Education Act (ESEA) in 1965 (Hess & Finn, 2007). This act began a very long journey toward school accountability and introduced the First National Assessment of Education Progress in 1960, which used periodic common assessments to demonstrate what American students could and could not do (Hess & Finn). Many reforms of various magnitudes followed over the years. In 1983, school reform gained national prominence due to the report, “A Nation at Risk, The Imperative for Educational Reform” (Hess & Finn). This report widely publicized and criticized the shortcomings of American schools in which students were failing when compared to students in other industrialized nations (The National Commission on the Excellence of Education, 1983). As a result of reports such as “A Nation at Risk,” both state and federal legislation has been passed with increasing demand for school accountability including serious repercussions for failure.

Under the No Child Left Behind Act of 2001, states are required to measure and confirm that schools are making Adequate Yearly Progress (AYP) (Piche, 2007). AYP is measured in Georgia using the Criterion Referenced Competency Test (CRCT) in grades one through eight; this summative

assessment measures student achievement against state standards (Georgia Department of Education, 2010a). However, beginning in 2011, the CRCT will only be administered in grades three through eight (Georgia Department of Education, 2010-2011). According to the No Child Left Behind Act of 2001 guidelines, by the year 2014, one hundred percent of students in tested grade levels must pass the CRCT in order for the school to achieve AYP. To achieve AYP, schools must prove that all students are passing the CRCT, including subpopulation groups of students, or subgroups, such as African American, Economically Disadvantaged, and English Speakers of Other Languages (NCLB, 2001, 2008).

With the demands on school systems under the No Child Left Behind Act of 2001, schools look for more efficient and effective methods of teaching and learning. School systems search for instructional models that are research based and proven effective (Marzano, 2003). A renewed interest in professional learning and the creation of professional learning communities has facilitated growth in teacher training and professional dialogue (Eaker, DuFour, & DuFour, 2002). The use of data and a more focused curriculum has also increased students' test scores (Davenport & Anderson, 2002). The No Child Left Behind Act of 2001 has required teachers to study their craft more diligently and to focus on the needs of all students, not most students.

One method Georgia is currently using to encourage continuous professional development is a pay incentive for advanced degrees (Campbell &

Lopez, 2008 b). To support this legislation, Campbell and Lopez state that research shows the effectiveness of the current practice of compensation based on degree level and experience is mixed at best.

During the budget crisis of fiscal years 2010 and 2011 Georgia legislators, in an attempt to balance the most revenue-short budget seen since the great depression (Essig, 2009), looked at multiple measures to lower the cost of education. These legislators decided to cancel the increase in compensation for National Board Certified Teachers (Perdue, 2010). According to Clotfelter, Ladd, and Vigdor (2007), this national certification does appear to have a significantly positive effect on student achievement. Additionally, Georgia legislators heavily weighed a merit pay system, Senate Bill 386 (Balfour, Moody, Weber, Heath, & Cowsert, 2010) fueled by financial incentives contained in President Barack Obama's "Race to the Top" (United States Department of Education, 2009). To qualify for the grant, Georgia would have to consider merit pay for its teachers, eliminating the current system of step raises based on years of experience and advanced degrees for educators (Balfour, Moody, Weber, Heath, & Cowsert).

Statement of the Problem

Darling-Hammond, a researcher and advocate of school reform and teacher quality has produced numerous reports concerning the positive effects of teacher training and experience (Darling-Hammond, 1999). In 1999, Darling-Hammond developed a report in which she discussed the importance of strict teacher certification requirements as well as the importance of continued professional

development, including enrollment in advanced degree programs. Although Darling-Hammond had conducted research which documented the importance of continued growth as an educator, other researchers, including Walsh (2001 a) and Johnson (2000) produced conflicting evidence that advanced degrees have no significant impact on student learning, and may even have a slightly negative effect on student achievement. Based on the work of researchers such as Walsh and Johnson, Campbell and Lopez (2008 b) call for the practice of paying teachers additional salaries for advanced degrees to stop, citing that these raises are a poor use of the taxpayers' money.

With the proposed merit pay bill, a concern of educators is that Georgia teachers could lose a major incentive to advance their professional learning. According to Solomon and Podgursky (2000), teachers could become more competitive with each other, and fewer teachers would enroll in universities for advanced degrees. Solomon and Podgursky go on to predict that the schools themselves will not perform as well if merit pay is the method in which teachers are reimbursed because of the loss of the professional learning communities and interdependence among colleagues.

In previous research studies on the effect of advanced degrees on student achievement, researchers have treated other traits and characteristics of the teacher as confounding variables in the determination of the effect of returning to school to receive an advanced degree (Darling-Hammond, 1999; Clotfelter, Ladd, & Vigdor, 2007; Boyd, Goldhaber, Lankford, & Wyckoff, 2007; Goldhaber &

Brewer, 1998; Johnson, 2000; King & Newmann, 2000; Campbell & Lopez, 2008 b; Murnane & Steele, 2007). In fact, when a positive correlation is found between advanced degree and student achievement, the antithesis argument is used as with Ladd and Sass (2010) when they refuted the positive attributes of teachers who had received National Certification by pointing out that these were superior teachers before entering the program, and that the program itself did not increase their productivity.

Theoretical Basis of the Study

In what Dov Seidman (2007) calls the "Paradox of Journey," he explains that in order to move into true understanding and mastery of a subject, a professional must travel through the "Valley of C" (p. 59). That is, learners must challenge their own thinking as they dig deeper into the content of their study before gaining a truer and deeper understanding (Seidman). According to the National Council for Accreditation of Teacher Education (2008) a central purpose of education graduate programs is to deepen the understanding of the content area and instructional practices. Therefore one would reason that the deeper the understanding of the content, including delivery methods, the greater the effectiveness of the teacher.

The link between professional learning and student performance is not limited to graduate programs. The National Staff Development Council (2010) has placed professional learning as a central component to any staff development program. Similarly, researchers such as Eaker, Dufour, and Dufour

(2002), have placed a great deal of emphasis on the creation and maintenance of Professional Learning Communities in which information about best practices and shared ideas is communicated freely throughout the school building.

Programs such as reading and writing workshops designed by Calkins (1994) of Teacher's College of Columbia University require a great deal of professional learning and training to implement and maintain. Guided Reading, as developed largely by Fountas and Pinnell (1996) of Lesley University and Ohio State respectively, also require a great deal of professional learning and support because much emphasis is placed on teacher knowledge of pedagogy and practice instead of a lock-step program. With the absence of a strong professional learning community, neither of these programs can work effectively (Calkins, 1994; Fountas & Pinnell, 1996).

Additionally, Marzano (2003) discussed in his work the importance of classroom management as it relates to student achievement. This deeper understanding of management is another skill taught in many graduate curricula in Advanced In-Field teaching degree, especially on the elementary level where management of learning environments and instruction are indistinguishable (Valdosta State University, 2010).

While the Georgia General Assembly considered the value of advanced degrees, it was of the utmost importance to further study the direct implications on student achievement of these earned Advanced In-Field teaching degrees. This study used analysis of state assessments over a three-year period to

evaluate the effect, or non-effect, that a teacher earning Advanced In-Field teaching degrees had on student achievement. The findings of this study could further inform stakeholders and lawmakers as to the strength of any connection between student achievement and teachers earning Advanced In-Field teaching degrees and could be used to guide future legislation.

Purpose of the Study

As American society continues to become more educated (Crissey, 2009), more and more professionals, including teachers, have been earning advanced degrees. Georgia currently bases its certified teacher pay on experience and degree level (Georgia Department of Education, 2010b). This compensation system is based largely on the premise that as teachers become more highly educated, the students will reap the rewards by receiving more effective, higher quality teaching (Johnson, 2000). Recently, however, this practice has come under attack as multiple studies (Boyd, Goldhaber, Lankford, & Wyckoff, 2007; Campbell & Lopez, 2008 b; Center for Educator Compensation Reform, n.d.; Goldhaber & Brewer, 2006; Murnane & Steele, 2007) have drawn conclusions that advanced teacher degrees have a negligible impact on student achievement. In fact, Johnson (2000) points to certain scenarios in which advanced degrees have a negative impact on student achievement. However, much of the existing research is based on the idea that one teacher group can be compared to another in a single administration of a summative exam; and that experience, professional learning, leadership, and differences in students are simply

confounding variables that can be negated by either using a value added (ASPIRE, 2007) or other regression model of analysis. Additionally, these studies did not differentiate the subject area of the advanced degree earned by the teacher. They did not study the specific effects of an in-field degree earned by a classroom teacher.

The purpose of this research was to study individual teachers over a longitudinal period of five years as they earn their Advanced In-Field teaching degrees and determine if there is any statistically significant growth of student performance during the course of those years as compared to a teacher who did not earn an advanced degree over the same period. An examination of a statistical relationship between the earning of an Advanced In-Field teaching Degree (AID) and student achievement was executed. Data were collected in the areas of reading/language arts as measured by the Criterion Referenced Competency Test (CRCT) among a total population of first through fifth grade general education teachers in a representative middle Georgia school system. Those findings could provide further research into the effectiveness of continued teacher training, including earning Advanced In-Field teaching degrees, and student achievement. One research question with four hypotheses was tested.

Research Question

For the purpose of this study, one research question with four hypotheses was used to evaluate the relationship between the classroom teacher earning an Advanced In-Field teaching degree and student achievement as measured by

student performance in the areas of Reading/Language Arts portions on the Georgia Criterion Referenced Test (CRCT) in grades one through five.

Research Question. What impact does possessing an Advanced In-Field teaching degree have on teaching effectiveness as measured by student performance on the Reading/Language Arts portion of the CRCT?

(Ho1). There is no statistically significant difference in student achievement as measured by the CRCT scores among students when comparing Control Pre to Control Post groups.

(Ho2). There is no statistically significant difference in student achievement as measured by the CRCT scores among students when comparing AID Pre to AID Post groups.

(Ho3). There is no statistically significant difference in student achievement as measured by the CRCT scores between the Control Pre and AID Pre groups.

(Ho4). There is no statistically significant difference in student achievement as measured by the CRCT scores between the Control Post and AID Post groups.

Procedures

The researcher first sought approval from the Valdosta State University Institutional Review Board (IRB) and the Superintendent of the Houston County Board of Education, Houston County, Georgia. After receiving approval from both Valdosta State University and the Houston County School System, the researcher administered a survey of all Houston County Elementary teachers in

grades in which the CRCT is administered. In this survey, they were asked basic demographic questions such as: name, name of school in which they were currently employed, experience in administering the CRCT, and, if applicable, year in which they received their last degree. As results were collected, teachers who had received their most advanced degree between August 2006 and May 2010, and had taught in a classroom in which the CRCT was administered in each of those school years were placed in the Advanced In-Field Teaching Degree (AID) group. For teachers who moved to Houston County after receiving their Advanced In-Field teaching degree, the researcher attempted to collect the data from the teacher's prior school system. If the data were unavailable to the researcher, or if the teacher worked outside of Georgia between 2005 and 2010, the teacher did not participate in the study.

A control group was also established. This group was comprised of teacher respondents who did not earn an advanced degree, but did teach in a Houston County Elementary School in a classroom in which the CRCT was administered each year between 2005-2010. This allowed for pre and post year equivalents of the August 2006 through May 2010 Advanced In-Field degree group.

Once groups were established, the researcher collected CRCT data pre and post from each member of the AID and from the equivalent time period from the control group through the resources of the Houston County Board of Education and placed these data into a database. These data were analyzed for

statistical significance and effect size. This study addresses methodology in Chapter 3 and presents findings and data analysis in Chapter 4.

Limitations of the Study

The greatest limitations of this study are sample size and breadth. Only twenty-three elementary schools all from one middle Georgia school system were sampled. Extensive requirements to be placed in the Advanced In-Field Degree group were also maintained. In order to be placed in the AID group, a teacher must have taught in a grade in which the CRCT was administered both pre and post their Advanced In-Field teaching degree to insure consistent instrumentation and evaluation. Houston County, as described in chapter three, is representational of the teacher population in Georgia. However, it is only a representation of the entire teacher population in Georgia. With analysis of only one county performed, the total population considered was very condensed and represents only one set of leadership principles and professional learning practices and expectations. However, every possible consideration was made to isolate the effect of the Advanced In-Field degree by matching the control group demographic as closely with the study group as is possible, specifically in socio-economic status of the schools represented and grade levels taught. This is discussed in more detail in chapter three. Due to the condensed area study, reservations about the generalization of these results to an entire region or state should be considered before such generalizations occur. Given more time and

resources, this study could be reproduced in multiple systems throughout Georgia to increase the power of the results.

Definition of Terms

CRCT. Criterion Referenced Competency Test. This test is "designed to measure how well students acquire the skills and knowledge described in the in the Georgia Performance Standards (GPS)." During this study, all students in Georgia grades one through eight were required to participate in this cumulative assessment. Scoring is divided into three performance levels: Did Not Meet (Level 1), Meets (Level 2), and Exceeds (Level 3) (Georgia Department of Education, 2010f).

Reading/Language Arts. Although the CRCT measures these two components separately, the results are combined into an RLA score which this researcher used in research question number one (Georgia Department of Education, 2010f)..

NCLB. No Child Left Behind Act of 2001. Federal Legislation passed in 2001 designed to measure the academic growth of students and determine the effectiveness of schools towards that means.

GPS. Georgia Performance Standards. The revised curriculum of all Georgia public schools which is designed to provide clear expectations for instruction, assessment and student work (Georgia Department of Education, 2010c).

AYP. Adequate Yearly Progress. Under the No Child Left Behind Act of 2001 each school is required to show growth in student achievement as measured by standardized testing, such as the CRCT (Georgia Department of Education, 2010 d)

Advanced In-Field Teaching Degree (AID). An education graduate degree earned from a college or university in the same content area and/or level that a teacher is currently teaching.

Significance of the Study

The purpose of this study is to further investigate the connection between effective teaching practices as demonstrated through student performance and continual professional growth of classroom teachers, including earning Advanced In-Field degrees. The current Georgia model for teacher compensation awards teachers higher salaries based on their degree levels and experience level. As a result, many teachers earn advanced degrees. The results of this study could be used to further inform lawmakers as to the effectiveness of this practice, and could be used to demonstrate to colleges and universities the effectiveness of their programs in providing for the continual development of educational professionals. Additionally, teachers could benefit from the information produced in this study to consider the value of advanced degrees for their students as they determine how they will best continue their professional growth.

Organization of the Study

Chapter 2 provides a review of the literature for each of the following topics: progression of school accountability, assessment, professional learning, teacher certification and compensation procedures, recent changes to college and university education graduate programs, comparative work on advanced degrees and their correlation with student achievement. Chapter 3 is a detailed look at the ethical considerations, participants, research design, instrumentation, data collection and analysis, and study limitations. Chapter 4 presents the results of the data analysis and the findings of the study and Chapter 5 offers summary, discussion, conclusions, and suggestions for future research into this area of study.

Chapter II

REVIEW OF LITERATURE

This review of literature begins by detailing the history and progression of school accountability. Next, this review looks at the value and forms of student assessment. Following sections examine professional learning, teacher certification and compensation procedures and recent changes to college and university education graduate programs. Finally this chapter closes with an in-depth review of comparative work on advanced degrees and their correlation with student achievement.

