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Teacher Self-Efficacy and Student Achievement as
Measured by North Carolina Reading and Math End-Of-Grade Tests

A dissertation

presented to

the faculty of the Department of Educational Leadership and Policy Analysis

East Tennessee State University

In partial fulfillment

of the requirements for the degree

Doctor of Education

by

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May 2011

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Keywords: Self-Efficacy, Student Achievement, Standardized Test,
End-Of-Grade Tests, Teacher, Math and Reading, *No Child Left Behind (NCLB)*

ABSTRACT

Teacher Self-Efficacy and Student Achievement as
Measured by North Carolina Reading and Math End-Of-Grade Tests

by

Wayne M. Eberle II

Teachers continue to experience an increased sense of responsibility as it relates to job performance while still being required to produce at the same level with relation to student performance. This can cause an increase in personal stress and result in lowered feelings of self-worth, having a negative impact on service delivery to children and overall job performance.

Bandura (1997) defined self-efficacy as a judgment of one's ability to organize and execute given types of performances. Furthermore, he suggests that the outcomes people anticipate depend largely upon their judgments of how well they will be able to perform in given situations. The same can be said for teachers in relation to their beliefs and attitudes toward their students' overall performance.

The purpose of this quantitative study was to determine whether a relationship exists between teachers' feeling of self-efficacy and their students' overall achievement with respect to North Carolina Reading and Math End-Of-Grade tests. Surveys were administered to teachers in grades three through eight, in eight Pre-K through 8th grade schools. Data collected focused on teachers' feeling of self-efficacy. This study employed qualitative data gathered from participant surveys. Participating teachers in this study are in high performing schools as defined by the North Carolina Department of Public Instruction. Their students have good academic records,

coupled with high parental involvement (North Carolina Department of Public Instruction, 2010).

Six of the 14 comparisons within this study did not reveal a significant relationship between perceived teacher self-efficacy and North Carolina End-of-Grade reading and math test scores. However a relationship between perceived self-efficacy within gender did reveal that female participants tended to have higher perceived self-efficacy than that of the male participants. Male teacher participants tended to have higher North Carolina End-of-Grade reading test scores than those of female teacher participants. It was also discovered that each of the respondents, regardless of perceived self-efficacy score, had test results in both reading and math that were significantly higher than the state average. Finally it was also discovered that a relationship existed between teacher respondents with lower perceived self-efficacy scores and North Carolina math test scores.

DEDICATION

This dissertation is dedicated to those who have helped me learn and allowed me to grow throughout a lifetime of learning. For your love and support, I am eternally grateful.

To my father, Captain Wayne Martin Eberle, Sr., who taught me that anything worth having is worth putting forth your very best. You sacrificed much so that I could achieve. Please know it never went unnoticed or unappreciated.

To my mother, Denise D. Corbitt-Coppola, who taught me the value of education by modeling it for me when I was a child. Sometimes you had to nap in your car before going to your next class. Through it all you still managed to raise a loving child who still adores you. I'm sorry I turned off the computer in the middle of your 25-page document. Thank you for not killing me!

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To Blu, Grub, Rock, Mud, Wood, and your wives, Debra, Crissy, Sherry, Melanie, and Gina for showing me how beautiful this country is. I live for our two-wheeled adventures. Not only do they center me, but they help me to refocus on what is truly important in this life.

To my lovely wife and soul mate, Amy. You picked me up during the lowest part of my life and rode with me to the top. Our future is bigger and brighter than ever. Thank you for your unconditional love and support through this journey. May our lives continue to read like a love story.

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CHAPTER 1

INTRODUCTION

As evidenced by the allocation of funds to school districts, student achievement is important. Achievement and student assessment are fundamental to funding because the amount of money allocated to school districts is based on student performance from the prior school year. Higher student achievement reduces allocated funds. Lower student achievement increases the money, support, and resources allocated.

The purpose of this quantitative study was to determine whether a relationship exists between teachers' feeling of self-efficacy and their students' overall achievement on North Carolina Reading and Math End-Of-Grade tests. Self-worth as it relates to teacher and student performance is not a new idea, but it causes educators and administrators to evaluate working conditions in a way that will, hopefully, enable students the opportunity for success through additional allocation of funds. Funds used toward staff development would give educators the opportunity to collaborate about best practices.

Definition of Self-Efficacy

Merriam-Webster's Dictionary (1998) defines the term *self* as the "entire person of an individual, an individual's typical character or behavior" (p. 1059). In addition, the term efficacy is defined as, "the power to produce an effect" (p. 368). The term *self-efficacy* has been defined many times in the professional literature relating to education. Self-efficacy is the belief that one is capable of performing in a certain manner with the idea of attaining an ultimate end result (Bandura, 1986). Covey (1998) wrote that one should, "begin with the end in mind" (p. 95). Therefore, it can be inferred that if teachers begin the school year with goal setting they and their students are most likely to succeed. When a teacher is placed in a position to motivate and

influence others, their self-efficacy must exude the necessary confidence and forward thinking it takes to empower students and inspire them to produce (Bandura, 1977).

The idea of teacher self-efficacy has grown in interest since Bandura first published an article on self-efficacy in 1977. Self-efficacy has since been used as an independent variable within research and correlated with best practices by teachers and student learning. Researchers have defined teacher self-efficacy as the belief teachers have in their ability to teach that results in improved student learning (Tschannen-Moran, 2002, Woolfolk-Hoy & Hoy, 1998, Woolfolk, Rosoff, & Hoy, 1990b). Bandura (1977, 1993) defined self-efficacy as a judgment of one's ability to organize and execute given types of performances. Furthermore, he noted that the "outcomes people anticipate depend largely on their judgments of how well they will be able to perform in given situations" (p. 21). The same can be stated for teachers, their beliefs and attitudes toward their school, grade level, curriculum, and their student's overall performance.

The concept of teacher self-efficacy can be traced to a group of RAND researchers that used Rotten's locus of control theory to determine whether teachers gravitated more toward an internal or an external locus of control (Fives, 2003). The RAND Corporation used this research and information to further study teacher characteristics related to student achievement. (Armor et al., 1976). Armor et al. (1976) further examined the RAND research and found teacher efficacy to be strongly related to variations within students' success on assessments related to reading and reading achievement. According to Ashton and Webb (1986), whose research involved secondary students, it was discovered that student achievement in mathematics was linked positively with teacher efficacy.

"People's beliefs in their efficacy affect almost everything they do: how they think, motivate themselves, feel, and behave" (Bandura, 1977, p. 53). Bandura expanded on the notion

of efficacy and locus of control stating that “in general, people who believe that their outcomes are determined by their behavior tend to be more active than those who perceive outcomes fatalistically” (p. 23). Teacher self-efficacy has been shown to predict student attitudes (Anderson, Green, & Loewen, 1988; Cheung & Cheng, 1997), teacher burnout (Skaalvik & Skaalvik, 2007), teacher strategies (Allinder, 1994; Woolfolk, Rosoff, & Hoy, 1990a), and student achievement (Hines & Kritsonis, 2010).

Since the National Commission on Excellence in Education’s report in 1983 entitled *A Nation at Risk*, many have sought new ways to raise student standards and student achievement. Although this report continues to come under attack, it is widely accepted as the cornerstone of educational reform (Fielding, Kerr, & Rosier, 2007). It established the goals for the third national reform since 1900, which has led to an increased amount of pressure placed upon schools and teachers to increase student achievement with relation to standardized tests (Fielding et al., 2007).

According to the North Carolina Department of Public Instruction (2010), more emphasis was placed on creating math and reading content gateway benchmarks. These benchmarks could keep children from entering the next grade level if they were not successfully mastered. This posed quite a dilemma within the North Carolina public school system. Questions were raised that included: What would happen if the number of children retained caused a swell in the grade level; Would this go against the research that suggested that retaining children would pose an increase in the potential dropout rate; and Is North Carolina prepared to implement alternative settings for children who just simply cannot pass certain tests? In October 2010, the North Carolina State Board of Education dropped certain grade level gateway benchmarks for promotion, signifying a change in approach in determining student mastery.

Statement of Problem

It is a widely accepted thought that people will work harder and more efficiently when placed in challenging situations in which they are empowered to feel success (Bandura, 1986, 1997). In contrast, people who experience burnout will often cite poor job satisfaction as one of the top reasons for displeasure (Skaalvik & Skaalvik, 2007). In order to retain and promote a positive atmosphere within schools, teachers must be supported, parents must be validated and affirmed, and children must be challenged to work to reach high expectations set before them (Brenderson & Scribner, 1996). Marty Hemric, Superintendent of Watauga County Schools stated that the current educational atmosphere presents many challenges with regard to student growth that, by its very nature, begins to create a feeling of polarization between what children need and what is available to them (personal communication, July 6, 2010). In his opinion it is a struggle between maximizing instruction and service delivery to children and limited resources.

Schools are mandated under the *No Child Left Behind Act (2001)* to ensure that all students make adequate yearly progress (AYP) in the content area of reading. In addition, the act also stated that in 2005-2006 all teachers should be highly qualified in their subject areas. (Weaver, 2004). As a result, states and local boards of education are continuing their push for even higher standards (NCLB, 2001; NCDPI, 2010).

Teachers must also be certified to teach content areas specific to student age groups. In North Carolina, teachers not deemed highly qualified are placed on a probationary period for up to 2 years and required to obtain necessary licensure to continue in their field (NCDPI, 2010). This also pertains to those professionals who enter the profession without a valid teacher license but are qualified by other means such is the example of lateral entry teachers.

This study focused on teachers' sense of efficacy and its relation to student achievement on the North Carolina End-of-Grade (EOG) tests in reading and math. The purpose of this study was to determine if a relationship exists between teachers' perceived sense of self-efficacy based on the Bandura Teacher Self-Efficacy Scale (see Appendix A) and the reading and math achievement of students in grades three through eight.

Research Questions

The following questions relating to teachers' sense of self-efficacy and students' achievement were addressed:

1. Is there a significant difference between North Carolina End-of-Grade math test scores for teachers who are rated low in self-efficacy and scores for teachers who are rated high in self-efficacy?
2. Is there a significant difference between North Carolina End-of-Grade reading test scores for teachers who are rated low in self-efficacy and scores for teachers who are rated high in self-efficacy?
3. Is there a significant difference between male and female teachers' sense of self efficacy?
4. For teachers rated high in self-efficacy, is there a significant difference between North Carolina End-of-Grade math test scores for males and North Carolina End-of-Grade math test scores for females?
5. For teachers rated high in self-efficacy, is there a significant difference between North Carolina End-of-Grade reading test scores for males and North Carolina End-of-Grade reading test scores for females?

6. For teachers rated low in self-efficacy, is there a significant difference between North Carolina End-of-Grade math test scores for males and North Carolina End-of-Grade math test scores for females?
7. For teachers rated low in self-efficacy, is there a significant difference between North Carolina End-of-Grade reading test scores for males and North Carolina End-of-Grade reading test scores for females?
8. For teachers rated high in self-efficacy, is there a significant difference between the participants' North Carolina End-of-Grade math test scores and the North Carolina End-of-Grade math test score state average?
9. For teachers rated high in self-efficacy, is there a significant difference between participants' North Carolina End-of-Grade reading test scores and North Carolina End-of-Grade reading test score state average?
10. For teachers rated low in self-efficacy, is there a significant difference between participants' North Carolina End-of-Grade math test scores and the North Carolina End-of-Grade math test score state average?
11. For teachers rated low in self-efficacy, is there a significant difference between participants' North Carolina End-of-Grade reading test scores and the North Carolina End-of-Grade reading test score state average?
12. Is there a significant difference between teachers in grades three through five and teachers in grades six through eight with regard to their levels of perceived self-efficacy?
13. Is there a significant relationship between teachers' self-efficacy and their respective North Carolina End-of-Grade math test scores?

14. Is there a significant relationship between teachers' self-efficacy and their respective North Carolina End-of-Grade reading test scores?

Significance of Study

This study may be beneficial to all in education who strive to balance what is right for children with service delivery. Teachers who are passionate about their performance take pride in the job they do. Skaalvik and Skaalvik (2007) expanded on Bandura's (1982, 1997) research in an effort to evaluate whether a relationship exists between teacher efficacy and burnout using the Norwegian Teacher Self-Efficacy Scale (NTSES). The NTSES survey is similar to the survey developed by Bandura (see Appendix A) that was selected for this dissertation once permission was granted by Hoy (see Appendix B). Results indicated that teachers with higher feeling of self-efficacy experience less burnout and will produce higher achieving students (Skaalvik & Skaalvik, 2007). The results can be extended to the United States and help as the push to continue successful participation in a global economy coupled with the hope of preparing children who are well adapted to the ever changing world they find themselves a part of (Friedman, 2006). It is hypothesized that teachers with a higher sense of efficacy will empower their students and challenge them to perform better in relation to state and local standards, thus producing students who are higher achievers. Furthermore is it also hypothesized that elementary (grades three through five) grade level teachers' sense of self-efficacy will be higher than that of teachers within the middle grades (six through eight).

Definition of Terms

To ensure the meaning and understandings of the terms used in this study, the following definitions are provided.

1. *Achievement test*: An assessment that measures a student's currently acquired knowledge and skills in one or more of the content areas common to most school curricula (for example, reading, language arts, mathematics, science, and social studies) (CBT/McGraw-Hill, 1997, p. 42).
2. *No Child Left Behind (NCLB)*: Reauthorization of Elementary and Secondary Act (ESEA) of 1965 that was signed into law on 8 January 2002 by President George W. Bush in an effort to improve student achievement especially for the economically disadvantaged (US Department of Education, 2003, p. 3).
3. *Adequate Yearly Progress (AYP)*: Benchmarks developed by states to measure learning progress (US Department of Education, 2003).
4. *North Carolina End-of-Grade Test (EOG)*: The test designed to measure student performance on the goals, objectives, and grade-level competencies specified in the *North Carolina Standard Course of Study* (North Carolina Department of Public Instruction, 2010).
5. *Self-efficacy*: "Belief in one's capabilities to organize and execute the sources of action required to manage prospective situations" (Bandura, 1997, p. 3).
6. *Teacher self-efficacy*: A teacher's "judgment of his or her capabilities to bring about desired outcomes of student engagement and learning" (Tschannen-Moran & Woolfolk-Hoy, 2001, p. 783).

Limitations and Delimitations

This study was limited to a population that consisted of teachers in the third through eighth grades in one school system in northwest North Carolina during the 2010-2011 school year. The sample was drawn from teachers who taught at all eight of the Pre-K through eighth grade schools in that school system that year. Student EOG results were preexisting from the 2009-2010 school year from the same school system. Finally, socioeconomic status was not taken into account during this research.

Assumptions

It is assumed that the Bandura Teacher Self-Efficacy Scale (see Appendix A) provides accurate information with regard to the degree of perceived teacher self-efficacy, self-efficacy of job performance, and empowerment. The 30-question survey was designed to provide an overall assessment of perceived self-efficacy levels regarding teaching and instruction (Hoy, 2008).

Overview of the Study

This study is organized into five chapters. Chapter 1 contains an introduction to the study, definition of self-efficacy, statement of the problem, research questions, significance of the study, definition of terms, limitations and delimitations, and assumptions. Chapter 2 includes a review of literature that is organized as follows: educational reform, factors influencing academic success, review of teacher assessments, motivation and empowerment, classroom engagement, teacher retention, current administration impacting the classroom, and a summary. Chapter 3 includes the research methodology within the subsections of introduction, research questions and null hypotheses, research design, population, Bandura Teacher Self-Efficacy Scale, data collection, data analysis, and a summary. Chapter 4 provides the results of the study.

Finally, Chapter 5 includes a summary of the findings, conclusions, recommendations for further research, and recommendations for practice.

CHAPTER 2

REVIEW OF LITERATURE

Since the implementation of the *No Child Left Behind Act* (NCLB) in 2002, low performing schools and teachers have been labeled with the term *failing*. No doubt this has taken its toll on school, district, and community educational climates. After all, what parent wants a child to be part of a school that the government has deemed as failing? What kind of support can a teacher expect from an organization that is failing according to state standards? School districts have been charged with *closing the achievement gap* and have been accused of teaching to the test rather than the curriculum.

Bandura's (1995, 1997) work examined related views of efficacy and how employers can use an employee's feeling of self-worth to enhance outcomes. Better student achievement can be attained when students are placed within a setting that embraces the notion of community through support and positive choices. Teachers with high perceived sense of self-efficacy can create the necessary classroom climates that can help children reach their maximum potential (Bandura, 1993)

Educational Reform

America is currently in the midst of its third major educational reform in a century (Daggett, 1997). The first can be traced back to 1900 and lasted until 1930. During those three decades, the school year increased from 144 days to 174 days. In addition, the average number of days a student was absent from school decreased by 19 days (Fielding et al., 2007).

Furthermore, Fielding et al., (2007) discussed that during this 30-year period:

Enrollment in grades 6-12 grew 15 times faster than elementary enrollment. High school graduation rates increased from 6.3% to 28.8% and the number of four-year college degrees granted rose from 27,410 to 122, 484. This education reform occurred in the context of a noisy social and economic transformation. In 1892, just 18% of the

population voted. By 1920, the 19th Amendment added women to a voter pool previously limited to those who were male, literate, 21, and property-owners...Other changes included a world war, major population shifts from rural to urban, and an economy that tipped from agriculture to heavy industry. (pp. 149-150)

The second major educational reform can be traced from mid-1940s into the late 1970s. Again college enrollment soared, from 2 million to 6.9 million students, largely in part to the GI Bill and its funding for returning veterans (Fielding et al., 2007). It is suggested that the “growth resulted in accelerated construction at virtually every institution and a near doubling of the community college system” (Fielding et al., 2007, p. 151). Furthermore, it is important to note that, “both construction and enrollment were initiated and sustained by federal legislation and funding” (p.151) placing school standards in direct association with federal funding standards. It can be inferred that this was the first time the federal government urged local school systems to comply with federal standards (Fielding et al., 2007).

We are now in the third major education reform. This phenomenon can be traced to the early 1980s as each state began to raise its graduation requirements. Along with increased graduation requirements, the 1990s saw, “virtually every state adopting legislation that would mandate testing” (Fielding et al., 2007, p. 151).

The legislation generally set minimum achievement standards, required elementary, middle and high schools to baseline the number of students at or above the standard, and expected an increasing number to reach the minimum standards. This near-uniform action was unprecedented in the prior 50 years. In 2001, the first step was taken to standardize these reforms by the passage of the Reauthorization of the Elementary and Secondary Education Act (ESEA) at the federal level. (p. 151)

Although education continues to change with time, many factors influence the ultimate outcome of student achievement. Technological advancements will be what set the stage for the next potential reform (Daggett & Kruse, 1997). In an effort for American schools to continue to

perform in a way that that is competitive in a global market, Friedman (2006) suggested that we embrace the educational practices of other countries and make them common practice here.

Factors Influencing Academic Success

Goldhaber and Brewer's (1998, 2000) research reported findings around the theme of teacher accountability based on merit pay or student test scores. In response, Education Week (2010) published a commentary that addressed not only the concept of performance-based pay increases, but teaching communities that hold several teachers responsible for a student's AYP. By rewarding individual teachers for their success at meeting AYP, collaboration attempts can backfire (Chenoweth, 2010). But, when educational communities thrive and are fostered by administration, both student success and teacher job satisfaction increase (Skaalvik & Skaalvik, 2007). Marshall (2010) suggested that even though education communities are valid concepts, they may not sway the politicians who hold the education purse strings at the federal level. While teacher communities may foster well-rounded and solidly measurable outcomes, they may not be awarded funding in states where student achievement and end-of-year teacher evaluations and compensation are the preferred benchmarks (Marshall, 2010).

Student achievement must be the primary desired outcome for teachers who seek rewards (Marshall, 2010). It is suggested by Marshall (2010) that the manner in which teachers are currently evaluated and observed is clearly not acceptable in its current state. If teachers and principals are to make a difference in a student's educational career, the onus of responsibility needs to be shared by all stakeholders, including but not limited to, parents, teachers, students, community members and elected officials (Marshall, 2010). Furthermore, Marshall (2010) noted that finger pointing needs to be dismissed and collaboration between school's stakeholders need to be fostered. When teachers are acknowledged for a job well done, it is affirming and

energizing. If the stakes in the teacher evaluation process are raised, some may be motivated to change the current system of evaluation. The following questions are raised: Who gets rewarded; what is measured and how is it done; and what is the reward? (Marshall, 2010).

Hess (2010) suggests that merit pay should reward performance, value and productivity. During current economic times, Hess (2010) also suggested that states need to be wise with the use of merit pay and was quick to point out the need to continue to look ahead to years with less funding. Hess (2010) stated that well-designed merit pay systems should reward teachers who not only amplify a student's potential but are also the ones who will take up opportunities to do more good. These techniques may include instructing additional students, leveraging particular skills, or assisting colleagues.

Marshall (2010) stated the most productive choice for student achievement and growth are teacher teams. He also noted they promoted collaboration between teachers who taught in the same subject area and who shared the same students. For example, at Coral Shores High School in Monroe County, Florida, a ninth grade teacher team was established to reduce disciplinary concerns and curtail the sidetracks of freshmen students when mingled into mixed grade classes. Mary Jo Fry, Social Studies Department Chair at Coral Shores High School, stressed that because the building was architecturally designed around collaborative pods, the ninth grade team had the ability to set themselves aside from the rest of the school population (personal communication, September 7, 2010). Teachers evaluated students collectively and met weekly with parents and counselors to discuss any disciplinary problems and personal gains in achievement. The result was cohesion among teachers of an exclusive group of students and preparation to participate in the full spectrum of upper-class subject choices without the peer

pressure that generally met ninth grade students. In each instance, all of the team teachers were rewarded for their effort.

As for what gets measured to determine student growth, it has to be a hybrid of end-of-year standardized test scores, value-added standardized test scores, student gains on in-school assessments, and teacher classroom skills (Marshall, 2010). Rather than depending solely on principal observations of teaching methodology and student engagement, scales of reading proficiency, rubrics for scoring student writing, open-ended math questions that use student comprehension, and multiple-choice questions that require students to use high level thinking skills should be considered. The role of the principal in this scenario is to make frequent unannounced observations of classrooms and provide immediate feedback for teachers. Teacher teams should also provide the principal with evidence of all their students learning gains at a minimum of once per year (Marshall, 2010).

The reward for success could be a monetary bonus, positive year-end evaluations, or praise from principals. Marshall (2010) noted the best choice to be a team score as one element in teachers' evaluations. Each individual teacher evaluation should be two pronged: the principal's assessment of classroom performance based on multiple visits and conversations as well as a collective score for the student teams' learning gains that year (Marshall, 2010).

The role of monetary reward should come from career ladder opportunities for the most highly rated teachers to take on extra responsibilities for increased pay; incentives for the most effective teachers to work in high need schools and subject areas; and denial of step increases to teachers with mediocre ratings (Marshall, 2010). As for teachers who fail to perform, there must be a way of moving to dismiss teachers with unsatisfactory ratings based on all of the above (Marshall, 2010). Administrators need to take performance abilities and classroom observations

seriously in an effort to place the best possible teachers in front of children. This all points to evidence-based performance and assessment that relies on peer groups, administration, student, and parent input. If the seniority and tenure variable is removed, the workplace fosters a growing society of eager and active learners and teachers, progressive principal input, and parent involvement (Marshall, 2010).

Chenoweth (2010) pointed out that it is not easy to do everything right. He suggested that educators must understand that their students can be particularly vulnerable to sloppy and inadequate instruction (Chenoweth, 2010). Families are required to make up the difference in instruction as well as any deficiencies in teaching and curriculum. Ultimately Chenoweth (2010) suggests that the mandate for excellence belongs to everyone in the building from school secretaries, who must efficiently process paperwork and welcome parents and visitors, to the cafeteria workers who must provide nutritious food in a welcoming atmosphere to the paraprofessionals who will support the instruction.

Many other dilemmas present challenges that teachers and other school staff must be prepared to handle. For example, Dill (2010) identified homelessness as a hurdle that is experienced by one in 50 children in the United States in any given year. Under the McKinney-Vento law, children who lack a *fixed, regular, and adequate residence* are considered homeless (National Center for Homeless Education). According to Dill (2010) being homeless does not mean hopeless, and these children can be taught and have the ability to rise above their struggles, noting that school is the only safe place they have. Dill (2010) furthers this notion in saying that aware and caring teachers have the power to build an emotional home in the classroom and, as many do every day, save the life and future of a child.

Review of Teacher Assessments

Another method of testing teacher accountability known as value-added is becoming prevalent as administrators try to increase AYP in their schools and districts (Sawchuk, 2010). Value-added gauges have been dismissed by some of the nation's top scholars for their nonrandom assignment of students and teachers to classrooms as well as the fact that value-added cannot distinguish between contributions of multiple teachers over time. The research shows instability from year to year (Sawchuk, 2010).

Citing a study by measurement experts Eva Baker, a co-director of the National Center for Evaluation Standards and Student Testing at UCLA; Paul Barton associate director of the National Assessment of Educational Progress; Edward Haertel, former president of the National Council of Measurement in Education; Helen Ladd, a professor at Duke University; Robert Linn and Lorrie Shepard, professors at the University of Colorado; and Richard Shavelson, a former president of the American Educational Research Association, even though value-added measures tout to take socioeconomic factors into account, other matters can wrench the estimates (Sawchuk, 2010). Inequitable access to health, special services, small class sizes, and better resources may “have a small impact on a teacher's apparent effectiveness, but cumulatively they have greater significance” (p. 18).

Deciding teacher effectiveness by high stakes testing can be a dissuasive factor when teachers choose where they want to work. By using value-added methodology, teachers may not want to teach a narrow curriculum in low-income schools where test scores are low (Buchanan, 2005). Again, the study suggests, the best balance in evaluation comes from classroom observations of teacher practice, so as not to place undue pressure on teachers to focus exclusively on topics likely to be presented on tests. But, while the correlation between teacher

observations and student test achievement is new, it is hard to say what effects they have on teaching and learning (Brendeson & Scribner, 1996).

States such as Florida and Rhode Island that have been awarded Race to the Top federal grants, have committed 50% of a teacher's evaluation on student achievement and have to take into consideration that only a small portion of teachers currently instruct in tested grades and subjects (Sawchuk, 2010). North Carolina has chosen to use Race to the Top grants to supplement staff development funds cut from recent budgets (NCDPI, 2010).

Motivation and Empowerment

According to Bandura (1977) motivation is determined by people's judgments of their capacity to execute particular courses of action (called efficacy expectations) and their beliefs about the likely consequences of those actions (called outcome expectations). Shidler (2009) suggested that teachers with a high level of instructional efficacy believe more whole-heartedly in children's abilities to be successful and will devote more time and effort into the profession of teaching. These teachers will deliver content more clearly, using a more interesting delivery approach and will produce better outcomes (Vartuli, 2005). Furthermore, these teachers will be more likely to reflect on their own practices and be more willing to adjust failed practices in an effort to better themselves within the profession (Vartuli, 2005). Goodwin (2010) furthers the key points made by Bandura (1997) and Tschannen-Moran and Hoy (2002) suggesting that good teachers possess a few simple, quantifiable attributes. Those include the ability to think quickly on their feet, knowledge of subject material, and knowledge of how to teach the subject material (Goodwin, 2010).