Public school systems throughout the United States are struggling with the demands for accountability placed on them through the No Child Left Behind Act of 2001 and the more recent Race to the Top Grant of 2009. Under the No Child Left Behind Act of 2001, schools are working to show Adequate Yearly Progress (AYP) through student performance on year-end summative evaluations. The student performance on these summative exams labels a school as effective or needing improvement. Under the requirements of the Race to the Top Grant of 2009 and the No Child Left Behind Act of 2001, school systems are challenged to recruit and retain only the most qualified candidates for teaching positions. As a result, schools are placing a great deal of time and effort, as well as federal and state funds into hiring “Highly Qualified” teachers who are trained and certificated

specifically for the subject and grade level they are expected to teach (Georgia School Council Institute, 2007, 2008). However, as demand increases for more highly trained, highly qualified teachers, Georgia is considering no longer paying teachers for advanced training or degrees, only for the lowest level degree that will gain them “Highly Qualified” status (Georgia General Assembly, 2010).

Progression of School Accountability

Educators currently operate under the requirements of the No Child Left Behind Act of 2001, and in 2010 Georgia received funding under the Race to the Top Grant of 2009 (Badertscher and McWhirter, 2010). Although these are both examples of controversial legislation placing great demands on schools, administrators, and students regarding increased accountability and financial repercussions for failure (No Child Left Behind [NCLB], 2001, 2008), they are only recent attempts of the federal government to hold schools accountable.

On March 2, 1867, the federal government created the Office of Education (New York State Education Department, 2006). This office’s power was limited and it served primarily as an oversight organization, mandated to monitor the academic progress of underprivileged students in American schools that were receiving federal aid (States' Impact on Federal Education Policy Project, 2009). The creation of this post in 1867 began a political struggle over public education in the United States between federal and state governments continues today (States' Impact on Federal Education Policy Project).

During World War I, interest in vocational-technical education and job-based education led to passage of legislation such as the Smith-Hughes Act (Smith, 1999). This garnered the first national approval of vocational education in the public school system, but also placed federal demands on state boards of education in order to receive federal aid (Smith).

In contrast to the Smith-Hughes Act, during the latter half of the 1930's, multiple bills were introduced in Congress that provided general aid to schools; however, these bills were repeatedly rejected due to Congress' belief that the responsibility for education was a state issue (States' Impact on Federal Education Policy Project, 2009). This debate continued into future decades. Dwight D. Eisenhower, as president of Columbia University, wrote, "Unless we are careful, even the great and necessary educational process in our county will become yet another vehicle by which the believers in paternalism, if not outright socialism, will gain still additional power for the central government" (States' Impact on Federal Education Policy Project, p. 7).

The next major debate concerning school effectiveness dealt with segregation (States' Impact on Federal Education Policy Project, 2009). In 1954, the Supreme Court ruled in the Brown v. Board of Education of Topeka, Kansas case that segregation was inherently unequal (Brown v. Board of Education, 1954) and federal aid would be necessary to facilitate desegregation. However, desegregation, according to Eisenhower, recently elected as President of the

United States, would need to proceed slowly to make the social strain bearable (States' Impact on Federal Education Policy Project).

In 1957 a federal policy paper “Education in Russia,” in conjunction with orbit of the Russian Satellite “Sputnik” in 1958, prompted Congress to pass the National Defense Education Act of 1958 to pour previously unheard of funds into math, science, engineering and foreign languages (States' Impact on Federal Education Policy Project, 2009). The United States was now federally funding public education more than at any other time in the nation’s history.

With the signing of the Elementary and Secondary Education Act (ESEA) on April 11, 1965, President Johnson ratified the largest compensatory education program to date (States' Impact on Federal Education Policy Project, 2009). In order to focus on the needs of students, the Elementary and Secondary Education Act of 1965 was originally divided into five chapters, or titles, each addressing a specific area of need (States' Impact on Federal Education Policy Project). Title I focused on improvement of instruction and resources available to children living in poverty. It also provided grants that could be used to purchase textbooks, teachers or technology. Title II provided funding for additional resources in the school libraries. Title III allowed students to be creative and contemporaneous by providing funding for programs such as music and foreign languages. Funds for professional development and establishment of best practices in teaching were provided through Title IV. Title V provided funding to fully develop state departments of education (Strevig, 2009). However, this act

did not require states to show a connection between the use of Title funds and student performance (States' Impact on Federal Education Policy Project).

Corresponding with this influx of money and social reform in schools, James Coleman, a professor at Johns Hopkins University, was commissioned to review the effectiveness of compensatory programs and integration. Interestingly, Coleman's (1966) report, *On Equality of Educational Opportunity Study*, found that neither integration nor compensatory programs made an impact on student achievement. Coleman suggested that the only true mechanism of academic growth was to increase the socio-economic status of the students' families.

Following the 1966 Coleman report, Edmonds, Brookover, Lawrence Lezotte and like-minded peers began to field studies of their own (Lezotte, 2009). These studies determined that there were certain correlates that effective schools possessed, and with the implementation and monitoring of these correlates, schools could overcome the societal shortcomings of underprivileged students (Edmonds, 1982).

Almost immediately after its adoption, the Elementary and Secondary Education Act of 1965 came under fire as being unable to monitor the effective implementation of the resources, and the outcomes, if any, on student performance (States' Impact on Federal Education Policy Project, 2009). In 1967, Albert H. Quie recommended an amendment that would provide authority back to the states where they could confirm the appropriate and effective use of the funds (States' Impact of Federal Policy Project). Although this amendment was

eventually defeated, it reestablished the unrest over federal government control in school systems (States' Impact on Federal Education Policy Project).

In 1969, Martin and McClure released a critique of the Elementary and Secondary Education Act of 1965 entitled “Title I of ESEA: Is it Helping Poor Children?” in which they accused school systems of misusing funds designed to help impoverished children by using Title I funds for providing opportunities to students who do not qualify (Roza, Miller, & Hill, 2005). In one startling criticism, Arthur Jensen (1969) of the University of California at Berkeley stated that Title I could not succeed because the issue of poor performing students was more genetic than environmental. These criticisms were part of a growing concern that the effectiveness of Title funds was not being proven by the schools and a a result of this concern, a national system of standardized tests by the National Association of Educational Progress (NAEP) was established (States' Impact on Federal Education Policy Project, 2009).

The NAEP had very little initial reporting power; however, it sampled students from all over the country to represent regions and environments (States' Impact on Federal Education Policy Project, 2009). NAEP did not report on the effectiveness of individual states, nor did the organization have any punitive power over low performing schools (States' Impact on Federal Education Policy Project). It was designed to assess the educational progress of the country as a whole, represented only in multi-staged regions. However, NAEP was not a federal government entity either. It was a separate non-profit organization that

was led by state governors, chief state school officers, and state legislators (States' Impact on Federal Education Policy Project). In *The Contest Between Large-Scale Accountability Testing and Assessment in the Service of Learning, 1970-2001,* Shepard states, “The independence of [NAEP] from specific educational programs or political jurisdictions was further assured by both its data collection methods and its administrative structure…” (States' Impact on Federal Education Policy Project, p. 25). From its beginning, the NAEP was not used to evaluate the effectiveness of any school or any federal program, simply to report results (States' Impact on Federal Education Policy Project).

In 1974, the United States Supreme Court heard the case of Miliken v. Bradley, which involved the busing of students in Detroit. In its decision, the Supreme Court decided that rather than busing suburban students into the city to achieve integration, the individual school systems would not be consolidated (Miliken v. Bradley, 1974). Congress’ response to this decision was a series of amendments to the ESEA that dramatically expanded aid to compensatory programs. These 1974 educational amendments would increase federal spending over twelve billion dollars over the next four years (States' Impact on Federal Education Policy Project, 2009).

Additionally, Massachusetts began to collect data from statewide achievement tests in 1974. These data were used to find specific measures of student success in each educational program using standardized tests such as the NAEP (States' Impact on Federal Education Policy Project, 2009). This

process was quickly criticized by various politicians and educational professionals as taking an over simplistic stance on the purpose of education (States' Impact on Federal Education Policy Project).

During the Reagan era, a top priority of the administration was to scale back federal aid to schools, relinquish federal control, and give it back to the states (States' Impact on Federal Education Policy Project, 2009). However, the Education Consolidation and Improvement Act of 1981 was very vague in the acceptable use of federal funds and left states with many uncertainties (Darling-Hammond, 1981). While this policy was viewed by some as an attempt to give authority over and responsibility for education back to the states, many others, including the RAND Corporation, a non-profit institution structured to improve policy and decision-making through research and analysis (RAND Corporation, 1994), saw it as irresponsible deregulation. Milbrey Wallin McLaughlin, a member of the Rand Corporation, stated in the Harvard Educational Review that the Reagan administration did not so much reform the federal role in education, but gave the power back to the very entities whose inability to address the issues and goals of education required the need for federal intervention (McLaughlin, 1982).

Conversely, during this federal deregulation to the states, the Reagan administration released an extremely critical report on the state of American Education titled *A Nation at Risk: The Imperative for Educational Reform* (States' Impact on Federal Education Policy Project, 2009). Gardner chaired the

committee, and in this report, he established the major shortcomings of the American students as compared to those from other industrialized nations (The National Commission on the Excellence of Education, 1983). In this report, the commission attested that America was in danger of losing its place of dominance in the world due to the lack of a highly effective education system. As principle reasons, the commission pointed to teacher shortages, lack of teacher training, especially in math and science, lack of instructional time, and lack of effort from American students (Center for the Study of Mathematics Curriculum - 2005, 2005).

Although the Reagan administration had been releasing both control and authority of their individual educational systems back to the states, it also called for greater accountability and achievement (States' Impact on Federal Education Policy Project, 2009). A Nation at Risk called for nationwide standardized testing to measure the achievement of students (States' Impact on Federal Education Policy Project). To enforce standardized testing, federal funds were hinged upon it; any state that did not have improving test scores would not receive federal aid (The National Commission on the Excellence of Education, 1983). This marked a major change in federal education policy; no longer would funds be hinged primarily on financial aid, special programs, or desegregation, but on standardized test scores (States' Impact on Federal Education Policy Project).

On March 31, 1994, President Bill Clinton signed the Goals 2000: Educate America Act, which was designed to encourage aggressive thinking and

transformation of schools systems based on specific nationwide goals (The Education Coalition, 2008). In signing the act, Clinton challenged the states and local systems, “Come up with aggressive plans, we will help you fund them and go forward, but you are in charge. The federal government can't tell you how to do it, but we can help you get it done” (The Education Coalition, ¶ 2). Goals 2000 addressed 1) school readiness, 2) graduation rate, 3) rigorous content, 4) world dominance in math and science, 5) literacy rates, 6) drug and violence free schools, 7) professional development for educators, 8) parental involvement (United States Department of Education, 1994; Strevig, 2009). This act was unique in that it provided funding to states for virtually any standards-based reform initiative; consequently, the federal government could not guarantee the uniformity of high quality standards between states (States' Impact on Federal Education Policy Project, 2009). In addition, this act did not address a particular group of students or subject areas; however, Clinton did reinstate the ESEA, now renamed the Improving America’s School Act (IASA) for targeting at-risk students (States' Impact on Federal Education Policy Project).

Seven years after the signing of Goals 2000, President George W. Bush signed the No Child Left Behind Act of 2001 into law on January 8th, 2002 (Wright & Wright, 2010). Bush stated, “We know that every child can learn. Now is the time to ensure that every child does learn” (Wright & Wright, ¶ 2). Serving as the reauthorization of the Elementary and Secondary Act of 1965, the new law focused on school improvement in four major categories 1) stronger

accountability, 2) more freedom for states and local school districts, 3) proven educational methods, and 4) school choice (No Child Left Behind [NCLB], 2001, 2008). This sweeping reform called upon states to develop their own accountability plans that would raise overall student achievement, and eliminate achievement gaps between subpopulations of students (NCLB, 2001, 2008). States were then given the financial freedom to focus on their areas of need for improvement, such as hiring high quality teachers and basing instruction on research-based strategies (NCLB, 2001, 2008). However, if a school or school system failed to make Adequate Yearly Progress (AYP) for two consecutive years, parents would be allowed to remove their children from that school and move them to another school within the district, at the district's expense (NCLB, 2001, 2008).

In measuring AYP, Annual Measurable Objectives (AMO) are established by individual states (No Child Left Behind [NCLB], 2001, 2008). States use the incremental increase of AMO as benchmarks toward the ultimate goal of 100% of students passing standardized assessments in the critical areas of reading and math by the 2013-2014 school year; additionally, these standardized tests must closely align with the rigorous standards taught in those content areas (NCLB, 2001, 2008). Criticism of the No Child Left Behind Act of 2001 includes what some see as unrealistic goals, the use of a single measure to indicate student success, and the assertion that teachers are no longer teaching for

understanding and with rigor, but that they are teaching only the material covered on the test (Deubel, 2008).

The American Recovery and Reinvestment Act of 2009 is a $40 billion dollar stabilization grant passed in 2009 that will expire in the 2011 fiscal year; included in this act is *The Race to the Top Fund* (United States Department of Education, 2009). This fund is a competitive grant program that requires states to submit a plan addressing four education reform goals. These goals are 1) use of internationally-benchmarked standards and assessments, 2) the recruitment and retention of effective teachers and principals, 3) the adoption of data systems to track student progress, and 4) the improvement of low performing schools (States' Impact on Federal Education Policy Project, 2009). Additionally, states must agree to the use of student performance data in the assessment of teacher and administrator effectiveness, including the implementation of performance based salaries (United States Department of Education, 2009).

In September of 2009, the reauthorization process for the No Child Left Behind Act of 2001 began (States' Impact on Federal Education Policy Project, 2009), and a new emphasis was placed on aligning the core standards of the states' curricula (Common Core State Standards, 2010). As demonstrated in our educational legislative history, and our current federal incentives and acts, the wrangling for control and increased accountability of education between federal and state governments is ongoing.

Value and Forms of Student Assessment in Georgia

To fulfill the measurement aspect of the N0 Child Left Behind Act of 2001 Georgia created the Georgia Student Assessment Program (GSAP) (Georgia Department of Education, 2010-2011). This program contains multiple measures of student achievement, including criterion-referenced assessments at the elementary, middle, and high school levels; the National Assessment of Educational Progress in grades 4, 8 and 12; an English language proficiency test in grades K-12; and an optional norm-referenced test (Georgia Department of Education). In addition, the GSAP establishes the mandatory tests for the state. Beginning in the year 2011, Georgia will administer Criterion Reference Tests (CRCT) in only grades 3-8 (Georgia Department of Education). Due to budget restraints, the Georgia Department of Education has discontinued the practice of giving the CRCT and the Georgia Alternative Assessment (GAA) to primary students in Georgia effective in the 2010-2011 school year (Georgia Department of Education). Other mandatory state assessments include ACCESS tests for English Language Learners in grades K-12, End-of-Course Tests (EOCT) in many high school subject areas, the Georgia Alternate Assessment in grades K-8 and 11 (GAA); Georgia High School Graduation Tests (GHSGT) in English/Language Arts, Mathematics, Science, and Social Studies, principally in grades 11-12, Georgia High School Writing Test in Grades 11-12 (GHSWT), Georgia Kindergarten Inventory of Developing Skills (GKIDS), Grades 5 and 8 Writing Assessments, National Assessment of Educational Progress (NAEP) in

reading, mathematics and science in grades 4, 8, and 12, pilot and special studies, and High School Transcript Study (Georgia Department of Education). Each measurement is used to address mastery of the Georgia Performance Standards, however only the summative assessments including the CRCT in elementary and middle schools, Graduation Tests in high school, and the Georgia Alternative Assessment for students with severe cognitive impairments are used to report mastery of the Georgia Performance standards in the form of Adequate Yearly Progress (Georgia Department of Education, 2007).