Citing the debate over traditional licensure and credentials, Goldhaber and Brewer (2000) found "little rigorous evidence that [teacher certification] is systematically related to student

achievement” (p. 141). One particular exception, according to Goodwin (2010), may be National Board certification. An extensive analysis of North Carolina data found higher achievement in classrooms of National Board certified teachers (Goodwin, 2010). However, the study failed to detect the before and after effects of going through what some would call a grueling process (Clotfelter, Ladd, & Vigdor, 2007). Another exception found by Goldhaber and Brewer, (1998) appeared with high school science and mathematics, where teachers with subject-specific master’s degrees were more effective than teachers without such degrees in relation to student performance.

Guskey (1984) reported stronger teacher efficacy resulted in more positive attitudes on the job as well as higher levels of confidence in the ability to relay specific content. Content that is specific can enhance and improve the confidence the teacher feels in delivery and thus can increase efficacy (Shidler, 2009).

A connection was also established between student achievement and teacher interaction when using a coach to benefit students (Ross, 1992). Knight (2007) also expands on the coaching model and found the program to be effective in Kansas. Ross (1992) found that student achievement was positively correlated with the use of personnel resources that effectively used a coaching model. Teachers and administrators will need to devote time organizing personnel and schedules to ensure teachers and coaches are placed in a common planning and working time. The benefits can outweigh the scheduling complications however.

Hemric, Eury, and Shellman (2010) further affirm the need to better connect quality teacher with students by stating the importance of implementing empowerment structures within the school setting as an effort to promote greater student achievement through bettering the teachers that deliver critical content. Furthermore, Hemric et al. (2010) state that the operational

design in schools is important avenues for discussion and conflict resolution. Short and Johnson (1994) expand on this notion stating that teachers who have legitimate power, to control their job behavior demonstrate higher levels of efficacy than those who have diminished power to control their job behavior. Both however identify the need for focus on teacher empowerment.

Coaching, according to Toll (2006), engages the teacher and coach for 1-2 hours per week. In this model Shidler (2009) suggests that conversations are focused on specific goals, with each participant listening and observing one another to gather information, which will lead to a plan for accomplishing specific goals. This model is different from those of co-teaching, where the interaction is broader and is used to engage all aspects of teaching rather than a few very specific ones (Shidler, 2009).

A strong correlation was also found between professional development and raised teacher self-efficacy (Bredeson & Scribner, 1996; Sparks, 1986). Hines and Kritsonis (2010) expand on professional development and the positive effects on student achievement stating that the model should: Consist of and engage teachers and tasks that reflect their work; Facilitate opportunities for teachers to ask questions about their practices; Provide teachers with the opportunity to observe and reflect and; Show teachers how their acquisition of these strategies meet the school's overall plan for addressing the instructional needs of students. (Hines & Kritsonis, 2010, p. 9) Although their research dealt primarily with mathematics achievement, it can be applied to other curricular areas.

Principals also play an important role in modeling and empowering teachers to do their best and to continue to grow. Principals should make daily observations of the classrooms (Hines & Kritsonis, 2010). Additionally principals should hold postconferences with teachers

that should provide them with opportunities for professional growth as well as effort feedback about their performance (Pintrich & Schunk, 1996).

Classroom Engagement

In an effort to support teachers who transition from preservice to service, many professionals believe it is necessary to increase the amount of staff development devoted solely for quality instruction (Guskey, 1984; & Knight, 2007). Daggett and Kruse (1997) also note that young teachers are faced with such great noninstructional responsibilities that their classroom instruction and delivery to children suffers. If student discipline issues begin to rise, then student interest begins to decline. Many young teachers are not ready to handle the many challenges that can arise as a result of lack of classroom discipline. By investigating the idea of a supportive setting through scheduled interaction with students, teachers have the ability to maximize student interest (Zepeda & Mayers, 2001).

Schlechty (2002) defines what highly engaged classrooms look like and how they can have a positive effect on both teachers and students. Those classrooms in which most students are authentically engaged coupled with little to no rebellion and limited retreatism and passive compliance will work best in keeping students interested in subject material. Those that continue with active engagement are said to be the ones who are the most successful in terms of standardized tests and assessments. “If students become engaged in the right ‘stuff,’ they are likely to learn what we want them to learn” (Schlechty, 2002, p. 38).

Schlechty (2002) also points to parents as key players in a child’s education noting that too often teachers spend valuable time with parents telling them about their child rather than listening to what parents have to say about the child. Allington and Cunningham (1996) further affirm the need for schools to not only teach subject and curricular areas but also to incorporate

the school-community relationships. The need to break down the mistrust that exists between parents and teachers is essential to a teacher's feeling of empowerment and efficacy. Opening the lines of communication between home and school in a positive way may also help pave the way to teacher retention and the longevity the profession once experienced before the mandate of state accountability, high-stakes testing (Allington & Cunningham, 1996).

Teacher Retention

By bringing in the perspective of new teachers in communities that value what they have to offer a new and exciting energy can potentially be brought into the profession (Buchanan, 2005). Defining successful schools through teacher recruitment and retention has helped John Parker, Roanoke Rapids Graded School District Superintendent, decrease the teacher turnover rate by half (Buchanan, 2005). He focused young teachers on what their district had to offer, rather than what its limitations were. Focus was placed on the idea of a close community with low housing costs coupled with an environment that was different than the *teach to the test* mentality that was so apparent in neighboring districts. The question still remains for some: Will this positive energy be enough to keep and sustain new, young teachers? (Buchanan, 2005).

In an effort to seek a connection between teacher pay and teacher retention, North Carolina examined the use of its \$1800 teacher bonuses to select professionals working in schools identified as high poverty or as academically failing. The research found that the bonuses could be a promising way to staff an otherwise difficult school (Buchanan, 2005). Although the reason is unclear, it was noted that teachers were more likely to leave the classroom if they began teaching with an alternative certification. Poor facilities and poor working conditions were also cited as a reason for teacher turnover. By investigating an alternative to successful schools in the eyes of those who felt unsupported, the researcher was

able to determine what steps could be taken to avoid potential turnover (Buchanan, 2005). Due to budget cutbacks and lack of revenue into the state's overall budget, North Carolina eliminated teacher ABC bonuses from the budget in the 2008-2009 school year (NCDPI, 2010). In order to have been eligible for one of these bonuses, schools needed to perform and students needed to meet AYP in the areas tested using the North Carolina End-of- Grade Test. Billie Hicklin, Assistant Superintendent of Watauga County Schools, said that when North Carolina did away with the incentive pay for teachers to perform an element of their accountability also went away (personal communication, July 6, 2010). She also noted that the drive and desire for some teachers to continue to work to the best of their ability was simply not rewarded and left them thinking if all the time and energy was worth it.

Through the North Carolina Teacher Working Conditions Survey (2004), teachers were given a chance to express their feelings and attitudes concerning their profession. According to the survey, professionals stay in a profession where they feel valued and respected. Teachers noted that they would leave the profession because of low salary, lack of respect from administrators, students, and community, and being burned out and stressed. They also commented that they remained in the profession due to their love of children and the teaching profession. A closer look into the working conditions survey also helps to produce improvement and growth plans that aid the development of a better, warmer, more inviting classroom setting and teacher experience (NC Teacher Working Conditions Survey, 2004).

Professionals who started in the private sector workforce and transitioned into teaching are required to meet highly qualified status and learn the rules and routines of the school setting (NCDPI, 2004). This can prove a challenging yet rewarding situation for that professional. The role shift also produced a change both in the person's attitudes and how they were perceived in

the community (Jorissen, 2003). Findings help to affirm the need for additional mentoring and staff development coupled with strong professional learning communities within the school setting (NCDPI, 2004).

Current Administration Impacting the Classroom

Margolis (2010) argued that the Race to the Top model is flawed, based on false premises, factious science, and a general disregard for students and teachers and how they actually engage in learning in the school setting. He further proposed a rediscovering of the work of Greetz (1983) and an educational pursuit of understanding rather than a mythical top.

Secretary of Education Arne Duncan put forth a plan in 2009 to boost the quality of teachers and principals. His plan contends states and districts should be able to identify effective teachers and principals and improve or replace the ones that are not up to par (Duncan, 2009). He poses questions such as, if teacher quality is now a national priority, how can it be measured and, what can it be measured against? (Duncan, 2009). According to Margolis' interpretation of Duncan's remarks, there is no definition of either effective or quality. With some \$4.35 billion at stake in the form of state grants, the approach to doling out the funding depends solely on states that agree to link high stakes test data to teacher and principal evaluations (Duncan, 2009).

This being the case, Margolis (2010) points out, there is no such thing as Teacher Quality and there is no mythical top, as the term Race to the Top would imply. Teacher quality depends on geography. A quality teacher is not the same in Los Angeles, California as in Bar Harbor, Maine (Margolis, 2010). Neither is a teacher or a student the same in an area with a high influx of immigrants as an area where immigration is not an issue.

If the current administration has promised to step out of the comfort zone of education and to challenge the status quo, it has done little to change the path of No Child Left Behind,

with its heavy dependence on standardized testing as both a marker for student and teacher success (Margolis, 2010). Margolis (2010) suggests a radical shift in the current policy by subjecting teachers and principals to evaluation and education tied to anthropological data culled from local student and school culture. By doing so, he contends, the learning bar will be raised based on a tangible target (Margolis, 2010).

Not only are political pundits and education theorists pushing to find an answer to the current educational quandary, but also popular news magazines are informing the public on current educational issues. An example is Newsweek magazine, which published a themed issue, “The Key to Saving American Education” (March 15, 2010) in which Wingert echoes Duncan’s rhetoric. The article disparages schools of education for “a lot of insipid or marginally relevant theorizing and pedagogy” and praises a Louisiana law that “can track which education schools produce the best teachers, forcing long-needed changes in ed-school curricula” (pp. 24-27). Yet the nearest the authors come to describing relevant theory and the least insipid pedagogy or what makes a quality teacher is the mention of standardized testing (Margolis, 2010).

Margolis (2010) reiterates this point by stating that these are not bad teachers, but they are bad people and citizens. Bad teachers are cited as those who have sexually assaulted students (Margolis, 2010). He downplays the Newsweek article for not suggesting anything concrete to measure true teacher and student quality. Although it states that teacher quality is the most important link in the educational chain, it does not address the child’s parenting and nutrition, the school’s resources and morale, the educational system’s supports and barriers, the country’s opportunity, nor whether the child was hit or hugged that morning (Margolis, 2010).

Prior to NCLB there was growing interest in studying education through an anthropological lens. Geertz (1983) stated that science has moved the population toward a

radically unific view of human thought based in psychology while there has been a progressing radically pluralistic view of everything being *culturally based* (Geertz, 1983, p. 8). He explained how the application of local culture neither involved glorifying one's view of themselves nor being deaf to the tonalities of their existence (Margolis, 2010). Some of the examples of this thinking have manifested themselves in an endless battle over teaching and learning: phonics vs. whole language; scripted lessons vs. constructivism; process-oriented learning vs. product-oriented achievement; standardized tests vs. portfolios, exhibitions, and performance-based assessments (Margolis, 2010).

As with all anthropological-based studies, the main thrust is to get inside other people's minds and examine surroundings from their perspective. This is conducive to the educational process by inserting a *knowing when* attitude is paramount over a *knowing that*, to a particular teaching approach. This will always be in flux, to a large extent, based on location, time, circumstance, and basic human variation. It is under these auspices, Margolis (2010) states that the capacity to engage in an anthropology of thinking and learning and then instructionally act based on that research is what determines quality teaching.

Teachers need to be anthropological ethnographers of their students at both individual and group levels to ensure efficacy. Quality teachers interpret student words, actions, and work in complex and actionable ways with the best teachers accounting for greater levels of complexity. They work to understand and interpret through learning-centered conversations and are sometimes focused on the current content being explored (Margolis, 2010). This model changes with location time, circumstance, and basic human variation including cultural and psychological degrees at both individual and group levels (Margolis, 2010).

Principals fit into this model by being in tune with their teachers and students on all levels of school function (Margolis, 2010). They need to be held to the same standards as teachers, but they need to know their teachers as well as their students at individual, group, and building levels. Quality principals should be able to interpret the relationship between student learning and teacher pedagogy in all three realms of the educational atmosphere. They should also model effective communication in interactions with staff and be afforded the latitude to dismiss teachers who do not participate in student growth and development (Margolis, 2010).

Geertz (1983) stated “The world is a various place with much to be gained, scientifically and otherwise, by confronting that grand actuality rather than wishing it away in a haze of forceless generalities and false comforts” (p. 234). NCLB and Race to the Top are both types of those generalities and need to be addressed as such. Schools are places where teacher and student diversity abound; all of whom are not given the credit for what they do know but are admonished for what they do not know. Principals, superintendents, legislators, secretaries of education, and anyone who seeks to support multiple endeavors of learning and education must also be themselves, students of, rather than monarchs over, school culture. In order to attain that goal, American schools do not require a race to the top but a perpetual pursuit of understanding (Margolis, 2010).

Summary

Many ideas and schools of thought exist as an attempt to answer the questions of what are the best practices for teaching children. In addition, the profession of teaching has changed and continues to change as new standards are adopted. Many factors that influence academic success include, but are not limited to, accountability, merit pay, advanced degrees, National Board

certification, teacher evaluations, and the make-up of the school building both physical and conceptual.

Teachers and policy makers are continually revisiting teacher assessments in an effort to increase classroom engagement. Teacher motivation and empowerment are more important than ever to ensure teacher and student success. Training all professionals within a school building through coaching and coteaching has been linked to successful students. In addition teacher retention has become increasingly important in an effort to continue to place quality professionals in front of students.