AYP measures student progress towards mastery of standards. All students must be progressing toward 100% mastery by the year 2014 (No Child Left Behind [NCLB], 2001, 2008). The American Recovery and Reinvestment Act of 2009 has not changed that requirement (United States Department of Education, 2009).

In order for a school district to achieve AYP, each school within that district must meet three criteria. Each school must have a minimum of 95% participation rate in the summative assessment used to report AYP (Georgia Department of Education, 2007). However, this measurement is not simply 95% of the total student population; this measurement is for each subpopulation of students within the school (Georgia Department of Education). A subpopulation is defined as any student group with a minimum of forty members (No Child Left Behind [NCLB], 2001, 2008). To achieve full test participation, 95% of all students and each subpopulation must participate in Reading/English Language

Arts and Mathematics assessments (Georgia Department of Education). Next, each school as a whole, and each subpopulation, must meet or exceed the state's Annual Measurable Objective (AMO) on state required English/Language Arts and Mathematics assessments (Georgia Department of Education). Additionally, any group that has fewer than forty members, but does represent ten or more percent of the total student population in the AYP measured grades is also considered a subpopulation for the purpose of calculating AMO (Georgia Department of Education). Finally, schools are measured on the Second Indicator (NCLB, 2001, 2008). For this indicator, schools are measured using the general population and the subpopulations within the school. Subpopulations are measured in the same manner used in determining AMO (Georgia Department of Education). Second Indicators vary in elementary in middle schools as Georgia provided some degree of flexibility in determining AYP, but in high schools, the Second Indicator is the graduation rate (Kennesaw State/GDOE, 2005).

In addition to the removal of the CRCT in first and second grades, the norm-referenced test, the Iowa Test of Basic Skills has also been removed from the testing calendar (Georgia Department of Education, 2010-2011). However, to meet state and national requirements, Georgia does still participate in the National Assessment of Educational Progress (NAEP) and both regional and national data are collected and disaggregated (Georgia Department of Education). The NAEP, more commonly known as the "Nation's Report Card," is a biennial assessment used to track achievement in fourth, eighth, and twelfth

grades (Georgia Department of Education). Data have been collected since 1969 and is not designed to provide individual student results, but regional and national results. To accommodate for this loss of valuable data, participating states, including Georgia, have given a state level assessment since 1990 that is identical in content to the national assessment, but allows the data to drill down to subject-matter achievement, instructional experiences, and school environment. Results are reported for populations of students and subgroups of those populations (Georgia Department of Education). Georgia also supports the Preliminary SAT/National Merit Scholarship Qualifying Test (PSAT/NMSQT), the SAT, and ACT tests as measures of anticipated achievement in post-secondary courses (Strevig, 2009). Additionally, students can earn post secondary credit while enrolled in a Georgia high school through Advanced Placement (AP) programs and exams (Strevig).

Each year the Governor's Office of Student Achievement (GOSA) reports the results of the summative assessments in the form of Adequate Yearly Progress (AYP) reports to the general public (The Governor's Office of Student Achievement, 2007). From the Governor's Office of Student Achievement website, the public can study the AYP status of school districts, individual schools, and even the areas of needed improvement for those individual schools (The Governor's Office of Student Achievement).

Although the Georgia Student Assessment Program contains multiple measures of student achievement, only a handful of the most summative are

used to determine AYP (Georgia Department of Education, 2010-2011). Although this practice complies with the No Child Left Behind Act of 2001, it is also a highly contested point of it. Guilfoyle suggests that too much emphasis is placed on a single test, and that it leads to "teaching to the test" (Guilfoyle, 2006, p. 10). She further attests that although the No Child Left Behind Act of 2001 has produced some positive outcomes in regard to student subpopulations, it has not improved student achievement. The material taught has more directly aligned with the test, and that the scope and quality of teaching could decline if corrective action is not taken (Guilfoyle). Similarly, Popham (2006) states that with one summative assessment that provides a single snapshot by which a school is graded, all other assessments and growth become unimportant and inconsequential.

Professional Learning

Over the last several years, there has been a shift from the practice of teaching to the understanding of student learning (Learning Forward, 2010). Students excel from a teacher who has great understanding of best practices and student learning teaches them (Learning Forward). As pressure has mounted on schools and school systems to make Adequate Yearly Progress, researchers have found the necessity to provide school systems with new and progressive methods to facilitate teaching and learning (Marzano, 2003). Staff development has moved from a side note in schools to an initiative to create learning communities (Eaker, DuFour, & DuFour, 2002). This change is so substantial that on September 1, 2010, the National Staff Development Council renamed

itself, Learning Forward. Executive Director Killion wrote that the name change "represents that what we do today in schools affects lives far into the future" (Sawchuck, 2010, pp. 1,¶ 2). The name change also reflects the desire of the organization to guarantee every educator engages in effective professional learning every day so every student achieves (Learning Forward). The National Staff Development Council, or Learning Forward, is dedicated to the idea of professional learning happening every day in every school as opposed to the massive professional learning events that educators have attended in the past. Roy addressed this very issue when she wrote "…[It] does not require separate formal workshops but rather entails providing time for small learning teams to engage in problem-solving protocols, researching classroom challenges and reflecting on results" (2010, p. 3). This new moniker and new idea correlate directly with Eaker, Dufour, and Dufour (2002) who state that in order to improve teaching and learning, they will need to become open and professionally welcoming places where professional learning communities are allowed to foster and grow. They believe these learning communities encourage teachers to share best classroom practices and develop together plans to ensure the mastery of all students in the classrooms. As Fullan (2001) states, Professional Learning Communities allow teachers to incorporate best practices by learning from each other, while purging their instructional repertoire of ineffective or time-consuming practices.

Changing a school culture by implementing interdependent learning communities is a highly complicated procedure that is messy and is not done with a checklist (Fullan, 2001). However there are certain cultural hallmarks including collaboration, clear mission, vision, values, and goals, a focus on learning, democratic leadership, focused school improvement plans, celebration, and persistence that facilitates professional learning communities (Eaker, DuFour, & DuFour, 2002). Eaker, Dufour, and Dufour submit teachers must move from teaching in isolation to teaching in collaborative teams in which information flows freely.

As teachers develop they move from a dependent stage in which they need their peers to help them with basic instructional practices to an independent stage in which they can be self sufficient with very little interaction outside of their classroom; this is a natural progression (Green, 2000). However, for a professional learning community to be fully functional, teachers must rely on each other for improvement, not survival (Eaker, DuFour, & DuFour). It should be noted that such interdependence is not a natural stage of development and must be taught and fostered through a collaborative school environment (Green). After initiating the first step of creating a cultural foundation for the professional learning community, Eaker, Dufour, and Dufour (2002) recommend the second step, the establishment of teacher teams in which each teacher participates that work on planning, creating assessments, and analyzing data. The third step is an intense focus on student achievement and results (Eaker, DuFour, & DuFour).

This type of synergy allows the team to create an instructional product that exceeds the best efforts of any individual teacher in the team and creates what Collins (2001) calls a flywheel effect, or a system of continuous improvement.

Other researchers have also developed professional learning community frameworks that are very similar to the one designed in the work of Eaker, Dufour, and Dufour (2002). However, between the multiple authors, there is a measure of variety in the terminology used to define the steps in creating the teams and culture (Strevig, 2009).

The Georgia Leadership Institute for School Improvement (2010) has centered its work around the idea of collaborative school environments as well. The organization currently advocates the use of a model that includes the building of professional learning communities within schools (Georgia Leadership Institute for School Improvement, 2010).

Another model in professional learning and school improvement is based on the Plan-Do-Check-Act cycle which was established by Davenport and Anderson (2002). In this cycle of continuous improvement, endorsed by The Georgia Leadership Institute for School Improvement, professional learning communities work together to establish a plan to address and issue, perform the steps of the plan, check for progress, and then adjust as necessary to ensure student improvement (Davenport & Anderson, 2002; Georgia Institute for School Improvement, 2010).

One necessary component of any professional learning plan based on continuous improvement is the openness of the school culture (Eaker, DuFour, & DuFour, 2002). Eaker, Dufour, and Dufour report that as professional learning communities move through the stages, it is essential that administration act collaboratively with those teachers, first leading, and then slowly stepping back as teacher take more initiative and take control of their own professional learning communities. Leaders must be willing to grant shared ownership and empower teachers to make best practices decisions once the teachers are solidly involved in a functional professional learning community (Eaker, Dufour & Dufour). In order to be effective, leaders must be aware of the teachers' capacity and only provide the support that is necessary in order to guarantee that the teachers, and ultimately the students, are successful; there must be a true atmosphere of shared leadership in which leaders enable and encourage (Kouzes & Posner, 2007).

Teacher Certification and Compensation Procedures

In the state of Georgia, as in many states, teachers are compensated based on their certification status, which is based on their education level and years of experience (Georgia Department of Education, 2010b). Under the current system, teachers, administrators, and other school professionals are able to calculate their salary based on a chart that rewards teachers for years of experience and advanced degrees.

The No Child Left Behind Act of 2001 required that all states create a plan no later than 2005-2006 school year which includes annual measurable objectives that ensure that each school and school system are on track to guarantee that by 2014 all teachers are highly qualified (Georgia Professional Standards Commission, 2010 b). In 2002-03, Georgia adopted a basic definition of a" Highly Qualified Teacher" as one who holds a bachelor's degree or higher, has a major in the subject area or has passed the state teacher content assessment, and is assigned to teach his/her major subject(s); a veteran teacher is one who has had three or more years of successful teaching experience (Georgia Professional Standards Commission).

In order to be hired as a new elementary teacher in Georgia, a candidate is required to be highly qualified. To be highly qualified, a teacher candidate must: (a) Hold at least a bachelor's degree from a Georgia Professional Standards Commission-accepted institution of higher education; (b) Hold a valid Georgia clear renewable professional teaching certificate in Early Childhood Education; (c) Have a major or equivalent in early childhood education and pass the PSC-approved content assessment for the early childhood education field; be assigned to teach in the area of certification; (d) demonstrate subject matter competency by passing the GACE examination assessing subject knowledge and teaching skills in reading, writing, mathematics, and other areas of basic elementary-school curriculum (The Teacher Center, 2004).

In order to be hired as a new teacher in grades four through eight in Georgia, a candidate is required to be highly qualified. To be highly qualified a teacher candidate must: (a) Hold at least a bachelor's degree from a Georgia Professional Standards Commission-accepted institution of higher education; (b) Hold a valid Georgia clear renewable professional teaching certificate; (c) Have a major or equivalent in the subject(s) that they teach and pass the content assessment in the appropriate field/content area(s); (d) be assigned to teach in the area of certification; (e) Demonstrate a high level of competency in each of the academic subjects in which the teacher teaches by passing a rigorous state academic content assessment in each of the academic subjects in which the teacher teaches (The Teacher Center, 2004). The assessment is the GACE examination for the respective subject(s) and level or successfully completing, in each of the academic subjects that the teacher teaches, an academic major, a graduate degree, coursework equivalent to an undergraduate academic major (The Teacher Center).

In order to be hired as a new teacher in grades seven through twelve in Georgia, a candidate is required to be highly qualified. To be highly qualified a teacher candidate must: (a) Hold at least a bachelor's degree from a Georgia Professional Standards Commission-accepted institution of higher education; (b) Hold a valid Georgia clear renewable professional teaching certificate; (c)Have a major or equivalent in the subject(s) that they teach and pass the content assessment in the appropriate field/content area(s); (d) be assigned to teach in

the area of certification; (e)Demonstrate a high level of competency in each of the academic subjects in which the teacher teaches by passing a rigorous state academic content assessment in each of the academic subjects in which the teacher teaches (The Teacher Center, 2004). The assessment is the GACE examination for the respective subject(s) and level or successfully completing, in each of the academic subjects that the teacher teaches, an academic major, a graduate degree, coursework equivalent to an undergraduate academic major (The Teacher Center).

A second method for certification lies in the application for subject specific certification. This method is an alternate route to certification and is governed by the Georgia Teacher Academy for Preparation and Pedagogy (TAPP) (Middle Georgia RESA, 2010). In this program, candidates can work in a school for three years as a teacher while they obtain their teaching certificate. Participants in TAPP are required to hold a bachelor's degree when they enter the program and pass the same certification tests as traditional route educators (Middle Georgia RESA, 2010). The only exception to this requirement is if the candidate holds a minimum of a master's degree in the subject area in which they teach, but that option is for teachers in grades four through twelve (Middle Georgia RESA).

In each case, a teacher candidate must participate in a teacher training course sequence, and the candidate must pass one of the Georgia Assessment for the Certification of Educators (GACE) assessments (Pearson Education, 2010). The purpose of the GACE exams is to assess the knowledge and skills of

prospective Georgia public school teachers, and to help the Georgia Professional Standards Commission meet its goal of guaranteeing that all Georgia public school teachers have the required knowledge and skills to be a successful teacher (Pearson Education).

As the implementation guidelines of Georgia were established and timelines were set, veteran teachers were given an alternate course toward becoming highly qualified. Experienced educators could apply for the High, Objective, Uniform State Standard of Evaluation (HOUSSE) (The Teacher Center, 2004). This evaluation was based on three or more years successful teaching experience in core subjects based on annual evaluations (The Teacher Center). However, after 2006 this evaluation method was available only for a small number of special education teachers. Regular education teachers could no longer apply for this evaluation (Georgia Professional Standards Commission, 2010 b).

Once a teacher is certified, the pay scale becomes partly based on the level of certification, which in turn is based on the level of education the teacher possesses (Georgia Department of Education, 2010 b). The remaining portion of the pay scale is determined by the teacher's years of experience (Georgia Department of Education). The base pay is established at a T-4 level, and is generally assigned to a teacher with a bachelor's degree, in most cases the minimum requirement to become a certified teacher (Georgia Professional Standards Commission, 2010 c). However, in some cases, a vocational area

teacher may not hold a bachelor's degree. According to the Georgia Professional Standards Commission (2010c), if a vocational teacher only holds a high school diploma, he is assigned a T-1 certificate, which receives 94.50% of the base salary annually (Georgia Professional Standards Commission). Again, in vocational education cases, a teacher may be hired who does not hold a bachelor's degree, but does either hold an associate's degree, a vocational degree, or forty-five college credits (Georgia Professional Standards Commission). That teacher would be certified at the T-2 level, and would receive 97.25% of the base salary annually (Georgia Department of Education, 2010b). Each of the remaining levels of certification has a nonrenewable provisional level and a professional level (Georgia Professional Standards Commission, 2010 d). The provisional certificate allows individuals who have completed non-education degrees to enter the teaching field for three years before an approved teacher preparation program has been completed. In most cases, a degree in the field and a passing score on the PSC approved certification test, will qualify an applicant for provisional certification (Georgia Professional Standards Commission). Provisional certificates are most often awarded to TAPP teachers (Georgia Professional Standards Commission). A teacher holding a non-renewable provisional T-4 certificate receives 94.50% of the base pay while a teacher holding a professional T-4 receives 100% of the base pay (Georgia Department of Education). A teacher who holds a Master's Degree is typically certified at the T-5 level (Georgia Professional Standards Commission). A

teacher holding a nonrenewable provisional T-5 receives 106.5% of the base pay while a professional T-5 receives 115.00% of the base pay (Georgia Department of Education). Teachers who hold a specialist degree, or have been admitted to doctoral candidacy are certified at the T-6 level (Georgia Professional Standards Commission). Teachers holding nonrenewable provisional and professional T-6 certificates are awarded 106.50% of the T-5 and 113.00% of the T-5 salary respectively (Georgia Department of Education). The highest level of certificate awarded by Georgia is the T-7 certificate which requires the teacher to hold a Ph.D. or Ed.D. to qualify (Georgia Professional Standards Commission). Teachers holding non-renewable provisional certificates are paid 106.5% of the T-6 while the professional certificate is paid 111.00% of the T-6 (Georgia Department of Education). The state also awards leadership certificates designated by an L, and service certificates designated by an S, but these designations follow the same salary schedule as the T certificates (Georgia Professional Standards Commission, 2010 e).