Current school and business administrators find themselves in the dilemma of competing in a global market. Some will suggest that the way to move students into a love and appreciation of life-long learning will be to raise the efficacy of the teacher. Bandura's work continues to examine the framework that exists between teacher self-efficacy and students overall outcome.

CHAPTER 3

RESEARCH METHODOLOGY

Introduction

The purpose of this study was to examine teacher self-efficacy as proposed by Bandura (1997) to determine whether there is a relationship with student achievement. This study used a correlation research design, examining results of the *Bandura Teacher Self-Efficacy Scale (TSES)* and *North Carolina End-Of-Grade* data in reading and math from responding teachers in grades three through eight from eight schools in northwest North Carolina. The results of this study can benefit education administrators and policy makers in considering whether to allocate funds and resources toward teacher well-being in the form of additional staff development and team planning opportunities. This chapter describes the research questions and null hypothesis, research design, population, instrumentation, data collection, and analysis of data.

Research Questions and Null Hypotheses

The following questions and their corresponding null hypotheses relating to teachers' sense of self-efficacy and students' achievement were addressed:

1. Is there a significant difference between North Carolina End-of-Grade math test scores for teachers who are rated low in self-efficacy and scores for teachers who are rated high in self-efficacy?

Ho1. There is no significant difference between North Carolina End-of-Grade math test scores for teachers who are rated low in self-efficacy and scores for teachers who are rated high in self-efficacy.

2. Is there a significant difference between North Carolina End-of-Grade reading test scores for teachers who are rated low in self-efficacy and scores for teachers who are rated high in self-efficacy?

Ho2. There is no significant difference between North Carolina End-of-Grade reading test scores for teachers who are rated low in self-efficacy and scores for teachers who are rated high in self-efficacy.

3. Is there a significant difference between male and female teachers' sense of self efficacy?

Ho3. There is no significant difference between male and female teachers' sense of self-efficacy.

4. For teachers rated high in self-efficacy, is there a significant difference between North Carolina End-of-Grade math test scores for males and North Carolina End-of-Grade math test scores for females?

Ho4. For teachers rated high in self-efficacy, there is no significant difference between North Carolina End-of-Grade math test scores for males and North Carolina End-of-Grade math test scores for females.

5. For teachers rated high in self-efficacy, is there a significant difference between North Carolina End-of-Grade reading test scores for males and North Carolina End-of-Grade reading test scores for females?

Ho5. For teachers rated high in self-efficacy, there is no significant difference between North Carolina End-of-Grade reading test scores for males and North Carolina End-of-Grade reading test scores for females.

6. For teachers rated low in self-efficacy, is there a significant difference between North Carolina End-of-Grade math test scores for males and North Carolina End-of-Grade math test scores for females?

Ho6. For teachers rated low in self-efficacy, there is no significant difference between North Carolina End-of-Grade math test scores for males and North Carolina End-of-Grade math test scores for females.

7. For teachers rated low in self-efficacy, is there a significant difference between North Carolina End-of-Grade reading test scores for males and North Carolina End-of-Grade reading test scores for females?

Ho7. For teachers rated low in self-efficacy, there is no significant difference between North Carolina End-of-Grade reading test scores for males and North Carolina End-of-Grade reading test scores for females.

8. For teachers rated high in self-efficacy, is there a significant difference between the participants' North Carolina End-of-Grade math test scores and the North Carolina End-of-Grade math test score state average?

Ho8. For teachers rated high in self-efficacy, there is no significant difference between the participants' North Carolina End-of-Grade math test scores and the North Carolina End-of-Grade math test score state average.

9. For teachers rated high in self-efficacy, is there a significant difference between participants' North Carolina End-of-Grade reading test scores and the North Carolina End-of-Grade reading test score state average?

Ho9. For teachers rated high in self-efficacy, there is no significant difference between participants' North Carolina End-of-Grade reading test scores and the North Carolina End-of-Grade reading test score state average.

10. For teachers rated low in self-efficacy, is there a significant difference between participants' North Carolina End-of-Grade math test scores and the North Carolina End-of-Grade math test score state average?

Ho10. For teachers rated low in self-efficacy, there is no significant difference between participants' North Carolina End-of-Grade math test scores and the North Carolina End-of-Grade math test score state average.

11. For teachers rated low in self-efficacy, is there a significant difference between participants' North Carolina End-of-Grade reading test scores and the North Carolina End-of-Grade reading test score state average?

Ho11. For teachers rated low in self-efficacy, there is no significant difference between participants' North Carolina End-of-Grade reading test scores and the North Carolina End-of-Grade reading test score state average.

12. Is there a significant difference between teachers in grades three through five and teachers in grades six through eight with regard to their levels of perceived self-efficacy?

Ho12. There is no significant difference between teachers in grades three through five and teachers in grades six through eight with regard to their levels of perceived self-efficacy.

13. Is there a significant relationship between teachers' self-efficacy and their respective North Carolina End-of-Grade math test scores?

Ho13. There is no significant difference between teachers' self-efficacy and their respective North Carolina End-of-Grade math test scores.

14. Is there a significant relationship between teachers' self-efficacy and their respective North Carolina End-of-Grade reading test scores?

Ho14. There is no significant difference between teachers' self-efficacy and their respective North Carolina End-of-Grade reading test scores.

Research Design

This study compared survey results of teachers with student achievement data using a correlation research design. The correlation research design allowed for the use of statistical techniques that identified a relationship, if any, between the survey results and teacher's North Carolina End-of-Grade (EOG) test data in the content areas of reading and math.

Independent *t* tests, single sample *t* tests, and Pearson *r* bivariate correlation tests were used to analyze the data. All statistical analysis was conducted using the Statistical Program for the Social Sciences (SPSS) Windows Version 18 with the alpha level set at $p < 0.05$.

Population

The population consisted of teachers at eight schools in grades three through eight in one system in northwest North Carolina. All 104 teachers within this county were sent a voluntary survey (see Appendix A). The teachers range in years of experience from Initially Licensed Teachers (ILT's) to those nearing retirement (25-30 years of experience), to those who have more than 30 years of experience within a school system. Of the 104 teachers, 50 teach in grades three through five and 54 teach in grades six through eight.

Initially, permission was granted by Anita Hoy, professor in the College of Education and Human Ecology at The Ohio State University in Columbus (see Appendix A) to use an

unpublished version of Bandura's Teacher Self-Efficacy Scale (see Appendix B). Bandura granted permission to use his instrument on 2 October 2010 via email. Once the instrument had been selected, a permission letter was sent to the superintendent of the school system (see Appendix C). Upon receipt of the superintendent's consent, a permission letter was sent to each of the eight, Pre-K through eighth grade schools within the school system.

Bandura Teacher Self-Efficacy Scale

Perceived self-efficacy was gathered by using the Bandura Teacher Self-Efficacy Scale (Appendix A). In the midst of the confusion about how to best measure teacher efficacy, an unpublished measure used by Bandura in his work on teacher efficacy begun quietly circulating. Bandura (1997) pointed out that teachers' sense of efficacy is not necessarily uniform across the many different types of tasks teachers are asked to perform or across different subject matter. In response, he constructed a 30-item instrument (Hoy, 2008).

The instrument consists of 30 items used to assess perceived self-efficacy in teachers. The 30 items are organized into seven categories. An item analysis of each of the 30 items can be categorized into the following: two items in Efficacy to Influence Decision Making, one item in Efficacy to Influence School Resources, nine items in Instructional Self-Efficacy, three items in Disciplinary Self-Efficacy, three items in Efficacy to Enlist Parental Involvement, four items in Efficacy to Enlist Community Involvement, and eight items in Efficacy to Create a Positive School Climate. Each item is presented on a nine-point scale, ranging from: 1 (nothing), 3 (very little), 5 (some influence), 7 (quite a bit), to 9 (a great deal).

This measure attempts to provide a multi-faceted picture of teachers' efficacy beliefs without becoming too narrow or specific. Unfortunately, reliability and validity information about the measure have not been available (Hoy, 2008).

Data Collection

When permission was granted to begin data collection, surveys (see Appendix A) as well as an information letter (see Appendix D) were sent to teachers along with a coupon for \$2.00 at a local bakery. Teachers had a 1-month window to respond to the survey and were given instructions on how to return them.

Data Analysis

Data collected from each responding teacher's survey was paired with that teacher's growth composite from the North Carolina End-of-Grade test in the content areas of reading and math. The compiled data were transferred into SPSS software for analysis and a series of Independent t test were completed for research questions 1-7 and 12. For research questions 8-11 analysis and a series of single sample t tests were completed. Three teacher groupings were obtained from the data set: all teachers who responded, male teachers who responded, and female teachers who responded. The teacher groupings were then broken into high and low levels of self-efficacy using the median score of the respondents as the determining factor of high verses low. Teachers test scores in reading and math responding with low levels of self-efficacy were compared as were teachers responding with high levels of self-efficacy. Teacher groupings were further broken into grade levels three through five and six through eight. Further analysis was conducted comparing male and female teachers of grades three through five and six through eight. Additional analysis was conducted comparing teacher's growth composite from the North Carolina End-of-Grade test in the content areas of reading and math with the North Carolina End-of-Grade state averages in the content areas of reading and math.

For research questions 13 and 14, Pearson r bivariate correlations tests were completed to determine the relationship between teachers' perceived sense of self-efficacy and their North Carolina End-of-Grade test scores in the content areas of reading and math.

Summary

This study examined the differences between North Carolina End-of-Grade tests in the content areas of reading and math for students in grades three through eight and participants' responses to teacher self efficacy scores on the Teacher Self-Efficacy Scale. Teachers from eight schools within one school system in northwest North Carolina were used as the population. An Independent t test was conducted using SPSS for questions 1-7 and 12. A single sample t test was conducted for questions 8-11. Pearson r bivariate correlation tests used for questions 13 and 14 with the following variables: North Carolina End-of-Grade reading and math scores and self-efficacy. The results of the data analysis are presented in Chapter 4.

CHAPTER 4

PRESENTATION OF DATA

Introduction

Survey results were analyzed using SPSS on the campus of East Tennessee State University in Johnson City, Tennessee. Data from the survey were used to analyze the 14 research questions and the 14 associated null hypotheses. Twelve of the research questions were analyzed using either independent sample or single sample *t* test. Two of the research questions were analyzed using Pearson *r* bivariate correlation tests.

The purpose of this study was to examine the relationship between teacher self-efficacy as proposed by Bandura (1997) to determine whether there is a relationship to student achievement. This study used a correlation research design, examining results of the *Bandura Teacher Self-Efficacy Scale (TSES)* and *North Carolina End-Of-Grade* data in reading and math from the responding teachers in grades three through eight from eight schools in northwest North Carolina.

The population consisted of teachers at eight schools in grades three through eight in one system in northwest North Carolina. All 104 teachers within this county were sent a voluntary survey (see Appendix A). The teachers range in years of experience from Initially Licensed Teachers (ILT's) to those nearing retirement (25-30 years of experience) to those who have more than 30 years of experience within a school system. Seventy-four participants (71%) responded to the survey; however, two participants were excluded from the results due to incomplete survey responses. Therefore, 72 participants (69%) are included in the results.

Demographic Characteristics

The results of the sample ($n = 72$) demographic characteristics were as follows: Gender: Male (21%), female (79%). Grade level: Teachers in grades three through five (50%) and teachers from grades six through eight (50%). Gender per grade range: Male teachers in grades three through five (1%) and female teachers in grades three through five (49%). Male teachers in grades six through eight (19%) and female teachers in grades six through eight (31%). The participant demographic characteristics are reported in Table 1.

Table 1

Participant Demographic Characteristic (n = 72)

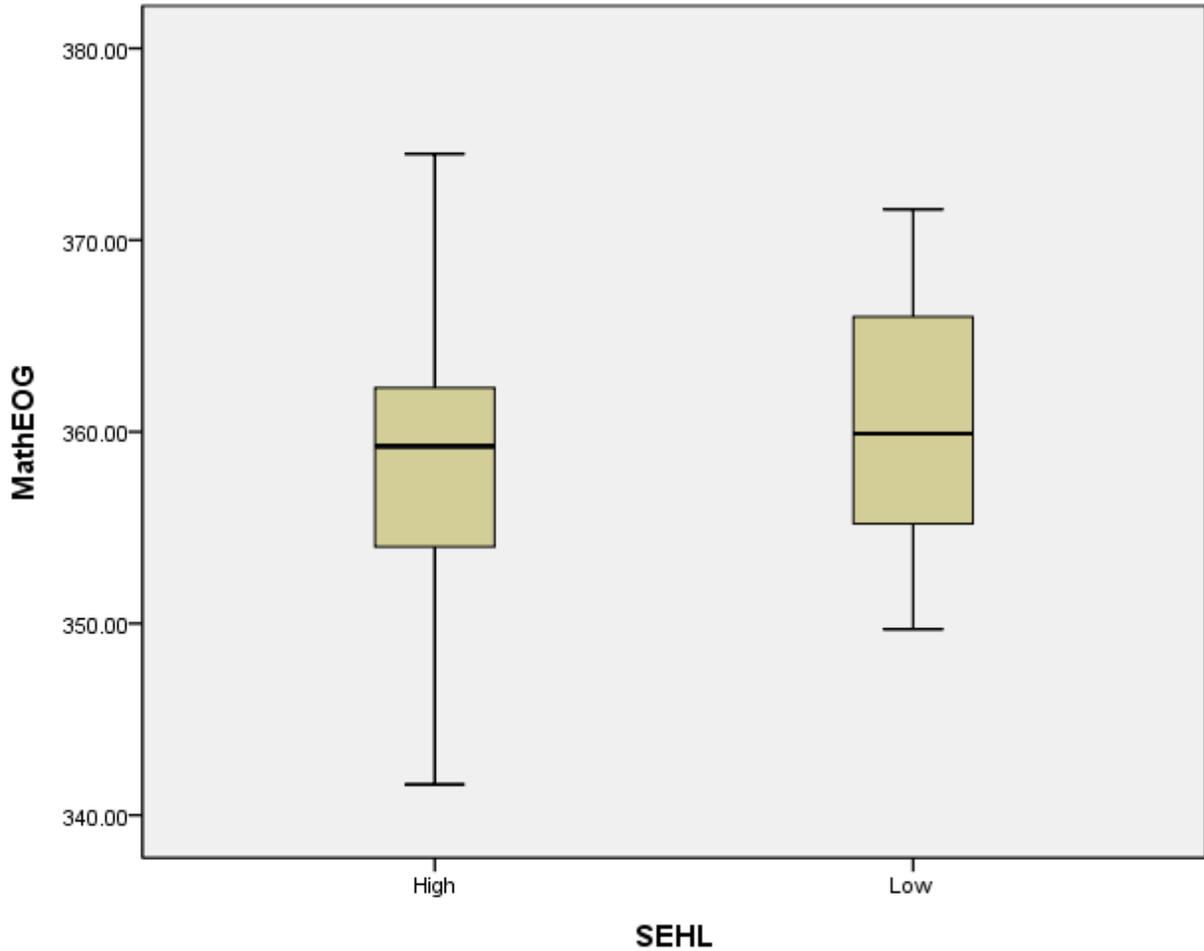
Demographic	Category	<i>n</i>	%
Gender	Male	15	21
	Female	57	79
Grade level	three through five	36	50
	six through eight	36	50
Teachers in grades three through five	Male	1	1
	Female	35	49
	No Response	1	1
Teachers in grades six through eight	Male	14	19
	Female	22	31
	No Response	1	1

Research Question 1

Research Question #1: Is there a significant difference between North Carolina End-of-Grade math test scores for teachers who are rated low in self-efficacy and scores for teachers who are rated high in self-efficacy?

Null Hypothesis 1: There is no significant difference between North Carolina End-of-Grade math test scores for teachers who are rated low in self-efficacy and scores for teachers who are rated high in self-efficacy.

An independent-sample t test was conducted to evaluate whether the mean of teachers' North Carolina End-of-Grade math test scores differed from their level of perceived self-efficacy. The North Carolina End-of-Grade math test was the dependant variable and the independent variable was high self-efficacy or low self-efficacy. The test was not significant, $t(61) = 1.275, p = .619, ns$. Therefore the null hypothesis was not rejected. The η^2 was .026, which indicated a small effect size. Teachers in the high self-efficacy category ($M = 358.19, SD = 6.97$) tended to score about the same as those in the low self-efficacy category ($M = 360.41, SD = 6.79$). The 95% confidence interval for the difference in means was -5.7 to 1.26. Figure 1 shows the distribution for the two groups.



High N=34 Low N=29

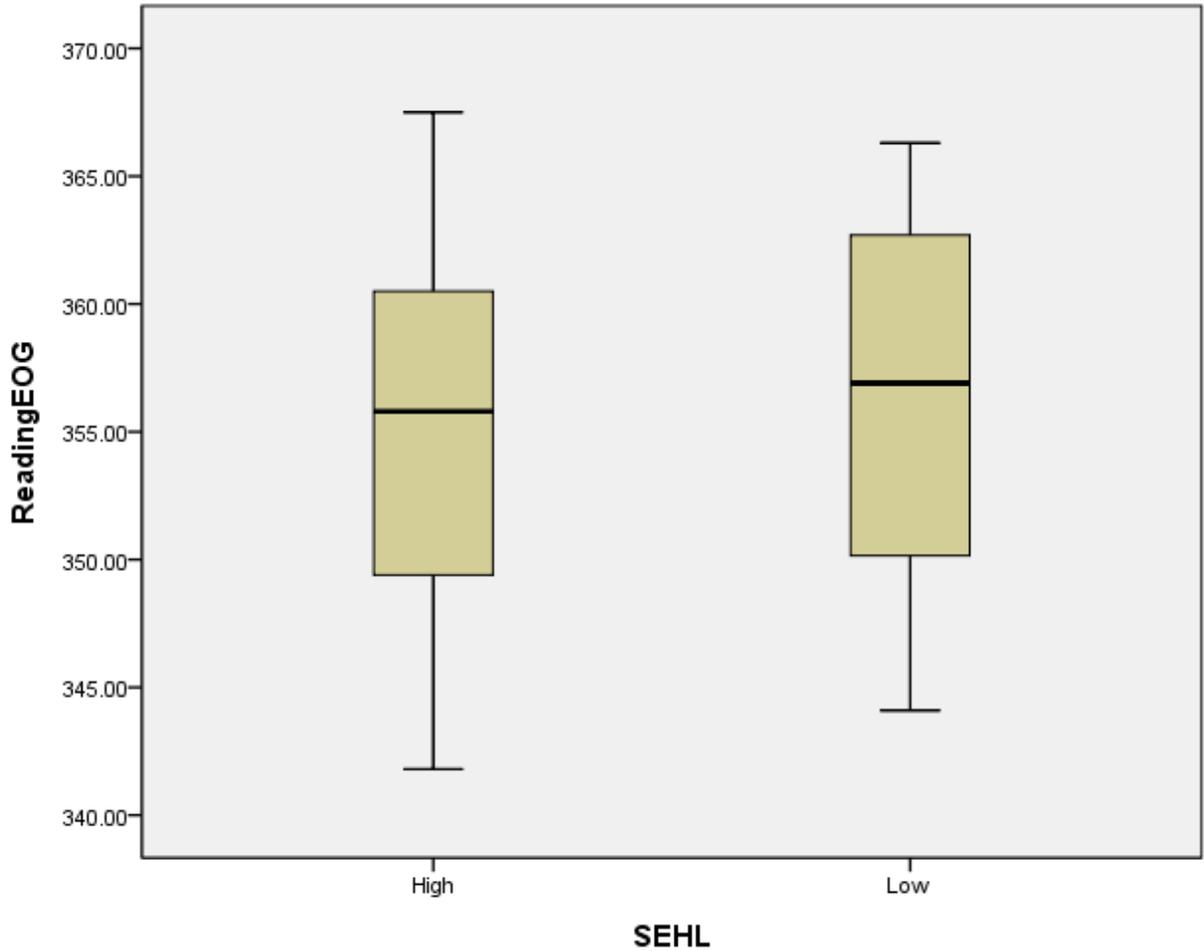
Figure 1. Boxplot for Distribution of Scores for High and Low Self-Efficacy Groups in Math

Research Question 2

Research Question #2: Is there a significant difference between North Carolina End-of-Grade reading test scores for teachers who are rated low in self-efficacy and scores for teachers who are rated high in self-efficacy?

Null Hypothesis 2: There is no significant difference between North Carolina End-of-Grade reading test scores for teachers who are rated low in self-efficacy and scores for teachers who are rated high in self-efficacy.

An independent-sample t test was conducted to evaluate whether the mean of teachers' North Carolina End-of-Grade reading test scores differed from their level of perceived self-efficacy. The North Carolina End-of-Grade reading test was the dependant variable and the independent variable was high self-efficacy or low self-efficacy. The test was not significant, $t(59) = 1.1, p = .384, ns$. Therefore the null hypothesis was not rejected. The η^2 was .02, which indicated a small effect size. Teachers in the high self-efficacy category ($M = 354.57, SD = 6.75$) tended to score about the same as those in the low self-efficacy category ($M = 356.55, SD = 7.3$). The 95% confidence interval for the difference in means was -5.6 to 1.62. Figure 2 shows the distribution for the two groups.



High N=33 Low N=28

Figure 2. Boxplot for Distribution of Scores for High and Low Self-Efficacy Groups in Reading

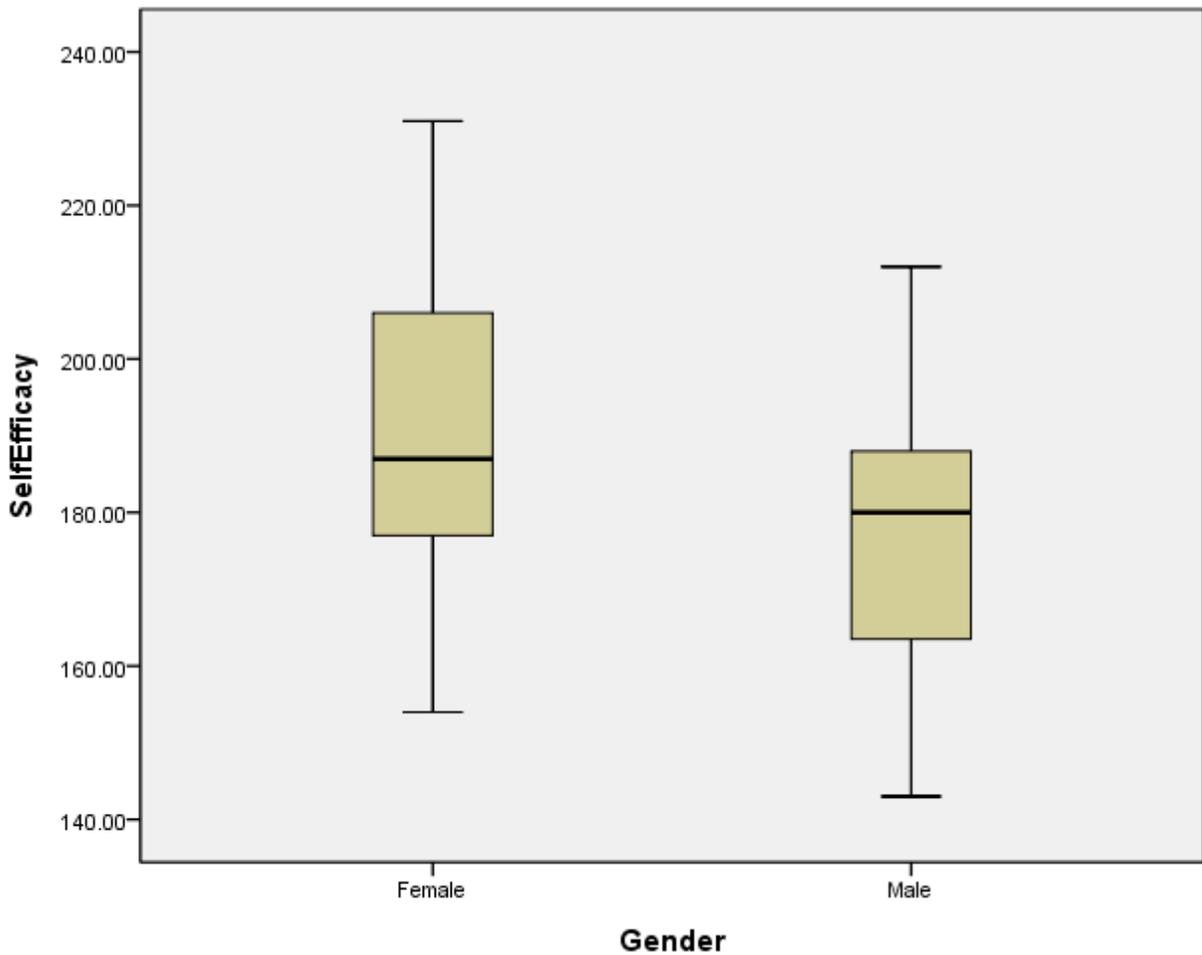
Research Question 3

Research Question #3: Is there a significant difference between male and female teachers' sense of self efficacy?

Null Hypothesis 3: There is no significant difference between male and female teachers' sense of self-efficacy.

An independent-sample *t* test was conducted to evaluate whether the mean of teachers perceived self-efficacy scores differed for male and female teachers. Their perceived self-

efficacy score was the dependant variable and the independent variable was male or female. The test was significant, $t(70) = 2.09, p = .04$. Therefore the null hypothesis was rejected. The η^2 was .059, which indicated a medium effect size. Female teachers ($M = 190.8, SD = 19.82$) tended to rate themselves higher than male teachers in perceived self-efficacy ($M = 178.8, SD = 19.71$). The 95% confidence interval for the difference in means was .548 to 23.46. Figure 3 shows the distribution for the two groups.