The other component used to determine compensation for teachers is the salary step schedule (Georgia Department of Education, 2010b). Steps designate raises based on the number of years creditable service, and step raises are given after the 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 10th, 12th, 14th, 16th, 18th, 20th, and 21st years of creditable experience (Georgia Department of Education). No additional step raises are provided after twenty-one years of experience (Georgia Department of Education).

Recent Changes to Education Graduate Programs

In Georgia, teachers who hold advanced degrees in leadership no longer receive their pay incentives if they are not in leadership positions (Georgia General Assembly, 2010). This measure was taken by the state government as a measure to save state funds, but it also came about due to research that pointed to no improvement in student performance as a result of a classroom teacher earning a leadership degree (Georgia General Assembly). Predictions exist at this time that similar legislation may be on the horizon that will pay for advanced degrees only if the classroom teacher is directly teaching the content in which the advanced degree is held, if pay for advanced degrees will continue to be awarded at all (Lee, 2010).

In 2008 the National Council for Accreditation of Teacher Education (NCATE) passed its most recent revision of teacher preparation programs. These standards were to go into effect in 2008, and guide institutions in their teacher preparation programs until 2015 (National Council for Accreditation of Teacher Education, 2008). According to Interim Dean Lee of the College of Education at Valdosta State University, these are without a doubt the most explicit descriptions of indicators ever provided by NCATE for advanced teacher preparation programs (Lee, 2010). NCATE recognized in this document that this revisit of its standards would not be a major departure from the reforms of 2001, but would serve mainly as an update that would streamline content and clarify meaning (National Council for Accreditation of Teacher Education, 2008). In its

own professional standards document, NCATE states, “The National Council for Accreditation of Teacher Education (NCATE) is officially recognized by the U.S. Department of Education as an accrediting body for institutions that prepare teachers and other professional personnel for work in preschool, elementary, and secondary schools” (National Council for Accreditation of Teacher Education, 2008, p. 1). In agreement with Darling-Hammond, essential to NCATE is the premise that rigorous accreditation, state licensing, and advanced board certification are essential in preparing teachers to meet the needs of all students (Darling-Hammond, 1999; National Council for Accreditation of Teacher Education). The mission and scope of NCATE contains a large emphasis on research based instructional strategies, instructional choices based on student learning styles, reflective practice and feedback, and technology (National Council for Accreditation of Teacher Education). NCATE’s scope also includes advanced programs, such as a Master’s Degree, specifically designed to further the pedagogical practice of teachers (National Council for Accreditation of Teacher Education).

In the standards descriptions, NCATE describes the expectations for each standard in three categories, unacceptable, acceptable, and target (National Council for Accreditation of Teacher Education, 2008). NCATE’s first standard deals with candidate knowledge, skills, and professional disposition, it is in this standard that NCATE provides the highest structure and clarification to accepted graduate programs (National Council for Accreditation of Teacher Education). In

this standard, the target behavior under content knowledge states that graduate advanced teacher students are expected to be “recognized experts in the fields they teach” (National Council for Accreditation of Teacher Education, p. 16)

Under pedagogical content knowledge, NCATE states for target behavior:

> Candidates in advanced programs for teachers have expertise in pedagogical content knowledge and share their expertise through leadership and mentoring roles in their schools and communities. They understand and address student preconceptions that hinder learning. They are able to critique research and theories related to pedagogy and learning. They are able to select and develop instructional strategies and technologies, based on research and experience, that help all students learn (National Council for Accreditation of Teacher Education, p. 17).

Under professional and pedagogical knowledge and skills, target behavior is notated as:

> Candidates in advanced programs for teacher develop expertise in certain aspects of professional and pedagogical knowledge and contribute to the dialogues based on their research and experiences. They take on leadership roles in the professional community and collaborate with colleagues to contribute to school improvement and renewal (National Council for Accreditation of Teacher Education, p. 18).

Under student learning, NCATE states as its target behaviors:

> Candidates in advanced programs for teachers have a thorough understanding of assessment. They analyze student, classroom, and school performance data and make data driven decision about strategies for teaching and learning so that all students learn. They collaborate with other professionals to identify and design strategies and interventions that support student learning (National Council for Accreditation of Teacher Education, p. 19).

As the NCATE standards clearly define, all teacher candidates are to be trained on best practices teaching techniques, and those earning advanced degrees should be experts in the field in which they are trained (National Council for Accreditation of Teacher Education).

Comparative work on advanced degrees and their correlation with student achievement

Among educators, there has been a common consensus for quite some time that the most important factor in a child's education was an effective teacher. Marzano (2003) published a meta-study deigned to quantify just how large an impact the teacher has on a student's success and how to put that knowledge into practical application. Marzano states that a teacher who is effective in the craft of teaching and learning will show a 53% gain in student achievement in one year as opposed to ineffective teachers who will post at 14% gain in that same time frame. Astonishingly, the cumulative result of effective teachers over three years is an 83% gain in student achievement whereas

ineffective teachers will post only a 29% gain (Marzano). In fact, Marzano goes on to state that without question, the effectiveness of the individual teacher is the largest indicator of student success, "…in my synthesis of the research, I also found that about 67 percent of this effect is due to the effect of individual teachers. That is, about 13 percent of the variance in student achievement in a given subject area is due to what the teacher does and about 7 percent is due to what the school does" (p. 74). According to Marzano, students in highly effective schools with ineffective teachers dropped from the 50th percentile to the 37th percentile in two years, and in contrast, those schools that were ineffective, but employed effective teachers posted students moving from the 50th percentile to the 63rd in two years. However, students who attended effective schools and had effective teachers increased from the 50th percentile to the 96th percentile in a two year period (Marzano).

Although Marzano's (2003) research is clear on the impact of an effective teacher, there is little consensus in the literature on what makes a teacher highly effective. Darling-Hammond (1999), then of Stanford University, with the support of the Educational Research and Development Centers Program, produced research in which she concluded that policies adopted by states regarding teacher education, licensing, hiring, and professional learning had a significant impact on the effectiveness of teachers employed in that state. Specifically, Darling-Hammond points to states that have increased the requirements of teacher certification such as North Carolina and Connecticut. She then compares

those states achievement data with the national average achievement data. Specifically in the case of North Carolina, Darling-Hammond found that test scores overall outpaced the rest of the nation. More specifically in fourth grade reading from 1992-1994, North Carolina improved scores on the National Assessment of Educational Progress (NAEP) while the national average actually dropped. In addition, she found that Connecticut outpaced the nation on improvement on each area of the NAEP. Furthermore, Darling-Hammond states,

> Connecticut also required teachers to earn a master's degree in education for a continuing license and supported new, content-based professional development strategies in universities and school districts…state officials pointed to the salary increases and teacher education investments as central to their progress (p. 23).

Darling-Hammond was also able to compare the success of North Carolina to similar population groups in Georgia, and she found that there were significant increases of the North Carolina groups over the Georgia groups even though Georgia was in the process of creating a system of sanctions for schools for failing to show and adequate growth of student achievement (Darling-Hammond). She states, "One could speculate that student testing and curriculum changes are not in themselves powerful enough reforms to overcome the depressing effects on teaching quality of low standards for teacher education, licensing, and hiring, and the resulting large numbers of under-prepared teachers" (p. 25).

In her findings Darling-Hammond continues, “Teacher quality characteristics are very significantly and positively correlated with student outcomes. Characteristics such as education level…show positive but less strong relationships…” (Darling-Hammond, p. 29).

Walsh (2001 a) of the Abell foundation produced research that stated the opposite of Darling-Hammond’s work. Walsh’s paper specifically looked at the process of teacher certification in Maryland, but she goes on to generalize her results to every state’s certification procedures. Walsh claims that more stringent certification requirements have no positive effect on student performance and even damages the profession by discouraging candidates from pursuing their certification. Walsh states, “Maryland should eliminate the coursework requirements for teacher certification, in favor of much simpler and more flexible rules for entry. The only fixed requirement should be a bachelor’s degree and a passing score on an appropriate teacher’s exam” (pp. vii-viii).

Walsh further states that work advocating teacher certification procedures may be selective in research it cites, or uses disingenuous research techniques to force results that are inaccurate, or outright untrue. Politics also play a large part in certification advocacy according to Walsh as she explains, “…does not appear to be premised on certification’s ability to assure teacher quality, but rather on protecting the power wielded by the State’s education establishment and national teacher organizations…” (p. vii). Also, Walsh claims attests “an advanced teaching degree makes no difference in student achievement unless

the teacher is at the secondary level and the master's degree is in the academic discipline begin taught" (p. 7). Walsh states there is no evidence at all that teachers in an elementary school are made more effective by education classes in college, and that the only true measure of a teacher's effectiveness is verbal acuity.

Following Walsh's rebuttal of the work of Darling-Hammond and her colleagues, Darling-Hammond posted her own rebuttal of Walsh's work, which in turn caused Walsh (2001 b) to create a rejoinder of the rebuttal of Darling-Hammond. In her paper, Walsh attempts to answer all of Darling-Hammond's accusations by pointing out flaws in Darling-Hammond's work, specifically the case studies that Darling-Hammond chose to study, "Two of them are immaterial because they do not discuss teacher certification and not one of the five alters any statement in the paper" (p. 3). Darling-Hammond (1999) pointed out that in her research there were multiple measurements in teacher certification that had positive effects on student performance. Walsh (2002) answers by claiming that college courses make no difference in teacher effectiveness and that the only consistent measurement was that of verbal acuity. Another notable argument concerns Darling-Hammond's statement, "More teacher education is better, as evidenced by the fact that teachers who completed 5-year training programs are more effective than teachers who attended 4-year programs" (2002, p. 25). Walsh rebuts that neither of the studies referenced by Darling-Hammond use

student achievement as a measurement for effectiveness. The debate over every detail of both of these reports continues.

As Walsh (2002) and Darling-Hammond (1999) (2002) demonstrate, the process of teacher certification is heavily contested and it is a very personal subject in which researchers are passionate about their beliefs. As the debate for teacher certification continues, teacher certification procedures have recently begun to be scrutinized and changed as required in the Race to the Top grants (United States Department of Education, 2009). One initiative of Race to the Top is a pay for performance measure that would dissolve the current system of rewarding teachers for advanced degrees and experience, and replace that with a system in which teacher with high test scores are rewarded on year end evaluations and teachers with low test scores are sanctioned (Roebelen, 2009).

In 2009, Strevig studied the effect of advanced leadership degrees on teacher performance. Specifically, she studied the effect of on student performance when a classroom teacher obtains a leadership degree, but remains in the classroom. She found that although teacher attitudes changed as a result of the degree and that the teachers became more valuable in their professional learning communities as teacher leaders, there was no statistically significant improvement in student performance because of this degree. This research supported the work of Darling-Hammond (1999) who found that additional content or pedagogical knowledge only had a positive impact on student performance when it was directly correlated to the topic or discipline taught.

Although the evidence concerning student achievement and advanced degrees in non-related fields seems clear in the work of Darling-Hammond (1999) and Strevig (2009), the argument in relation to in-field teaching degrees seems far from over. Whereas Darling-Hammond (1999) and her colleagues find value in five year degrees, Walsh (2001a) found that advanced teaching or content degrees only make a difference in secondary science and math, and that the effect is only minimal.

Using the Georgia High School Graduation Test (GHSGT) as a measuring tool, Campbell and Lopez (2008 b) created an empirical model in which they studied student performance on the GHSGT at a school in which many teachers have advanced degrees as compared to schools where many teachers do not possess advanced degrees. They found that there was no statistically significant correlation between student performance on the GHSGT and advanced degrees held by the teacher. In fact, they attest that an advanced degree may actually have a small, albeit insignificant, negative effect on student performance on the GHSGT. However, Campbell and Lopez (2008) do not differentiate between degree types and consider any advanced degree held by a teacher, whether the degree was in-field or not. In contrast, Rice (2003) found that not only do in-field advanced degrees make a difference, specifically in secondary math and science, but all relevant college coursework has a positive impact, and even the institution itself has an impact on student performance. Interestingly, Clotfelter, Ladd, and Vigdor (2007) found that not only do advanced teaching degrees have

no effect, they actually have a negative effect if the degree is earned more than five years after the teacher started teaching. In concordance with Clotfelter, Ladd and Vigdor, Murnane (1975) found that there was no significant impact of a higher degree in second and third grades reading, and a negative impact existed in math; Eberts and Stone (1984) also found that an advanced degree had a negative impact on fourth grade math scores. Johnson (2000) of the Heritage Foundation stated that some advanced degrees did have a positive effect on student performance, but the degrees were only beneficial if they were content area specific, and not education degrees. Johnson highlighted that students of teachers who hold advanced degrees in reading performed worse on National Association for Educational Progress (NAEP) tests than those with advanced degrees in English. He continued by stating that students of teachers who hold advanced degrees in education perform worse than those who hold either a bachelor's degree or higher in math or science on NAEP tests (Johnson). Furthermore, Johnson claimed that a parent's degree is more important than a teacher's degree because a student's performance does increase if at least one parent holds a bachelor's or postgraduate degree. Goldhaber and Brewer (1998) have performed analyses of data in which they create achievement models based on the outward characteristics of teachers and classrooms. The model predicted student improvement based on observable characteristics such as class size, teacher experience, and teacher education and demonstrated that

content specific training, such as math and science, and not education training did have a positive impact on student performance, although it was very small.

The United States Department of Education, through the Center for Educator Compensation Reform, produced a synthesis of research (n.d.) pertaining to teacher compensation procedures. In the synthesis, they stated that, “The majority of studies conclude that teacher education and experience are not strong predictors of teacher effectiveness, as measured by student achievement gains” (United States Department of Education, ¶ 2). To support this statement, they cite many of the same studies discussed in this research, however, they omitted the work of certification advocates, most notably, Darling-Hammond.

Summary

In 1867 the federal Office of Education was created to oversee the status of education in public schools (States' Impact on Federal Education Policy Project, 2009). Although this organization has changed offices, policies, and names over the years, the federal oversight of state public schools has remained constant. As schools operate under the mandates of the No Child Left Behind Act of 2001, and attempt to earn the funding promised in the Race to the Top program, high achievement for all students taught by a highly qualified teacher has become the focus (United States Department of Education, 2009). School systems and states struggle to make Adequate Yearly Progress (AYP) by ensuring that enough students pass summative assessments to make the Annual

Measurable Objective (AMO) required by the states as we move toward the ultimate goal of 100% of students passing summative assessments by the year 2014 (NCLB, 2001, 2008). In Georgia, these summative exams are the Criterion Reference Competency Test (CRCT) in grades one through eight, although grades one and two will no longer be given the CRCT beginning in 2011, and the high school graduation tests for grades nine through twelve (Georgia Department of Education, 2010-2011).