Female N=57 Male N=15

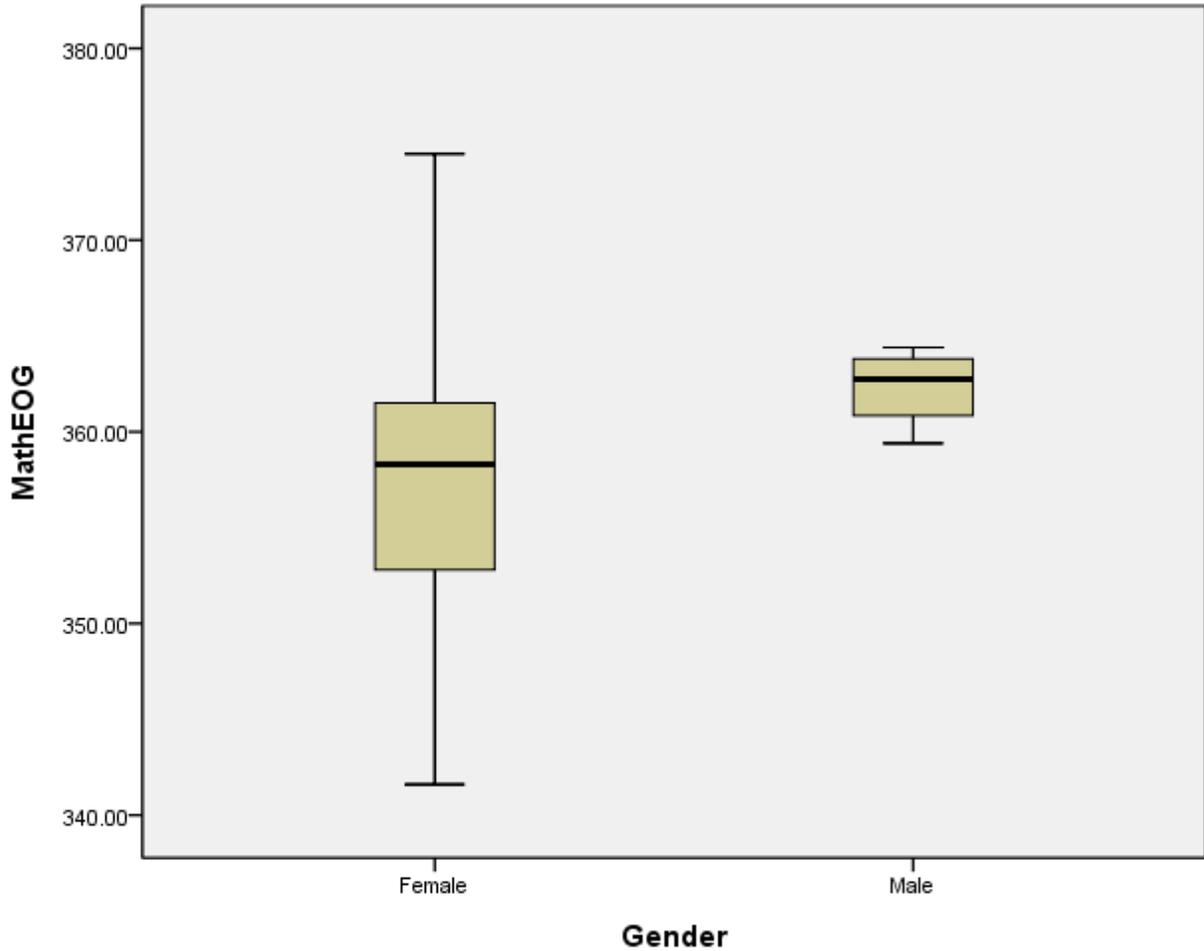
Figure 3. Boxplot for Distribution of Scores for Female and Male Teachers Perceived Self-Efficacy

Research Question 4

Research Question #4: For teachers rated high in self-efficacy, is there a significant difference between North Carolina End-of-Grade math test scores for males and North Carolina End-of-Grade math test scores for females?

Null Hypothesis 4: For teachers rated high in self-efficacy, there is no significant difference between North Carolina End-of-Grade math test scores for males and North Carolina End-of-Grade math test scores for females.

An independent-sample t test was conducted to evaluate whether North Carolina End-of-Grade math test scores differed for male and female teachers with perceived high self-efficacy. The North Carolina End-of-Grade math test was the dependant variable and the independent variable was male or female teachers with perceived high self-efficacy. The test was not significant, $t(32) = 1.274$, $p = .085$, ns. Therefore the null hypothesis was not rejected. The η^2 was .048, which indicated a medium effect size. Female teachers in the high self-efficacy category ($M = 357.64$, $SD = 7.21$) tended to score about the same as male teachers in the high self-efficacy category ($M = 362.33$, $SD = 2.13$) with relation to North Carolina End-of-Grade math tests. The 95% confidence interval for the difference in means was -12.17 to 2.8. It should also be noted the findings may be due to a limited number of male respondents. Figure 4 shows the distribution for the two groups.



Female N=30 Male N=4

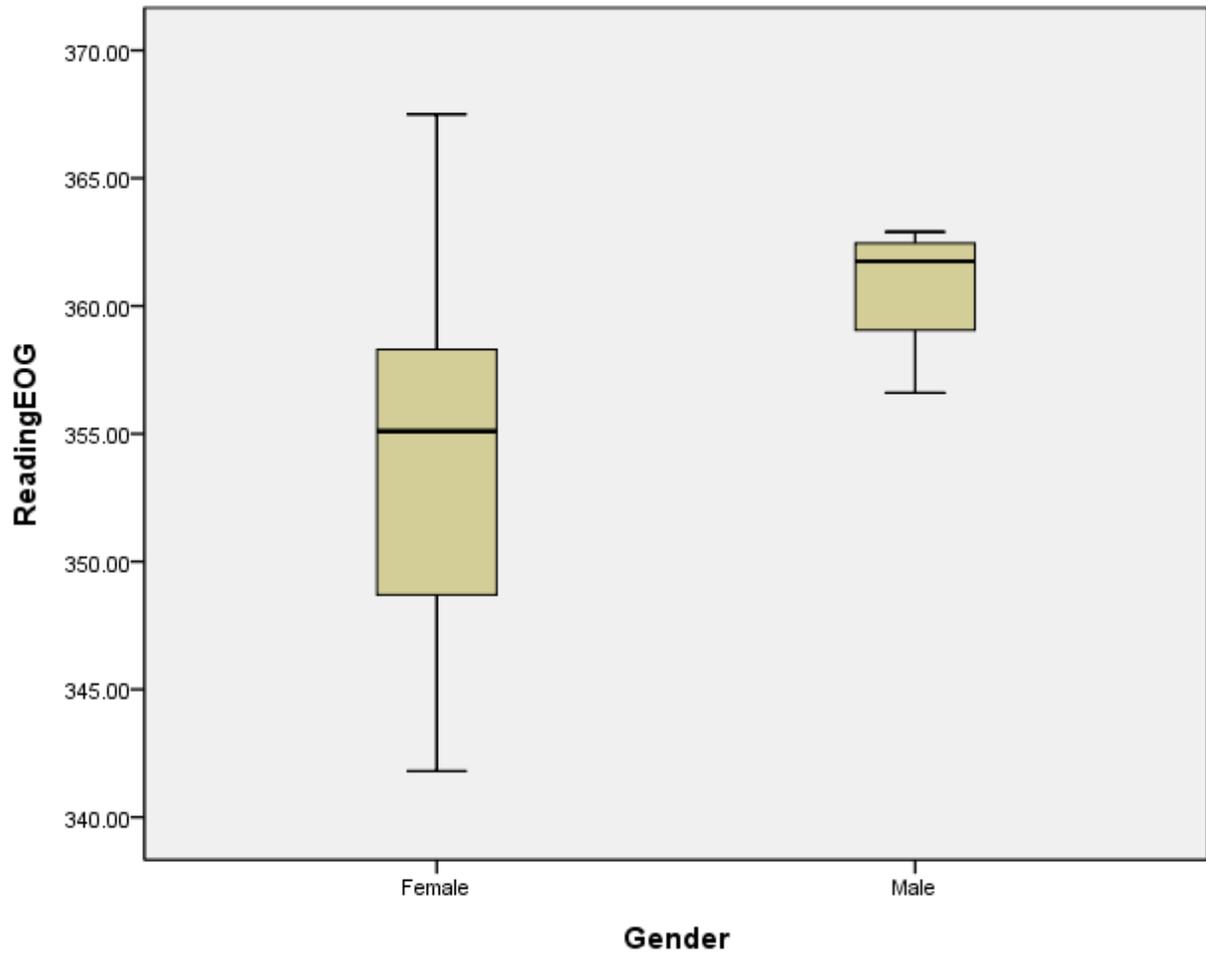
Figure 4. Boxplot for Distribution of Scores for Female and Male Teachers with High Perceived Self-Efficacy and their North Carolina End-of-Grade Math Tests

Research Question 5

Research Question #5: For teachers rated high in self-efficacy, is there a significant difference between North Carolina End-of-Grade reading test scores for males and North Carolina End-of-Grade reading test scores for females?

Null Hypothesis 5: For teachers rated high in self-efficacy, there is no significant difference between North Carolina End-of-Grade reading test scores for males and North Carolina End-of-Grade reading test scores for females.

An independent-sample t test was conducted to evaluate whether North Carolina End-of-Grade reading test scores differed for male and female teachers with perceived high self-efficacy. The North Carolina End-of-Grade reading test was the dependant variable and the independent variable was male or female teachers with high perceived self-efficacy. Results were significant, $t(31) = 2.046, p = .049$. Therefore the null hypothesis was rejected. The η^2 was .12, which indicated a large effect size. Female teachers in the high self-efficacy category ($M = 353.72, SD = 6.71$) tended to score less than male teachers in the high self-efficacy category ($M = 360.75, SD = 2.83$) with relation to North Carolina End-of-Grade reading tests. The 95% confidence interval for the difference in means was -14.03 to -.024. It should also be noted the findings may be due to a limited number of male respondents. Figure 5 shows the distribution for the two groups.



Female N=29 Male N=4

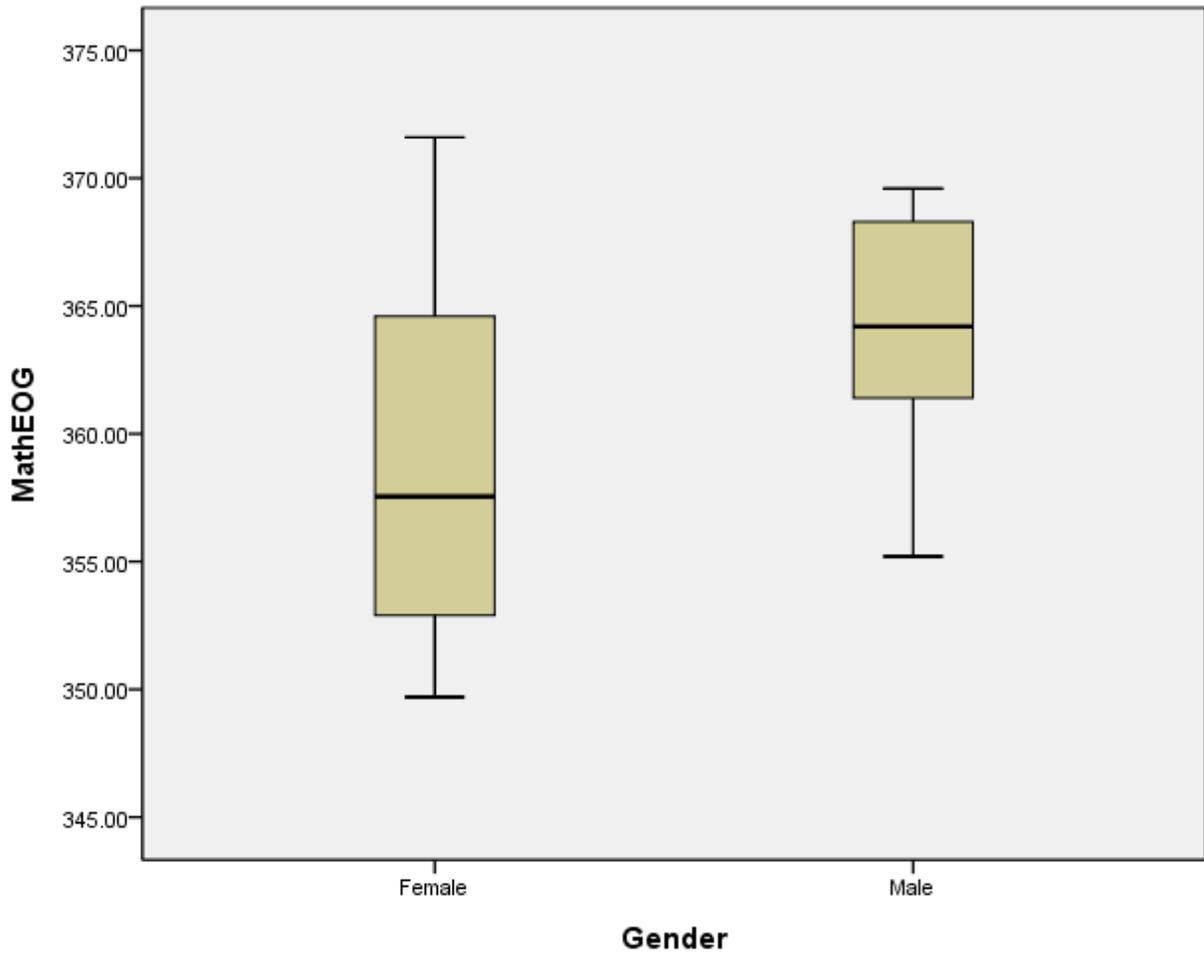
Figure 5. Boxplot for Distribution of Scores for Female and Male Teachers with High Perceived Self-Efficacy and their North Carolina End-of-Grade Reading Tests

Research Question 6

Research Question #6: For teachers rated low in self-efficacy, is there a significant difference between North Carolina End-of-Grade math test scores for males and North Carolina End-of-Grade math test scores for females?

Null Hypothesis 6: For teachers rated low in self-efficacy, there is no significant difference between North Carolina End-of-Grade math test scores for males and North Carolina End-of-Grade math test scores for females.

An independent-sample *t* test was conducted to evaluate whether North Carolina End-of-Grade math test scores differed for male and female teachers with low perceived self-efficacy. The North Carolina End-of-Grade math test was the dependant variable and the independent variable was male or female teachers with low perceived self-efficacy. The test was not significant, $t(27) = 1.757, p = .293, ns$. Therefore the null hypothesis was not rejected. The η^2 was .102, which indicated a medium effect size. Female teachers in the low self-efficacy category ($M = 358.98, SD = 7.01$) tended to score about the same as male teachers in the low self-efficacy category ($M = 363.6, SD = 5.3$) with relation to North Carolina End-of-Grade math tests. The 95% confidence interval for the difference in means was -10.02 to .78. Figure 6 shows the distribution for the two groups.



Female N=20 Male N=9

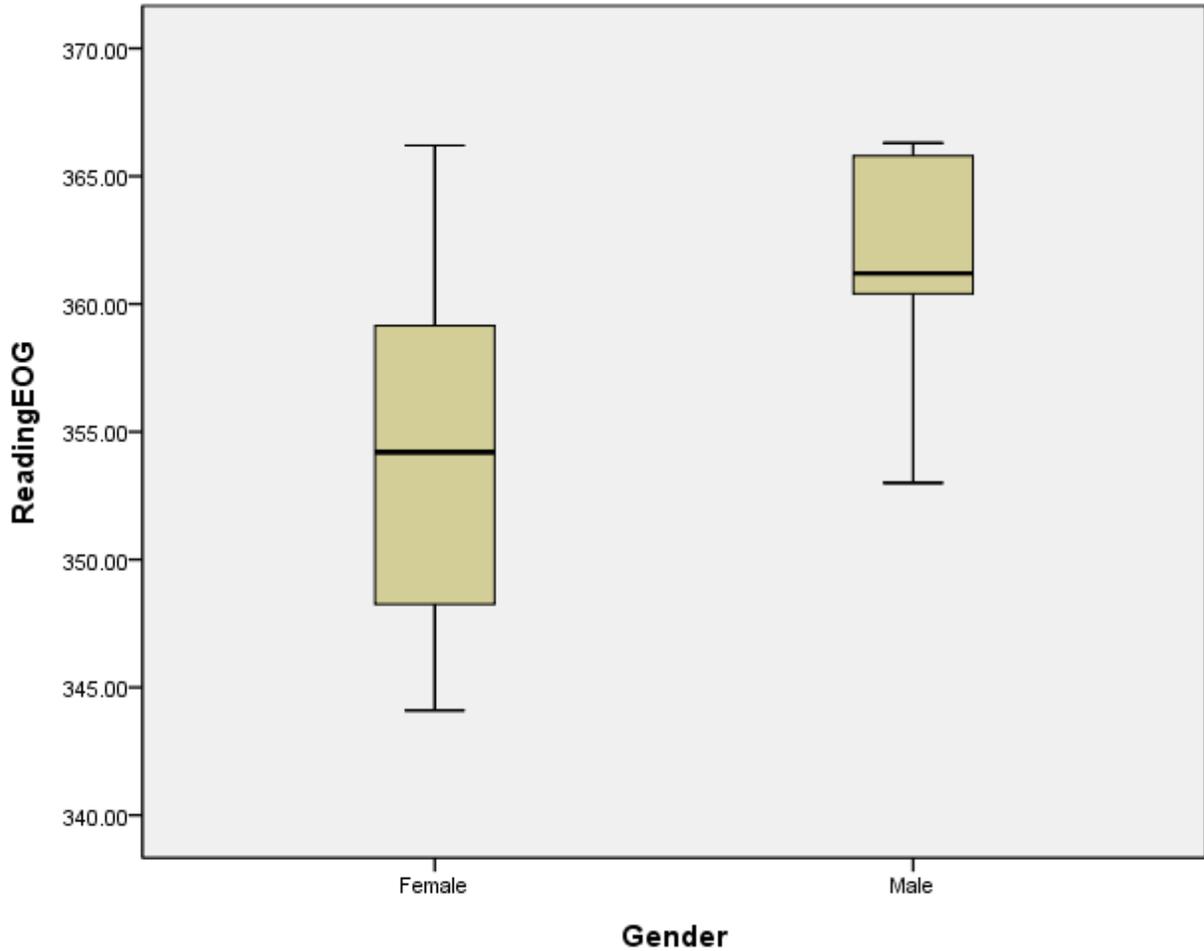
Figure 6. Boxplot for Distribution of Scores for Female and Male Teachers with Low Perceived Self-Efficacy and their North Carolina End-of-Grade Math Tests

Research Question 7

Research Question #7: For teachers rated low in self-efficacy, is there a significant difference between North Carolina End-of-Grade reading test scores for males and North Carolina End-of-Grade reading test scores for females?

Null Hypothesis 7: For teachers rated low in self-efficacy, there is no significant difference between North Carolina End-of-Grade reading test scores for males and North Carolina End-of-Grade reading test scores for females.

An independent-sample *t* test was conducted to evaluate whether North Carolina End-of-Grade reading test scores differed for male and female teachers with low perceived self-efficacy. The North Carolina End-of-Grade reading test was the dependant variable and the independent variable was male or female teachers with low perceived self-efficacy. The test was significant, $t(26) = 2.841, p = .009$. Therefore the null hypothesis was rejected. The η^2 was .23, which indicated a large effect size. Female teachers in the low self-efficacy category ($M = 354.15, SD = 7.23$) tended to score less than male teachers in the low self-efficacy category ($M = 361.62, SD = 4.44$) with relation to North Carolina End-of-Grade reading tests. The 95% confidence interval for the difference in means was -12.87 to -2.066. It should also be noted the findings may be due to a limited number of male respondents. Figure 7 shows the distribution for the two groups.



Female N=19 Male N=9

Figure 7. Boxplot for Distribution of Scores for Female and Male Teachers with Low Perceived Self-Efficacy and their North Carolina End-of-Grade Reading Tests

Research Question 8

Research Question #8: For teachers rated high in self-efficacy, is there a significant difference between the participants' North Carolina End-of-Grade math test scores and the North Carolina End-of-Grade math test score state average?

Null Hypothesis 8: For teachers rated high in self-efficacy, there is no significant difference between the participants' North Carolina End-of-Grade math test scores and the North Carolina End-of-Grade math test score state average.

A single sample t test was conducted on participants rated high in self-efficacy with regard to North Carolina End-of-Grade math scores to evaluate whether their mean was significantly different from 355.1, the accepted mean for the North Carolina End-of-Grade state average in math. The sample mean of 358.19 ($SD = 6.97$) was significantly different from 355.1, $t(33) = 2.59, p = .014$. Therefore the null hypothesis was rejected. The 95% confidence interval for the North Carolina End-of-Grade math test mean ranged from .663 to 5.53. Figure 8 shows the distribution of North Carolina End-of-Grade math scores. The results support the conclusion that teachers rated high in self-efficacy likely have somewhat higher North Carolina End-of-Grade math scores.

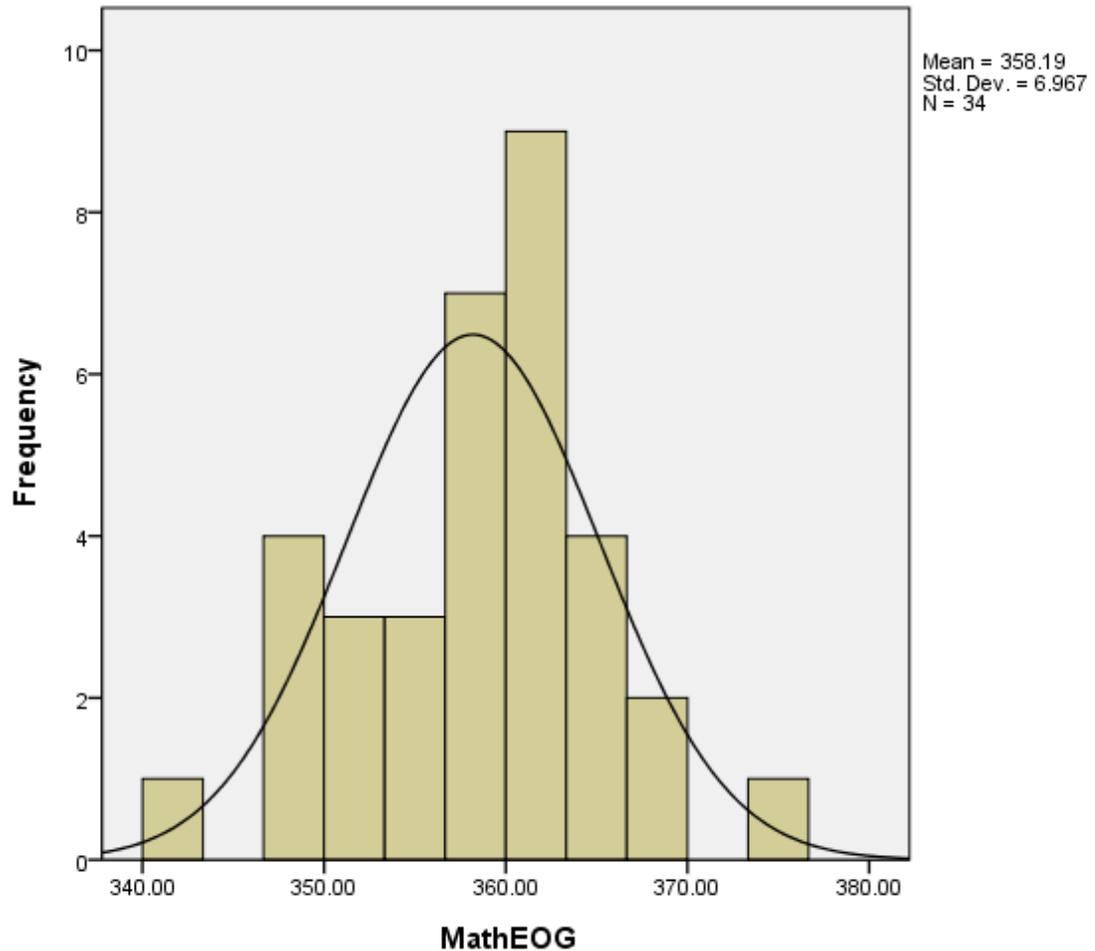


Figure 8. Histogram for Distribution of North Carolina End-of-Grade Math Scores for Teachers Rated High in Perceived Self-Efficacy

Research Question 9

Research Question #9: For teachers rated high in self-efficacy, is there a significant difference between participants' North Carolina End-of-Grade reading test scores and the North Carolina End-of-Grade reading test score state average?

Null Hypothesis 9: For teachers rated high in self-efficacy, there is no significant difference between participants' North Carolina End-of-Grade reading test scores and the North Carolina End-of-Grade reading test score state average.

A single sample t test was conducted on participants rated high in self-efficacy with regard to North Carolina End-of-Grade reading scores to evaluate whether their mean was significantly different from 350.8, the accepted mean for the North Carolina End-of-Grade state average in reading. The sample mean of 354.57 ($SD = 6.75$) was significantly different from 350.8, $t(32) = 3.209$, $p = .003$. Therefore the null hypothesis was rejected. The 95% confidence interval for the North Carolina End-of-Grade reading test mean ranged from 1.38 to 6.17. Figure 9 shows the distribution of North Carolina End-of-Grade reading scores. The results support the conclusion that teachers rated high in self-efficacy have somewhat higher North Carolina End-of-Grade reading scores.

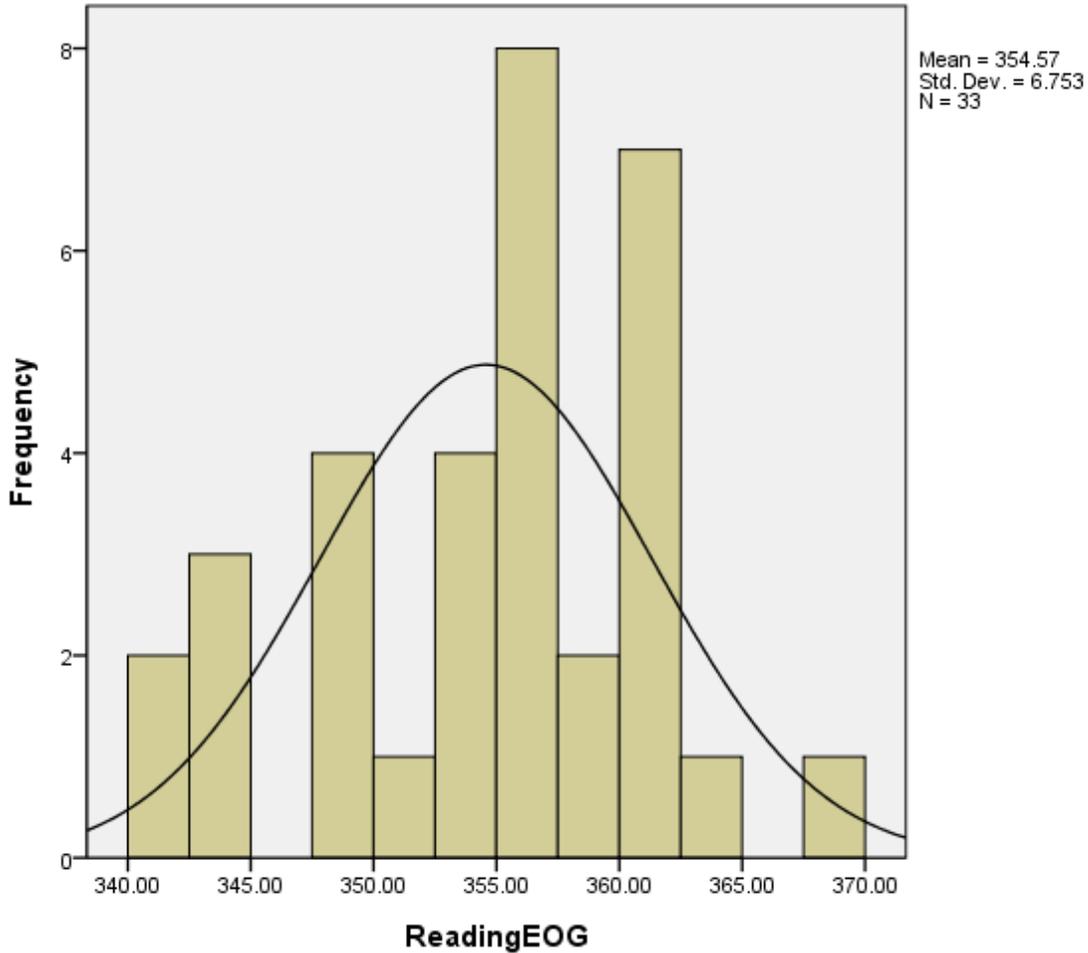


Figure 9. Histogram for Distribution of North Carolina End-of-Grade Reading Scores for Teachers Rated High in Perceived Self-Efficacy

Research Question 10

Research Question #10: For teachers rated low in self-efficacy, is there a significant difference between participants' North Carolina End-of-Grade math test scores and the North Carolina End-of-Grade math test score state average?