With this focus on student achievement, teachers, administrators, and other school officials have been working diligently to improve the teaching and learning in schools. Professional learning communities exist in schools where decision making is shared by all, instructional information and techniques flow freely between the teachers, and teachers are encouraged to learn from each other (Eaker, DuFour, & DuFour, 2002). Changes to instruction operate under clearly defined structures, and instruction is focused entirely on the curriculum (Davenport & Anderson, 2002).

Research by Marzano (2003) has focused educational leaders on the importance of effective teachers in classrooms, but debate on exactly what makes a teacher effective continues. In an attempt to raise the effectiveness of teachers, many states are reconsidering their policies regarding current teacher pay policies, such as advanced degrees and experience, and moving more toward a pay for performance model as required in the Race to the Top federal incentive (United States Department of Education, 2009). In 2007, with Race to

the Top around the corner, and many lawmakers considering pay for performance incentives, Boyd, Goldhaber, Lankford, and Wyckoff (2007) ask lawmakers to make prudent decisions. They concede that although the research on teacher certification and teacher effectiveness is quite mixed, they caution strongly against making any changes to state policy because although the positive effect of certification requirements may be unclear, the lessening of these requirements could have a negative effect on student performance, and that the unclear research at this point does not substantiate a policy change. As Darling-Hammond, a major advocate of stringent certification and thorough teacher training stated, “Let’s train highly qualified teachers who know a lot and can make good decisions about what kids need. They can operate within a strong curriculum framework, but they will be expected to make decisions about how to help kids make curricular goals” (Goldberg, 2001, p. 688).

The following chapter discusses the quantitative evaluation methods employed in this study. Participants, ethical considerations, instrumentation, design, data collection and analysis, and limitations of this study are each detailed. Chapter 4 reports findings and provides analysis of the research, and Chapter 5 provides a summary, conclusions, and suggestions for future research.

Chapter III

METHODOLOGY

Over the last several decades, there has been a great deal of research into the effect of teacher preparation and student success, however, the results have been quite mixed (Boyd, Goldhaber, Lankford, & Wyckoff, 2007; Campbell & Lopez, 2008 b; Clotfelter, Ladd, & Vigdor, 2007; Darling-Hammond, 1999; Goldhaber & Brewer, 1998; Rice, 2003; Walsh, 2001 a). Some studies, such as Campbell and Lopez (2008 b) have been comparative studies in which the student performance of one teacher or group of teachers were compared with the student performance of another teacher or teacher group. Goldhaber and Brewer (1996) employed an assumption model in which a set score was established, with additional value added or subtracted based on student and teacher advantages or disadvantages.

In this study, the researcher analyzed the Georgia Criterion Referenced Competency Test (CRCT) achievement scores of students from the Houston County School System whose teachers received an advanced teaching degree between August 2006 and May 2010 and had a minimum of five years of CRCT data available for analysis. Both archival and survey data from certified elementary teachers employed by the Houston County School System were applied to quantitatively address the research question.

Research Question

What impact does possessing an Advanced In-Field teaching degree have on teaching effectiveness as measured by student performance on Reading/Language Arts portion of the CRCT?

(Ho1). There is no statistically significant difference in student achievement as measured by the CRCT scores among students when comparing Control Pre to Control Post groups.

(Ho2). There is no statistically significant difference in student achievement as measured by the CRCT scores among students when comparing AID Pre to AID Post groups.

(Ho3). There is no statistically significant difference in student achievement as measured by the CRCT scores between the Control Pre and AID Pre groups.

(Ho4). There is no statistically significant difference in student achievement as measured by the CRCT scores between the Control Post and AID Post groups.

Participants

For the purpose of this study, the researcher chose teachers employed by the Houston County School System of central Georgia as participants. Participant selection began with the researcher requesting permission to survey all certified elementary personnel from the Houston County Board of Education (See Appendix A) and the Valdosta State University Institutional Review Board (See Appendix B).

To be selected as a participant in this study, a teacher must have been employed as an elementary school teacher in the Houston County School System a minimum of one year before receiving the Advanced In-Field teaching degree and have earned the advanced degree between August 2006 and May 2010. Additionally, the participant must have administered the reading and language arts portions of the CRCT each year from 2006 to 2010. These criteria allowed for pre and post data collection regarding the awarding of an advanced teaching degree. The researcher also selected a second group of participants as a control. This control group held the same teaching characteristics as the study group, however, the participants in the control group had not earned an advanced teaching degree between August 2006 and May 2010. To create greater consistency between the control and the Advanced In-Field teaching degree group (AID) the researcher matched the control group as closely as possible based on grade level and socio-economic status of the schools in which the teachers taught. A pre and post analysis was performed on the control group to allow for comparative analysis with the study group.

According to the Georgia Department of Education, during the 2008-2009 school year there were 120,660 educators employed by the state's school systems (Georgia Department of Education, 2009a). Of those educators, 40.36% held bachelor's degrees, 43.59% held master's degrees, 14.09% held specialist's degrees, and 1.53% held doctorates (2009a). Educators in the Houston County School System served as a representative group of teachers in Georgia because

of the similarity of educator training in Houston County and other regions in Georgia. In Houston County, 39.94% of educators held a bachelor's degree, 40.41% held a master's degree, 18.45% percent held a specialist's degree, and 1.08% held a doctorate (Georgia Department of Education, 2009b).

The 2009 estimates of the United States Census Bureau stated that Georgia's population would grow 20.1% between April 2000 and July 2009, and Houston County's population would grow 22.5% in that same time period (United States Census Bureau, 2010). The estimate also stated that Caucasians represent 57.5% of the population in Georgia and 63.7% of the population in Houston County. African Americans were estimated to represent 30.2% of Georgia and 28.4% of Houston County, and those of Hispanic origin were estimated to represent 8.3% of the Georgia population and 4.2% of the Houston County population. Also, the estimate stated that in Georgia 78.6% of the population are high school graduates and 24.3% hold a bachelor's degree or higher; in Houston County, it was estimated that 84.3% of the population are high school graduates and 19.8% hold a bachelor's degree or higher (2010).

Ethical Considerations

The risk to participants in this study was nominal due to the nature of the study. The researcher only gathered archival and survey data from the participants. Once teachers were established as participants, and their students' data collected, teachers were coded into one of two categories. The two categories were the study group, those who had earned an advanced teaching

degree between August 2006 and May 2010; and the control group, those who met all of the same criteria as the study group with the exception of earning an advanced teaching degree between August 2006 and May 2010. Once coding occurred, all identifying information was removed. The researcher used strict confidentiality in all phases of the research process including secure storage of materials, recorded data, surveys, and identifiable test information provided by the Houston County School System. With the approval of the Institutional Review Board of Valdosta State University and the Houston County School System, the researcher could guarantee that all participants in this research, through either survey or archival data, would incur minimal risk due to the strict confidentiality and security guidelines that were followed.

Design of the Study

This quantitative research study employed a quasi-experimental pre-test post-test design using non-randomized groups (Campbell & Stanley, 1963). This design allowed for a high degree of internal validity in the research question due to the pre-test post-test design as compared to a control group. External validity was high since all of the student achievement data collected were archival and there is no opportunity for the pre-test post-test format to contaminate the results (Shuttleworth, 2009).

The researcher compared the AID group with the control group, which had not obtained an Advanced In-Field teaching degree during the period of study, August 2006 through May 2010. These participant groups were compared in the

following manner to address the research question: 1) Control Pre vs. Control Post, 2) AID Pre vs. AID Post, 3) Control Pre vs. AID Pre, 4) Control Post vs. AID Post. The researcher calculated means for each group pre and post, and a comparison of the groups evaluated a causal relationship between the independent variable (IV) Advanced In-Field teaching degrees and the dependent variable (DV) student achievement.

As stated in Chapter 2, there has been a plethora of research on the correlation between teacher certification and advanced degrees and student achievement; however, no consensus has been unequivocally reached. Darling Hammond (1999) performed one of the more exhaustive studies in which she studied multiple states results on National Assessment of Educational Progress (NAEP) summative exams and through comparative research found that teacher certification and professional understanding to be the highest indicators of student performance. In contrast, Walsh (2001 a) performed a meta-study and found that there was no hard evidence of the correlation between stringent teacher certification and student achievement. Harris and Sass (2008) with the National Center for Analysis of Longitudinal Data in Education Research performed a massive econometric study in which they took into account a wide range of variables such as teacher training, professional learning, experience, and advanced degrees. The researchers compared the teachers to themselves in a longitudinal format, and they found in almost all areas that there was very little effect on attempts at teacher improvement and student performance (2008).

Campbell and Lopez (2008 b) performed a study specifically on advanced teaching degrees in Georgia using the Georgia High School Graduation Test (GHSGT) as a measure for student performance. In their research they compared school districts with more teachers with advanced degrees to school districts with fewer teachers with advanced degrees, and they found no correlation. However, their research does not address any longitudinal factors nor does it address the idea of teachers receiving advanced degrees in the areas in which they are teaching. In contrast to the studies by Harris and Sass (2008), Campbell and Lopez (2008 b), the National Center for the Accreditation of Teacher Education (NCATE) holds to its own research that shows, like Darling-Hammond's (1999) research, that the more stringent the requirements in teacher training, both pre-service and during service, the better the teacher will perform (National Council for Accreditation of Teacher Education, 2008).

There has been much research done in the area of teacher certification and advanced degrees. However, this research appears to be the first to take the approach of a pre-test post-test study of only in-field advanced degrees with a control group to add internal validity.

Instrumentation

The researcher administered a survey to all Houston County Board of Education teachers currently teaching in first through fifth grades. The survey first asked participants for their name and their current school. To determine if participants were applicable for either the control group or the AID group, four

qualifying questions are asked: 1) Have you been teaching in Houston County continuously since 2005, 2) Have you been teaching the same grade level continuously since 2005, 3) Have you given the CRCT each year between 2005 and 2010, 4) Have you earned an advanced elementary education degree between August 2006 and May 2010, and if so in what year did you earn it? If the participant answered yes to at least questions three and four, they were placed in the study group. If the participant answers yes to the first and third question, but no to the fourth question, they were applicable for the control group. Any participant who answered no to the first three questions was not applicable for either group. Group placement was essential to this research as the control group was used to measure CRCT (Criterion Referenced Competency Test) results as compared to those in the study group, who had earned an advanced degree between August 2006 and May 2010.

Table 3.1

Responses required from participants to determine group selection

	Study Group	Control Group
Question 1	Yes	Yes
Question 2	Yes/No	Yes/No
Question 3	Yes	Yes
Question 4	Yes	No

Georgia first began administration of the CRCT in 2000 to meet the No Child Left Behind Act of 2001 assessment and accountability requirements (Georgia Department of Education, 2010a). The CRCT has been administered to students in first through eighth grades each year since 2002, with the exception of 2003 when the testing security was compromised and only fourth grade students were tested (Strevig, 2009). Beginning with the 2010-2011 school year, the CRCT was only given in grades three through eight (Georgia Department of Education, 2010-2011). The CRCT is a summative exam given in the latter months of the school year, and measures the understanding and mastery of standards by the students (Georgia Department of Education). In the initial years, the CRCT was based on the Georgia Department of Education curriculum titled the Quality Core Curriculum, but beginning in 2004, Georgia began rolling out the Georgia Performance Standards (The Georgia Department of Education, 2010a). The phase-in plan lasted two years, with the CRCT assessing mastery of GPS standards in the second year (Georgia Department of Education). The Reading/Language Arts implementation began in grades K-12 in 2004 with CRCT testing occurring for the first time in 2006 (Georgia Department of Education).

Administration of the CRCT occurs in a window of time determined by the Georgia Department of Education; however, systems have a degree of flexibility within that timeframe (Georgia Department of Education, 2010f). Once a system has chosen its testing window, the system must test all students in grades one

through eight on the same content, Reading, Language Arts, Math, Science, and Social Studies on the same day (Georgia Department of Education). Each test is administered in two sections with each section lasting approximately 60 minutes, not to exceed seventy minutes, or 140 minutes of testing per day (Georgia Department of Education). Results of the CRCT are reported through individual student reports listing both scale scores and performance levels (Barrow County Board of Education, 2010). Scale scores are numerical values between 700 and 960 and represent correct and incorrect student responses; performance levels are groupings of those scaled scores into three categories; does not meet, meets, and exceeds (Barrow County Board of Education).

Table 3.2

CRCT Scaled Score/Performance Level comparison

Scaled Score	Performance Level
700 – 799	1 – Does Not Meet
800 – 849	2 – Meets
850 – 960	3 – Exceeds

Note. Adapted from "What do my child's test scores mean," Barrow County BOE, 2010.

For the purpose of this study, the researcher collected CRCT Reading/Language Arts data from the Houston County School System from selected teacher's class rosters from 2005 to 2010. The researcher selected participants based on Advanced In-Field teaching degrees earned between

August 2006 and May 2010 and their pre and post degree results were analyzed. An additional group of similar teachers who did not earn an advanced degree in the same period was also studied as a control. The researcher matched the control group as closely as possible with the study group, specifically in regard to socio-economic status of the schools represented and grade levels taught. After entering all of the data into a single database, the researcher analyzed the data through *t tests* and effect size testing.

Data Collection

Data collection began with approval from the Superintendent of Houston County School System and the Institutional Review Board of Valdosta State University. Once secured, the researcher distributed a survey to each of the 23 elementary schools in Houston County. This survey administration occurred by the researcher providing surveys to the building principals, who in turn gave the surveys to each of their first through fifth grade general education teachers.

Once the researcher received the surveys from the nearly 600 possible respondents, the data were coded to place each participant in the appropriate group. The study group (AID) consisted of teachers who had earned an Advanced In-Field teaching degrees between August 2006 and May 2010 and the control group consisted of teachers with similar characteristics and school environments of their AID counterparts except they did not earn an Advanced In-Field teaching degree between August 2006 and May 2010. Teachers who did not meet the above criteria were not included in this study. With participant

selection and grouping completed, CRCT class roster score reports from 2005 to 2010 were acquired. Finally, the researcher calculated mean scores and standard deviations for the AID group both pre and post the awarding of the Advanced In-Field teaching degrees. The researcher also calculated mean scores and standard deviations for the control group over the same five year time period.

Data Analysis

A database was created for each respondent in the Advanced In-Field Degree group. The database fields consisted of school year, CRCT mean, Advanced In-Field degree year, and standard deviation for both pre and post CRCT data. The strength of the relationship was reported as Cohen's *d* to indicate the significance of any change for each respondent pre and post in addition to the average for all Advanced In-Field degree respondents. A database was created for the control group. This database had the same fields, however this database established only the standard deviation from the mean, with no awarding of an Advanced In-Field degree to compare since these respondents did not receive an Advanced In-Field teaching degree during this study. This data simply represented the control group's mean scores and standard deviation over the period of the study. Again, the researcher reported Cohen's *d* to establish significance in the change of each individual respondent as well as the average of the control group. Significance testing through *t tests* and effect size were calculated between the following control (Control) and

Advanced In-Field Degree (AID) groups: 1) Control pre and Control post, 2) AID pre and AID post 3) Control pre and AID pre, 4) Control post and AID post.

Limitations

As stated in Chapter 1, the two major limitations to this study were size and breadth. Only twenty three elementary schools in one middle Georgia school system were surveyed, and the longitudinal study itself is small with a maximum length of only five years. Additionally, with all the research done in one county in Georgia, generalization to a much larger level, such as the state or national level may be inappropriate. The complexity involved in studying student performance must also be considered. The individual student's home life, motivation, tragedy or illness, and aptitude are only a few of the immeasurable factors that can contribute to student performance both positively and negatively. The researcher grouped the AID and control group as closely as possible through both socio-economic status of their representative schools and grade levels taught. Additionally, since the sample was only taken from one system, there is naturally a very high degree of consistency in professional learning, emphasis on professional learning communities and collaboration, research based practices, and teacher expectations. Although the participant limitations are quite stringent, and resulted in a small sample size, the tests employed were valid and reliable, and the information gained should be insightful.

Summary

This chapter described the quantitative research methodology employed to investigate the impact of an Advanced In-Field teaching degree on the quality of teaching as measured by the CRCT. Chapter 4 reports the findings and the analysis of the collected data, and Chapter 5 concludes this research with a final summary and conclusions regarding this study as well as discussion and suggestions for future research in this area.

Chapter IV

DATA ANALYSIS AND FINDINGS

The purpose of this study was to determine the effect of an Advanced In-Field education degree in relation to student performance as measured by the Criterion Referenced Competency Test (CRCT). The researcher evaluated the statistical relationships between student achievement in classes taught by teachers who had earned Advanced In-Field degrees between August 2006 and May 2010 compared with peers who had not earned an in-field advanced degree in the same period. The researcher carefully matched the members of the control group with the members of the study group by grade level, school socio-economic status, and teacher expectations, and as a result, the only true differentiating factor between the two groups was the earning of an Advanced In-Field degree. Therefore, any statistical difference between the mean scores of the two groups reveals the effect of an Advanced In-Field degree on student performance as measured by the CRCT. To determine this effect, the researcher gathered student data in the areas of Reading and Language Arts to create mean scores and standards deviations for each group and then evaluated these scores through *t* tests to assess the relationship of a teacher with an Advanced In-Field teaching degree and student performance. Additionally, effect size, reported as Cohen's *d* was calculated for each group and comparison. To begin,

this chapter first reviews the descriptive statistics of the surveyed participants. Next, the chapter addresses the descriptive statistics and findings regarding the research question and the accompanying four null hypotheses.

Research Question. What impact does possessing an Advanced In-Field teaching degree have on teaching effectiveness as measured by student performance on the Reading/Language Arts portion of the CRCT?

Data Analyses and Findings

In April 2011, a survey designed by the researcher was distributed to each of the 23 elementary schools of the Houston County School System. This survey was very short, consisting of four demographic questions. It did include a second section concerning teacher attitude toward their degree, however, the researcher decided not to use the information gathered in that section because of the small sample size and likelihood of a Type II error should sub-groups be created from the AID group. A copy of the survey is included in Appendix C. Due to the nature of the data that were to be collected, the researcher instructed principals to distribute the survey to only those staff members who were classroom teachers and annually gave the CRCT to their students. These requirements excluded all support personnel, classified and certified, gifted teachers, special education teachers, administration, and academic coaches. Included in the survey were 480 classroom teachers. Of these 480 surveys distributed to teachers, 357 were collected, representing a 74.38% return of completed surveys. Of the returned surveys, four were invalidated due to incorrect information given in the

demographic portion of the questionnaire. The errors were discovered during the data collection process, and were confirmed by the testing and human resources departments of the Houston County School System.

Of the 480 surveys collected, 61 respondents stated that they had received an Advanced In-Field teaching degree between August 2006 and May 2010. In the data collection process, it was found that only 36 respondents had the five years of CRCT data required to participate in the survey. The required data allowed the researcher to establish both a pre-advanced degree mean and a post-advanced degree mean over the course of the five years as well as a common year analysis in which the Control and the Advanced In-Field Degree (AID) groups were studied in same year administrations of the CRCT. The researcher exempted the remaining 25 respondents from the study because although they did possess the degree whose effect was being studied, they did not possess the CRCT data necessary to participate in the study.

With 36 participants in the AID group, the researcher then created an equivalent control group. The control group included 46 participants. The participants were chosen based primarily on the socio-economic status of their schools in order to correlate with the socio-economic status of the schools represented in the study group. The researcher chose additional control participants in attempt to balance as closely as possible the number of participants in each grade level, when grade levels remained constant among participants. Participants selected to balance grade levels were chosen carefully

to minimize the effect on the overall percentage of economic status. For example, in order to maintain the economic status balance, a greater number of 2nd grade participants were selected in the control group; this was a necessary adjustment based on the respondents to choose from and the socio-economic status of the schools they represent. The economic and grade level comparisons are illustrated in Tables 4.1 and 4.2.

Table 4.1

Socio-Economic Status Comparison of Control and AID

School Status	AID *n* 36 (%)	Control *n* 46 (%)
Schoolwide Title I	23 (63.89)	29 (63.04)
Non-Title	13 (36.11)	17 (36.95)

Table 4.2

Grade Level Comparison of Control and AID

Grade Level	AID *n* 36 (%)	Control *n* 46 (%)
1st Grade	11 (30.56)	12 (26.09)
2nd Grade	5 (13.89)	13 (28.26)
3rd Grade	5 (13.89)	6 (13.04)
4th Grade	1 (2.78)	1 (2.17)
5th Grade	3 (8.33)	4 (8.70)
Multiple Grade Levels	11 (30.56)	10 (21.74)

Table 4.3 provides the year the Advanced In-Field teaching degree was awarded, class R/LA mean for each school year from 2005-2006 through 2010, the mean of the AID group for each year, and the standard deviation in that testing year.

Table 4.3

Student Achievement on R/LA Portions of CRCT of AID group

Case	AID	05-06	06-07	07-08	08-09	09-10
1	2009	839.19	850.72	838.43	847.75	839.11
2	2009	830.98	848.18	847.61	845.97	847.76
3	2009	829.50	846.95	839.21	834.66	840.50
4	2009	833.21	851.73	828.55	851.60	838.08
5	2008	827.12	833.76	842.50	842.32	835.94
6	2007	834.83	842.93	849.07	855.92	854.55
7	2010	831.79	849.78	841.88	859.50	856.45
8	2009	828.29	829.14	834.78	833.79	835.35
9	2007	848.39	818.08	833.68	842.90	856.20
10	2010	846.38	837.13	836.00	824.50	837.13
11	2009	843.00	845.75	835.50	860.69	852.05
12	2007	834.81	832.62	841.50	831.50	845.62
13	2008	820.90	828.35	825.44	825.02	829.81
14	2010	820.43	842.39	830.25	849.05	860.89
15	2008	831.00	828.81	825.83	810.80	816.57

16	2007	846.20	832.93	844.24	835.71	843.14
17	2010	809.39	828.73	827.33	823.37	827.63
18	2007	833.47	830.93	841.41	836.13	839.32
19	2007	835.20	857.14	848.50	841.11	848.14
20	2006	831.21	819.67	839.33	827.23	848.77
21	2006	833.22	827.41	830.82	828.53	824.84
22	2009	829.13	832.74	835.86	830.78	829.69
23	2006	820.00	833.33	836.75	839.75	833.14
24	2009	842.65	825.65	831.79	842.52	858.30
25	2007	833.68	816.72	831.35	842.68	834.95
26	2010	832.14	835.15	840.38	831.33	823.94
27	2008	825.14	841.72	837.00	844.36	851.76
28	2008	833.50	828.58	836.05	847.40	843.14
29	2009	810.48	835.12	835.20	836.78	833.31
30	2010	845.83	823.02	834.19	856.69	828.53
31	2008	819.47	834.36	837.70	832.00	840.58
32	2010	831.21	845.13	844.33	840.58	827.69
33	2007	824.48	838.03	839.50	847.71	840.03
34	2009	846.32	827.04	828.34	833.46	836.93
35	2007	822.41	830.15	826.71	828.78	829.82
36	2006	824.18	820.77	824.73	832.00	851.47

Mean	831.36	834.74	836.16	838.75	840.03
SD	9.60	10.16	6.60	11.07	10.89

Mean student CRCT scores for the 36 Advanced In-Field Degrees participants in all five years of the study fall between 809.39 and 860.89. All of these scores fall into either the Meets or Exceeds performance levels of the CRCT. Between 2006 and 2010 the overall mean score of the AID group rose from 831.36 to 840.03, denoting an overall scaled score increase of 8.67 points during the five years of the study. The standard deviation rose from 9.60 to 10.89 during the study. Mean scores and standard deviations from the 2005-2006 school year and the 2009-2010 school year were used to calculate effect size reported as Cohen's *d*. Cohen's effect size value (d = .84) suggested a large effect.

Table 4.4 displays the data collected from the 46 member control group. The class R/LA mean for each school year from 2005-2006 through 2010, the mean of the control group for each year, and the standard deviation of the group in that testing year.

Table 4.4

Student Achievement on R/LA Portions of CRCT of Control Group

Case	05-06	06-07	07-08	08-09	09-10
1	842.00	828.87	827.80	814.42	837.03
2	832.44	847.83	845.39	837.95	844.14

3	833.00	854.44	833.31	832.71	851.62
4	830.59	824.34	838.94	836.58	838.15
5	824.48	835.28	835.29	837.64	835.43
6	827.63	850.53	836.66	830.59	843.69
7	816.05	816.41	810.84	818.20	818.61
8	835.33	833.28	822.82	821.47	818.91
9	834.38	831.03	846.12	840.82	834.73
10	842.28	851.18	850.76	839.78	845.83
11	826.53	834.91	834.11	824.16	821.25
12	834.67	821.61	847.66	828.65	833.31
13	827.97	827.19	831.81	836.07	811.85
14	820.03	831.86	841.25	833.53	828.76
15	827.93	825.50	825.66	830.33	836.37
16	828.00	826.00	827.47	830.18	844.70
17	824.16	828.62	840.14	829.81	835.84
18	812.88	837.11	848.37	841.81	845.71
19	837.97	839.50	836.21	839.88	851.26
20	841.53	836.00	824.78	844.58	834.39
21	860.31	865.39	853.87	849.05	874.91
22	837.00	830.75	839.92	829.44	852.48
23	836.40	832.47	828.91	830.14	837.91
24	845.87	838.24	832.06	836.71	834.33

25	823.47	823.84	834.05	839.29	840.62
26	835.13	829.03	844.46	841.47	836.20
27	831.89	838.92	850.67	839.62	858.31
28	835.53	837.03	845.45	825.85	830.53
29	826.53	827.57	829.19	831.44	839.47
30	823.61	821.58	841.63	811.05	840.88
31	843.75	825.50	847.14	841.80	839.55
32	835.90	831.13	849.81	855.42	842.58
33	840.19	836.40	834.93	836.98	845.65
34	835.74	837.79	840.73	841.57	852.36
35	831.24	818.65	843.92	843.92	847.11
36	829.41	834.75	845.47	846.60	835.53
37	832.67	849.50	841.56	845.85	854.44
38	842.33	831.76	834.56	828.00	841.36
39	824.73	817.78	809.39	830.91	836.59
40	858.11	863.61	853.90	853.53	847.20
41	821.83	824.24	828.58	826.50	831.45
42	829.35	821.21	837.91	825.02	837.06
43	833.28	828.75	834.12	838.68	830.74
44	841.68	825.05	840.94	837.91	838.47
45	833.63	836.53	848.76	841.73	834.30
46	823.60	825.58	822.60	822.57	830.83

Mean	832.89	833.36	837.39	834.79	839.18
SD	9.31	11.11	10.23	9.47	10.92

During the five years of the study, mean scores for the 46 participants in the control group fall between 809.39 and 874.91. All of these scores fall into either the Meets or Exceeds performance levels of the CRCT. Between 2006 and 2010 the overall mean score of the control group rose from 832.89 to 839.18, representing an overall scaled score increase of 6.29 points during the five years of the study. The standard deviation rose from 9.31 to 10.92 during the study. Mean scores and standard deviations from the 2005-2006 school year and the 2009-2010 school year were used to calculate effect size reported as Cohen's *d*. Cohen's effect size value (d = .62) suggested a moderate effect.

Group Comparison

The student achievement, as measured in the reading and language arts portions of the CRCT, was compared between the Advanced In-Field degree group and the control group. The 2005-2006 school year control group data were labeled as control pre and the data from the 2009-2010 school year were labeled as control post. The 2005-2006 school year Advanced In-Field Degree (AID) group was labeled as AID pre and the data from the 2009-2010 school year was labeled as AID post. In each comparison, the number of participants, mean, standard deviation, statistical value of *t*, and effect size, reported as Cohen's *d*

are listed. To provide a framework for the statistical testing, the following four null hypotheses were calculated:

(Ho1). There is no statistically significant difference in student achievement as measured by the CRCT scores among students when comparing Control Pre to Control Post groups.

(Ho2). There is no statistically significant difference in student achievement as measured by the CRCT scores among students when comparing AID Pre to AID Post groups.

(Ho3). There is no statistically significant difference in student achievement as measured by the CRCT scores between the Control Pre and AID Pre groups.

(Ho4). There is no statistically significant difference in student achievement as measured by the CRCT scores between the Control Post and AID Post groups.

Control Pre to Control Post. A statistically significant difference between control pre (n = 46, M = 832.89, SD = 9.31) and control post (n = 46, M = 839.18, SD = 10.92) groups, [$t(88) = 2.97$, $p \geq .05$] was found in student achievement as measured on the reading and language arts portions of the CRCT. Cohen's effect size value ($d = 0.62$) suggested a moderate practical significance. Therefore the null hypothesis that there is no statistically significant difference in student achievement as measured by the CRCT scores among students when comparing Control Pre to Control Post groups is rejected.

AID Pre to AID Post. A statistically significant difference between AID pre (n = 36, M = 831.36, SD = 9.60) and AID post (n = 36, M = 840.03, SD = 10.89) groups, [t(69) = 3.58, p ≥.05] was found in student achievement as measured on the reading and language arts portions of the CRCT. Cohen's effect size value (d = 0.84) suggested a high practical significance. Therefore the null hypothesis that there is no statistically significant difference in student achievement as measured by the CRCT scores among students when comparing AID Pre to AID Post groups is rejected.

Control Pre to AID Pre. No statistically significant difference between control pre (n = 46, M = 832.89, SD = 9.31) and AID pre (n = 36, M = 831.36, SD = 9.60) groups, [t(74) = 0.72, p ≥.05] was found in student achievement as measured on the reading and language arts portions of the CRCT. Cohen's effect size value (d = 0.16) suggested a low practical significance. Therefore the null hypothesis that there is no statistically significant difference in student achievement as measured by the CRCT scores between the Control Pre and AID Pre groups is not rejected.

Control Post to AID Post. No statistically significant difference between control post (n = 46, M = 839.18, SD = 10.92) and AID post (n = 36, M = 840.03, SD = 10.89) groups, [t(75) = 0.35, p ≥.05] was found in student achievement as measured on the reading and language arts portions of the CRCT. Cohen's effect size value (d = 0.07) suggested no practical significance. Therefore the null hypothesis that there is no statistically significant difference in student

achievement as measured by the CRCT scores between the Control Post and AID Post groups is not rejected.

Summary

Chapter 4 presented the data analysis and all of the findings of this study. Descriptive statistics, *t* tests, effect size as reported as Cohen's *d* were all used as measures to determine the statistical significance of each of the four hypotheses of the research question.

After a thorough analysis of the findings, it appears that a teacher who possesses an in-field advanced degree is not necessarily a more successful teacher in the area of student performance than a teacher who had not earned a degree. However, according to the longitudinal portion of this study, a teacher does improve a statistically significant amount over time, and through the effect size measurements, it becomes apparent that the growth of the teacher who has an earned an Advanced In-Field degree does outpace that of those who have not. The AID group mean score improved by 8.67 points with an effect size value of 0.84 whereas the Control Group mean score improved only 6.29 points with an effect size value of 0.62. Interestingly enough, this both agrees and disagrees with the previous research done on this topic. It agrees that there is no substantial difference between a teacher who has earned an advanced degree and one who has not, however it also shows that a teacher who earns a degree is likely to have more growth as a teacher over a period of time.

Chapter 5 will discuss these findings and the possible implications on future legislation and practice within the school building. Chapter 5 will also discuss the shortcomings of this research and the possibilities for future research in the area of Advanced In-Field degrees and their effect on student achievement.

Chapter V

SUMMARY AND DISCUSSION

Today, public schools across the nation are held accountable more than any time in our nation's history through both the Race to the Top grant of 2009 and the No Child Left Behind Act of 2001. In order to meet the demands placed on the schools there have been multiple research initiatives in the schools to determine what schools and school systems can do to make a significant impact on student achievement. Marzano's (2003) work has strongly emphasized the importance of the teacher in the classroom and the effect that the quality of the teacher, and the quality of instruction has on student performance. The work of Eaker, Dufour, and Dufour (2002) has clearly outlined the importance of the collaborative atmosphere necessary to move schools forward as fully functional professional learning communities. And a focus on leadership has made school systems realize that not only are leaders the managers of people, but they must be the visionary frontrunners for all stakeholders, empowering them and allowing them to make emotional investments and contributions to the school community at large (Kouzes & Posner, 2007).

However, in contrast to the solidarity in the research for strong, effective leaders, professional learning communities, and effective teachers, there still seems to be a lack of consensus as to what makes a teacher effective. Darling-

Hammond (1999), for example, believes in the importance of teacher education and strong certification requirements, whereas Walsh (2001 a) finds these things completely unrelated to a teacher's effectiveness in the classroom.

This study examines the relationship between teacher effectiveness and student performance. The study is guided by one research question, with four hypotheses to evaluate the relationship between the classroom teacher earning an Advanced In-Field teaching degree and student achievement as measured by student performance in the areas of Reading/Language Arts portions on the Georgia Criterion Referenced Test (CRCT) in grades one through five.

Research Question. What impact does possessing an Advanced In-Field teaching degree have on teaching effectiveness as measured by student performance on the Reading/Language Arts portion of the CRCT?

(Ho1). There is no statistically significant difference in student achievement as measured by the CRCT scores among students when comparing Control Pre to Control Post groups.

(Ho2). There is no statistically significant difference in student achievement as measured by the CRCT scores among students when comparing AID Pre to AID Post groups.

(Ho3). There is no statistically significant difference in student achievement as measured by the CRCT scores between the Control Pre and AID Pre groups.

(Ho4). There is no statistically significant difference in student achievement as measured by the CRCT scores between the Control Post and AID Post groups.

Related Literature

Since the passage of No Child Left Behind in 2001, schools have been required to show Adequate Yearly Progress (AYP) through student performance on year-end summative evaluations. More recently, the federal government's release of the Race to the Top (2009) initiative has placed even greater emphasis on the teacher in the classroom. Under the requirements of Race to the Top and the No Child Left Behind Act of 2001, school systems work to recruit and retain only the most qualified candidates for teaching positions. As a result, schools are placing a great deal of time and effort, as well as federal and state funds into hiring "Highly Qualified" teachers who are trained and certificated specifically for the subject and grade level they are expected to teach. (Georgia School Council Institute, 2007, 2008). However, as demand increases for more highly trained, highly qualified teachers, Georgia is considering no longer paying teachers for advanced training or degrees, only for the lowest level degree that will gain them the federally required "Highly Qualified" status (Georgia General Assembly, 2010).

Progression of School Accountability. The Office of Education opened in 1867, although it had little oversight power. (States' Impact on Federal Education Policy Project, 2009). In 1965, President Johnson passed the Elementary and

Secondary Education Act of 1965 in which the federal government began to fund compensatory programs; later the National Association of Education Progress (NAEP) was established and began a standardized common assessment program partly to measure the effectiveness of Elementary and Secondary Education Act of 1965 (States' Impact on Federal Education Policy Project). In 1983, the scathing “A Nation at Risk” report was released in which America’s schools were cited for falling behind the schools of other industrialized nations (The National Commission on the Excellence of Education, 1983). As principle reasons, the commission pointed to teacher shortages, lack of teacher training, especially in math and science, lack of instructional time, and lack of effort from American students (Center for the Study of Mathematics Curriculum - 2005, 2005). The No Child Left Behind Act of 2001 placed an unprecedented level of importance on standardized testing and individual student success on those assessments. In 2009, The American Recovery and Reinvestment Act of 2009 placed even higher demands on the individual teacher, requiring that compensation procedures focus less on education and experience and more on student performance on standardized assessments (United States Department of Education).

Value and Forms of Student Assessment in Georgia. As an accountability measure, and to fulfill the requirements of No Child Left Behind, Georgia gives summative assessments to all public education students every year, with the exception of first and second graders beginning in the 2010-2011 school year

(Georgia Department of Education, 2010-2011). The state uses these summative assessments to determine Adequate Yearly Progress (AYP) of each individual school and system (Georgia Department of Education, 2007). In the tested elementary and middle grades, the Criterion Referenced Competency Test (CRCT) is given in the spring to determine student progress toward grade level standards (Georgia Department of Education, 2007). The AYP determination is of paramount importance to the individual schools and systems because the failure to meet AYP can come with very serious consequences (Georgia Department of Education, 2007). Therefore, since the passage of the No Child Left Behind Act of 2001, schools across Georgia, and the nation, have been searching for researched based ways to improve student performance.

Professional Learning. With the requirements of the No Child Left Behind Act of 2001, schools have shifted their focus from teaching to an understanding of student learning (Learning Forward, 2010). Eaker, Dufour, and Dufour (2002) have presented professional learning as a system to explore the connection between teaching and learning by making schools professional learning communities in which information concerning highly effective teaching strategies is shared freely from teacher to teacher and classroom to classroom. Fullan (2001) also supported the use of professional learning communities as a means to help teachers focus on the highly productive methods in their classrooms, while discarding those practices that were ineffective. However, the shift from a traditional school to a professional learning community is not an easy one, as it

requires a fundamental shift in the culture of the school, and there is no cookbook on how to transform a school, so the procedure is difficult and messy (Fullan). Green (2000) further supports this by pointing out that a teacher moves from dependent to independent as natural part of their maturation process, but the move to interdependence, as required in successful professional learning communities, is not natural, and requires extensive support, motivation, and coaching.

Teacher Certification and Compensation Procedures. In Georgia, teachers are compensated based on the certification, which is based on the educational level, and their experience (Georgia Department of Education, 2010 b). Teachers are required to gain highly qualified status by 2014 (Georgia Professional Standards Commission, 2010b). In 2002-03 Georgia adopted a basic definition of highly qualified as one who holds a bachelor's degree or higher, has a major in the subject area or has passed the state teacher content assessment, and is assigned to teach his/her major subject(s) (Georgia Professional Standards Commission).

However, under the federal incentive Race to the Top, the current model of teacher compensation has been scrutinized, and may be changed to a model in which teachers are paid for performance on standardized tests instead of experience and education (State of Georgia, 2010). Recent bills such as Senate Bill 386, introduced in October of 2010 in the Georgia General Assembly,

demonstrate this shift in thinking by state lawmakers toward a pay for performance model for educators (Georgia General Assembly, 2010).

Recent Changes to Education Graduate Programs. In 2008, the National Council for Accreditation of Teacher Education (NCATE) passed its most recent revision of teacher preparation programs, these programs were designed to guide institutions in their teacher preparation programs until 2015 (National Council for Accreditation of Teacher Education, 2008). Under these revisions, NCATE provides a high structure and clarification of its expectation of graduate advanced teacher programs (Lee, 2010). Graduate advanced teacher students are to be highly trained on best practices teaching techniques and have a thorough understanding of assessment. They must be able to analyze student, classroom, and school performance data, and make data driven decisions for teaching and learning so that all students can learn (National Council for Accreditation of Teacher Education).

Comparative work on advanced degrees and their correlation with student achievement. Marzano clearly stated in his 2003 meta-study that the single most important factor in a child's education was the teacher. However, very little consensus still exists on what makes a teacher successful. Darling-Hammond has written numerous articles and has chaired numerous studies in which she claims the data clearly advocate the need for strenuous teacher accreditation procedures and emphasis on teacher education, beyond the bachelor's degree (Darling-Hammond, 2002; 1999; 1981; Goldberg, 2001). However, Walsh (2001

a) claims that her data states the exact opposite, that strenuous teacher certification and teacher education makes no difference in student achievement. For Phi Delta Kappan, Goldhaber and Brewer (1998) performed a study in which they too found no statistically significant evidence linking advanced degrees and student performance, unless the degree is in the specific content being taught. Campbell and Lopez (2008 b) performed a comparative study of teachers in Georgia, and again found no value in an advanced degree.

However, none of the research studied by this researcher included a longitudinal study in which the teacher who had earned a specific in-field teaching degree were compared with their peers who had not. All studies found were either comparative, value added, or did not include other components found in this research.

Methods

This quantitative research employed hypothesis testing in the form of *t* tests and calculated effect sizes reported as Cohen's *d* for non-randomized groups using a pre-test post-test design (Campbell & Stanley, 1963). The study group contained teachers who had earned an Advanced In-Field degree between August 2006 and May 2010 whereas the control group contained teachers with equivalent credentials and demographics less the Advanced In-Field degree. The researcher carefully selected the control group to be sure that it resembled the study group demographically. In comparison, 63.89% of the teachers in the study group taught at Schoolwide Title schools, and 63.04% of the teachers in the

control group taught in schools with that same socio-economic classification. Teachers were also grouped as closely as possible based on the grade levels taught. Finally, by taking all of the data from one system in Georgia, the researcher had some degree of assurance of similar emphasis on collaboration, professional practices, and teacher expectations between all of the schools surveyed due to the fact that all of the schools were linked under one central leadership.

Participants. For this study, the researcher chose participants from teachers employed by the Houston County School System of central Georgia. Houston County served as ideal location for a sample of teachers in Georgia due to the similar demographics of Houston County and the state. According to the Georgia Department of Education, during the 2008-2009 school year there were 120,660 educators employed by the state's school systems (Georgia Department of Education, 2009a). Of those educators, 40.36% held bachelor's degrees, 43.59% held master's degrees, and 15.62% held degrees higher than a master's (2009a). In Houston County, 39.94% of educators held a bachelor's degree, 40.41% held a master's degree, and 19.53% percent held degrees higher than a master's. (Georgia Department of Education, 2009b).

The 2009 estimates of the United States Census Bureau stated that Georgia's population would grow 20.1% between April 2000 and July 2009, and Houston County's population would grow 22.5% in that same time period (United States Census Bureau, 2010). The estimate also stated that Caucasians

represent 57.5% of the population in Georgia and 63.7% of the population in Houston County. African Americans were estimated to represent 30.2% of Georgia and 28.4% of Houston County, and those of Hispanic origin were estimated to represent 8.3% of the Georgia population and 4.2% of the Houston County population. Also, the estimate stated that in Georgia 78.6% of the population are high school graduates and 24.3% hold a bachelor's degree or higher; in Houston County, it was estimated that 84.3% of the population are high school graduates and 19.8% hold a bachelor's degree or higher (2010).

Ethical Considerations. Data gathered are archival and survey data from the participants from the Houston County Board of Education. Once teachers were established as participants, and their data collected, teachers were coded into the study or the control groups. Once coding occurred, all identifying information was removed. The researcher used strict confidentiality in all phases of the research process including secure storage of materials, recorded data, surveys, and identifiable test information. Participants were subjected to minimal risk due to the strict confidentiality and security guidelines that were followed.

Implementation of the Study

The researcher administered a survey to all Houston County Board of Education teachers currently teaching in first through fifth grades. The survey requested demographic information including their name and current school. Additional demographic information required pertained to employment history with the Houston County School System, administration of the Criterion

Referenced Competency Test (CRCT) and attained Advanced In-Field degrees between August 2006 and May 2010. Group placement was essential to this research as the control group was used to measure CRCT results as compared to those in the Advanced In-Field Degree (AID) group, who have earned an advanced degree between August 2006 and May 2010.

Variables Studied. The dependent variable (DV) in this study was elementary student performance on the reading and language arts portions of the CRCT between 2006 and 2010. The independent variable (IV) was the Advanced In-Field degree. To determine the statistical significance of the independent variables on the dependent variables, demographic statistics including mean scores and standard deviations were calculated. To determine if a causal relationship existed between the IV and DV, hypothesis testing in the form of *t* tests were carried out and effect size was also calculated (Tabachinik & Fidell, 2000).

Procedures and Data Analysis. In April 2011, a survey designed by the researcher was distributed to each of the 23 elementary schools of the Houston County School System. Due to the nature of the data that were to be collected, principals were instructed to only distribute the survey to those staff members who were classroom teachers and annually give the CRCT to their students. Included in the survey were 480 classroom teachers. Of these 480 surveys distributed to teachers, 357 were collected, representing a 74.38% return of completed surveys. Of the 480 surveys collected, there were 61 participants who

stated that they had received an Advanced In-Field teaching degree between August 2006 and May 2010. However, only 36 of those 61 respondents had the five years of CRCT data required to participate in the survey. The required data allowed the researcher to establish both a pre-advanced degree mean and a post-advanced degree mean over the course of the five years as well as a common year analysis in which the Control and the Advanced In-Field Degree (AID) groups were studied in same year administrations of the CRCT. With 36 participants in the AID group, the researcher then created an equivalent control group. The group created included 46 participants. The participants were chosen based primarily on the economic status of their schools in order to correlate with the economic status of the schools of the participant groups. In comparison, 63.89% of the teachers in the study group taught at Schoolwide Title schools, and 63.04% of the teachers in the control group taught in schools with that same socio-economic classification. Additional control participants were selected in attempt to balance as closely as possible the number of participants in each grade level, when grade levels remained constant among participants without unbalancing the percentages of teachers who taught in economically disadvantaged schools in each group.

Once groups were established, data regarding the year the Advanced In-Field degree was earned, the grade level taught, when constant, the schools taught in, when constant, and the classroom mean scores on the reading and language arts portions of the CRCT each year from 2006 to 2010 were collected

on both the study and control groups. All demographic data provided by the teachers, such as year and type of advanced degree earned was validated with the Human Resource Department of the Houston County School System. From these data, the demographic statistics of group mean scores per year were determined for both the control and the study groups, and the standard deviations within each group's per year scores were also calculated. Then *t* tests and effect size testing were carried out to determine statistical significance both longitudinally within the groups and comparatively between them.

Limitations

The primary limitations to this study were size and breadth. Only twenty three elementary schools in one middle Georgia school system were surveyed, and the longitudinal study itself is small with a length of only five years. Additionally, hypothesis testing is sensitive to sample size, and is subject to Type II errors. Additionally, with all the research done in one county in Georgia, generalization to a much larger level, such as the state or national level, may be inappropriate without future research using a similar methodology on this topic. The complexity involved in studying student performance must also be considered. The individual student's home life, motivation, tragedy or illness, attitude toward school, social pressures, and aptitude are only a few of the immeasurable factors that can contribute to student performance both positively and negatively. The researcher grouped the AID and control group as closely as possible through both socio-economic status of their representative schools and

grade levels taught. Additionally, since the sample was only taken from one system, there is a higher degree of consistency in professional learning, emphasis on learning communities and collaboration, research based practices, and teacher expectations because all of the surveyed schools are governed under one central leadership. Although the participant limitations are quite stringent, and the sample size relatively small, the tests employed were valid and reliable, and the information gained should be insightful.

Findings

Mean scores for the 36 Advanced In-Field Degrees participants in all five years of the study fall between 809.39 and 860.89. Between 2006 and 2010 the overall mean score of the AID group rose from 831.36 to 840.03, denoting an overall scaled score increase of 8.67 points. The standard deviation rose from 9.60 to 10.89. Mean scores and standard deviations from the 2005-2006 school year and the 2009-2010 school year were used to calculate effect size reported as Cohen's *d*. Cohen's effect size value (d = .84) suggested a large effect.

During the same five years, mean scores for the 46 participants in the control group fall between 809.39 and 874.91. Between 2006 and 2010 the overall mean score of the control group rose from 832.89 to 839.18, representing an overall scaled score increase of 6.29 points. The standard deviation rose from 9.31 to 10.92 during the study. Mean scores and standard deviations from the 2005-2006 school year and the 2009-2010 school year were used to calculate

effect size reported as Cohen's *d*. Cohen's effect size value (d = .62) suggested a moderate effect.

After calculating the within group statistics, the groups were compared. Table 5.1 lists the demographic and hypothetical statistics calculated in the group comparisons.

Table 5.1

Student Achievement Comparison of AID and control group participants

Group	n	M	SD	Group	n	M	SD	*t*	*d*
Control Pre	46	832.89	9.31	Control Post	46	839.18	10.92	2.97	.62
AID Pre	36	831.36	9.60	AID Post	36	840.03	10.89	3.58	.84
Control Pre	46	832.89	9.31	AID Pre	36	831.36	9.60	.72	.16
Control Post	46	839.18	10.92	AID Post	36	840.03	10.89	.35	.07

Discussion

The topic of effective teaching has been studied numerous times in the last few decades, however little consensus has ever been reached in how to make a weak teacher effective, or how to make a strong teacher more effective. Eaker, Dufour, and Dufour (2002), among others, discuss in detail the importance of professional learning and interdependent learning communities. Other researchers such as Darling-Hammond (2002) acknowledge the importance of professional learning, but point to strong certification requirements and teachers

earning advanced degrees as effective methods to making teachers more effective in the classroom.

Campbell and Lopez (2008 b) examined the effect of advanced degrees on student performance in Georgia. They compared a group of teachers who had advanced degrees to teachers who did not have advanced degrees to see if there was a statistical difference between the two. They did not find any statistically significant difference. Ten years earlier Goldhaber and Brewer (1998) performed a study in which they found that only an in-field advanced degree had any effect. This study supports both of their findings by confirming that there is no statistically significant difference between the AID or Control Groups, but that the AID group did outperform the Control Group over the course of the five years. This difference in improvement, although small, is present in both the *t* score analysis and the effect size.

When performing group comparison analysis, the researcher discovered that there was no statistically significant difference between the study group, that had received Advanced In-Field degrees, and the control group, that had not received an Advanced In-Field degree. Like Campbell and Lopez (2008 b), comparative hypothesis testing yielded very low results, indicating that an Advanced In-Field degree did not advance teachers beyond their peers. However, through longitudinal analysis and calculation of effect size, the researcher found that the teachers who had received advanced degrees between August 2006 and May 2010 did outperform their peers in regard to improvement.

The effect size, reported as Cohen's *d*, of the control group was 0.62, indicating a moderate significance in their improvement on test scores. The *t* test confirmed this with a statistically significant score of 2.97. The effect size, reported as Cohen's *d*, of the Advanced In-Field degree group was 0.84, indicating a large significance in the improvement on test scores, again supported by the *t* test score of 3.58. Like Goldhaber and Brewer (1998), the researcher found that in-field degrees can have a statistically significant impact on student performance.

When comparing the two groups, the researcher found it very interesting that both the control group and the Advanced In-Field degree group had significant improvement over the span of the five years studied. While the Advanced In-Field degree group improved more, the control group improved as well. However, there was no statistically significant difference between the two groups.

The power of continual learning, in this case in the form of an Advanced In-Field degree becomes relevant when comparing a group against itself over a span of years. It is this longitudinal study that shows how an Advanced In-Field degree can help a teacher improve the craft of teaching and learning. This study agrees with the studies before it that claim that there is no difference between a teacher with an advanced degree and a teacher without an advanced degree in the span of a school year. This study also agrees with studies before it that state an advanced degree only makes a difference when it is in field. This study differentiates itself by stating that there is a statistically significant effect over time

in student performance when a teacher is engaged in continual professional learning including earning Advanced In-Field degrees when compared to peers who are not pursuing advanced degrees.

Implications. The ideas presented in this research go well beyond the individual classroom. This study indicates that there is a significant impact on student performance when the teacher is engaged in professional learning at a college or university. Although this study did not find a significant difference between the Control and AID groups, it did find that the AID group did improve more over the course of the five years than the Control. This information could prove to be important as lawmakers determine future steps in compensation procedures. In reference to federal programs and state legislation, lawmakers need to be aware that if the incentives for continued professional growth through formal education are removed, there may be fewer teachers pursuing advanced degrees. Similar to Boyd, Goldhaber, Lankford, and Wyckoff (2007), this researcher concedes that more data need to be collected to determine the statewide and nationwide effect of a teacher earning an Advanced In-Field degree. However, until that research is completed lawmakers should take caution as they make decisions that could have monumental consequences for our children. Without the incentive for advanced compensation, many teachers will shy away from the expense and workload of formal education in graduate school, and as this study indicates, that could be a loss for our students. At this point, the data is inconclusive and more research needs to be performed. As for school

systems, this data helps to support the practice of encouraging certified employees to earn higher-level degrees. In regard to the individual teacher, this study supports higher learning as a way to improve both the pedagogy of the adult and the performance of the students in the classroom.

To apply the Law of Diminishing Returns from economics, it makes sense that as a teacher moves closer to optimal performance, in this case high student test scores; it would take greater effort, such as earning an advanced degree, to make smaller increments of improvement (Johnson P. M., 2005). With each pedagogical gain a teacher makes, the next gain requires more work than the first, is more difficult and complex to achieve. Under this lens, it is logical that the control and the AID group would have very similar growth rates since both have been exposed to the same professional learning, same collaboration, and same teacher expectations because all participants are from within one system. Any additional growth would take exceptional effort on the part of the teacher so although the difference between the improvements in student test scores of the control group over the five years studied is only slightly less than the improvement of the Advanced In-Field degree group, the difference is very significant when the principles of this law are applied.

Future Research

This study provides a framework for future work on the relationship between Advanced In-Field degrees and the performance of students on standardized tests. An important part of this framework is the use of both longitudinal and

comparative data in the descriptive statistics and hypothesis testing. This feature is the defining piece of this research in comparison to other research on this topic. There have been many other studies performed on this same subject, however, it is the use of the longitudinal data within the groups, the focus on Advanced In-Field degrees, and the comparative data between the groups that sets this study apart.

With the use of the data available at the state level, many of the limitations found in this research could be overcome. A much larger sample of participants and data would be available to the researcher, and as a result, the findings would be much easier to generalize to an entire region or state. Future research could also expand the scope of the research itself. The research could include the standardized test scores of all students and the subject areas could be expanded to all areas tested, unlike this research that studied only the literacy components of the Criterion Referenced Competency Test in elementary schools.

Additionally, a researcher could use the data to compare school system to school system in the state and look for trends, similar to the one found in the Houston County School System in which all teachers have test scores that are improving, regardless of their pursuit of advanced degrees together. This data could then lead to other research possibilities regarding the difference in specific school systems in Georgia, especially in systems in which the demographics are similar but the outcomes are statistically significantly different. This study could

easily become a study on the effects of interdependent learning groups as described in Fullan (2001) and Eaker, Dufour, and Dufour (2002).

Another research question regarding positive and negative attitudes of teachers toward Advanced In-Field degrees could also reap valuable data. However, to avoid Type II errors, and to guarantee that the findings can be generalized, such sub-groups would need to come from a larger sample size. With enough respondents, the hypothesis testing could be carried out by comparing the two subgroups instead of teachers with a positive attitude toward their degree earned with those who have a negative attitude toward their degree earned.

Additional research, which studies the relationship between student performance and the type of university where the teacher received their training, could be valuable as well. Universities in the state of Georgia could be compared to other universities in the nation. Traditional universities could be compared to online universities. These comparisons could be used to determine if a statistically significant difference in student performance exists dependent upon the institution attended by the teacher.

The research presented in this study should not be considered an end to research in this field, but as a beginning to research on this topic in a slightly new direction, and with more specificity. This study opened the door for several expansions and new avenues for future research on the effect of teachers earning Advanced In-Field degrees on student performance, and the lawmakers

and educational community owes it to the students of our schools to pursue these new research ideas.

Conclusion

This research indicated that an Advanced In-Field degree could have a statistically significant effect on student performance on standardized testing, specifically on the reading and language arts portions in elementary school. However, any significance is only present in measuring the growth of the groups over the five year period studied, not in a single comparison. This study does not indicate that the AID group was statistically significantly different from the Control in either pre or post scores, only that AID group did improve more than the Control over the five year study. The data collected and analyzed were very affirming in that all of the teachers studied in both groups demonstrated steady growth as a teacher. The significance occurred when the group that had earned the Advanced In-Field degree outpaced the control group in student growth. In the five years studied, the control group increased their mean score by 6.29 scaled score points and the Advanced In-Field degree group increased their mean score by 8.67 scaled score points. This difference in the increase, 2.38 points, may not look like much at first glance, but with a mean score in the 830's for both groups, which is very close to the 850 required to exceed state expectations, every incremental increase in test scores is going to require a substantial amount of effort on the part of the classroom teacher. Additionally

hypothesis testing in the form of *t* tests and effect size testing using Cohen's *d* showed the growth of the AID group above the Control group as well.

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Appendix A:

Research Request Approval from the Houston County Board of Education

HOUSTON COUNTY
BOARD OF EDUCATION
HIGH-ACHIEVING STUDENTS

DR. JAMES R. HINES, JR., SUPERINTENDENT

BOARD MEMBERS

DR. CHARLES M. (TOBY) HILL, VICE CHAIRMAN
SKIP DAWKINS
DR. MARIANNE MELNICK
TOM WALMER, CHAIRMAN
W. G. CLEMENTS
HELEN HUGHES
FRED WILSON

MEMORANDUM

DATE: March 16, 2011

TO: Elgin Mayfield
Perry Primary School

FROM: Sharon Moore
Director of Professional Learning

SUBJECT: **RESEARCH APPROVAL REQUEST**

Your request to conduct a research project for your doctorate program at Valdosta State University entitled *"Impact of an Advanced in Field Teaching Degree on Quality of Teaching as Measured by Student Performance"* is approved. I understand that your research project will involve all elementary schools within Houston County and you will be surveying all certified teachers within those schools who meet the demographic criteria for your research (earned an advanced degree within the last four years and must have been teaching the same grade level during that same time).

Thank you for provicing a copy of the IRB Form/Questions and your survey.

Please keep in mind that you will be responsible for compiling the data for your research. Faculty and staff in the Houston County Schools and the Central Office Department of Testing and Information Technology is unable to compile data for your research. Please also remember at all times that teacher and student anonymity and confidentiality is of utmost priority. Board policy also prohibits the use of system e-mail for personal research.

I wish you the best as you work toward earning your doctorate degree. Please let me know if I may be of any assistance to you again in the future.

cc: Tim Helms
Linda Horne

P.O. BOX 1850 • PERRY, GEORGIA 31069
(478) 988-6200 • FAX (478) 988-6259
WWW.HCBE.NET

Appendix B:

Valdosta State University Institutional Review Board Protocol Exemption Report

Institutional Review Board (IRB)
for the Protection of Human Research Participants

PROTOCOL EXEMPTION REPORT

PROTOCOL NUMBER: IRB-02673-2011 **INVESTIGATOR:** Elgin Mayfield

PROJECT TITLE: Impact of an advanced in field teaching degree on quality of teaching as measured by student performance

DETERMINATION:

☑ This research protocol is exempt from Institutional Review Board oversight under Exemption Category(ies) 2. You may begin your study immediately. If the nature of the research project changes such that exemption criteria may no longer apply, please consult with the IRB Administrator (irb@valdosta.edu) before continuing your research.

☐ Exemption of this research protocol from Institutional Review Board oversight is pending. You may **not** begin your research until you have addressed the following concerns/questions and the IRB has formally notified you of exemption. You may send your responses to irb@valdosta.edu.

ADDITIONAL COMMENTS/SUGGESTIONS:

Although not a requirement for exemption, the following suggestions are offered by the IRB Administrator to enhance the protection of participants and/or strengthen the research proposal. If you make any of these suggested changes to your protocol, please submit revisions so that IRB has a complete protocol on file.

Barbara H. Gray Date: 4/26/11
Barbara H. Gray, IRB Administrator

Thank you for submitting an IRB application.
Please direct questions to irb@valdosta.edu or 229-259-5045.

cc: Dept. Head & Advisor: Dr. Don Leech

Form Revised: 09.02.2009

Appendix C:

Survey Distributed to all applicable Houston County Elementary Teachers

Survey Regarding Student Achievement and Advanced In-Field Teaching Degrees

Name _____ School _____

1. Have you been teaching in Houston County continuously since 2005? ☐ Yes ☐ No
2. Have you been teaching the same grade level continuously since 2005? ☐ Yes ☐ No
3. Have you given the CRCT each year between 2005 and 2010? ☐ Yes ☐ No
4. Have you earned an advanced elementary education degree between August 2006 and May 2010?

   ☐ Yes ☐ No

   a. If so, in what year did you earn it? _____

If you answered yes to question 4, please complete the following additional questions, if you answered no, please submit the completed portion above to your principal.

Please rate to what degree you agree or disagree with the following statements by placing a check in the corresponding box.

******Keep in mind that these are not value questions about you as a teacher, these questions only concern advanced teaching degrees and their impact on teachers.***

	Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Strongly Agree
Do you feel that your advanced degree has helped you better understand the teaching and learning process?					
Do you feel that your advanced degree has helped you establish and maintain a productive classroom environment?					
Do you feel that your advanced degree has changed your process of record keeping and/or data collection?					
Do you feel that your advanced degree has made you a more effective teacher, better equipped to handle the rigors of standards based classrooms?					
As a result of earning an advanced degree, do you feel that you are more capable of evaluating the needs of students and differentiating instruction based on those needs?					

Thank you for participating in the survey!