Null Hypothesis 10: For teachers rated low in self-efficacy, there is no significant difference between participants' North Carolina End-of-Grade math test scores and the North Carolina End-of-Grade math test score state average.

A single sample t test was conducted on participants rated low in self-efficacy with regard to North Carolina End-of-Grade math scores to evaluate whether their mean was significantly different from 355.1, the accepted mean for the North Carolina End-of-Grade state average in math. The sample mean of 360.41 ($SD = 6.79$) was significantly different from 355.1, $t(28) = 4.213, p < .001$. Therefore the null hypothesis was rejected. The 95% confidence interval for the North Carolina End-of-Grade math test mean ranged from 2.73 to 7.9. Figure 10 shows the distribution of North Carolina End-of-Grade math scores. The results support the conclusion that teachers rated low in self-efficacy have somewhat higher North Carolina End-of-Grade math scores.

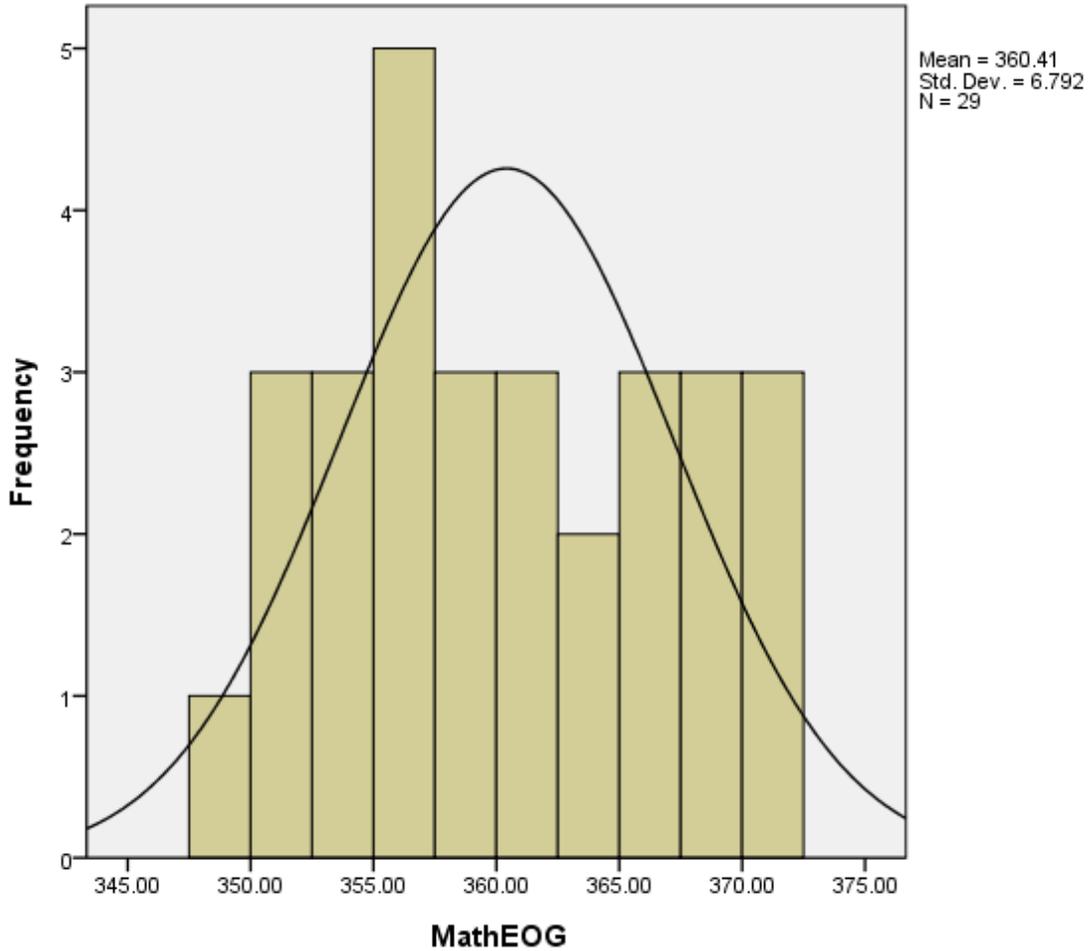


Figure 10. Histogram for Distribution of North Carolina End-of-Grade Math Scores for Teachers Rated Low in Perceived Self-Efficacy

Research Question 11

Research Question #11: For teachers rated low in self-efficacy, is there a significant difference between participants' North Carolina End-of-Grade reading test scores and the North Carolina End-of-Grade reading test score state average?

Null Hypothesis 11: For teachers rated low in self-efficacy, there is no significant difference between participants' North Carolina End-of-Grade reading test scores and the North Carolina End-of-Grade reading test score state average.

A single sample t test was conducted on participants rated low in self-efficacy with regard to North Carolina End-of-Grade reading scores to evaluate whether their mean was significantly different from 350.8, the accepted mean for the North Carolina End-of-Grade state average in reading. The sample mean of 356.55 ($SD = 7.3$) was significantly different from 350.8, $t(27) = 4.171, p < .001$. Therefore the null hypothesis was rejected. The 95% confidence interval for the North Carolina End-of-Grade reading test mean ranged from 2.92 to 8.58. Figure 11 shows the distribution of North Carolina End-of-Grade reading scores. The results support the conclusion that teachers rated low in self-efficacy have somewhat higher North Carolina End-of-Grade reading scores.

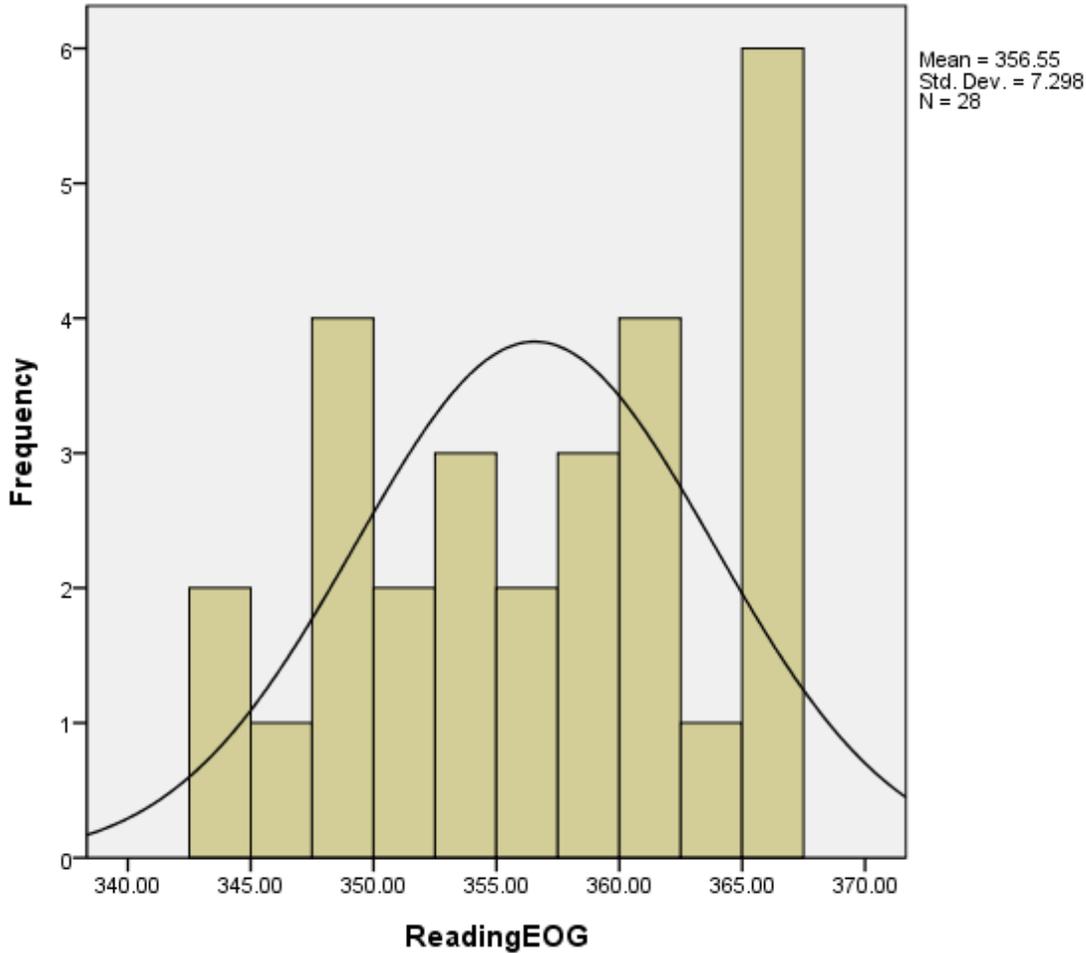


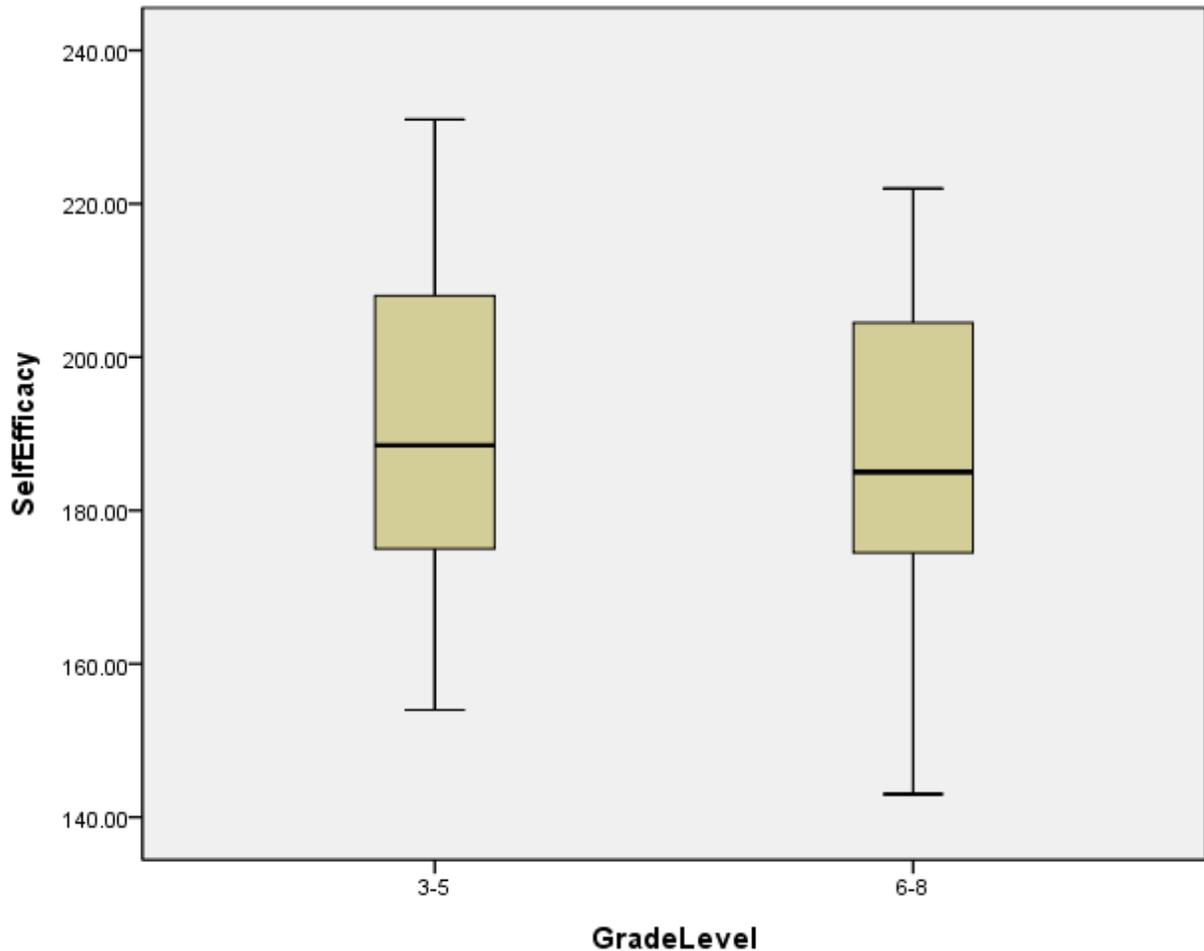
Figure 11. Histogram for Distribution of North Carolina End-of-Grade Reading Scores for Teachers Rated Low in Perceived Self-Efficacy

Research Question 12

Research Question #12: Is there a significant difference between teachers in grades three through five and teachers in grades six through eight with regard to their levels of perceived self-efficacy?

Null Hypothesis 12: There is no significant difference between teachers in grades three through five and teachers in grades six through eight with regard to their levels of perceived self-efficacy.

An independent-samples *t* test was conducted to evaluate whether the mean of teachers perceived self-efficacy scores differed for teachers in grades three through five and teachers in grades six through eight. Their perceived self-efficacy score was the dependant variable and the independent variable was teachers in grades three through five or teachers in grades six through eight. The test was not significant, $t(70) = 1.19, p = .343, ns$. Therefore the null hypothesis was not rejected. The η^2 was .02, which indicated a small effect size. Teachers in grades three through five ($M = 191.14, SD = 20.67$) tended to rate themselves higher than teachers in grades six through eight ($M = 185.47, SD = 19.72$). The 95% confidence interval for the difference in means was -3.83 to 15.16. Figure 12 shows the distribution for the two groups.



Grades 3-5 N=36 Grades 6-8 N=36

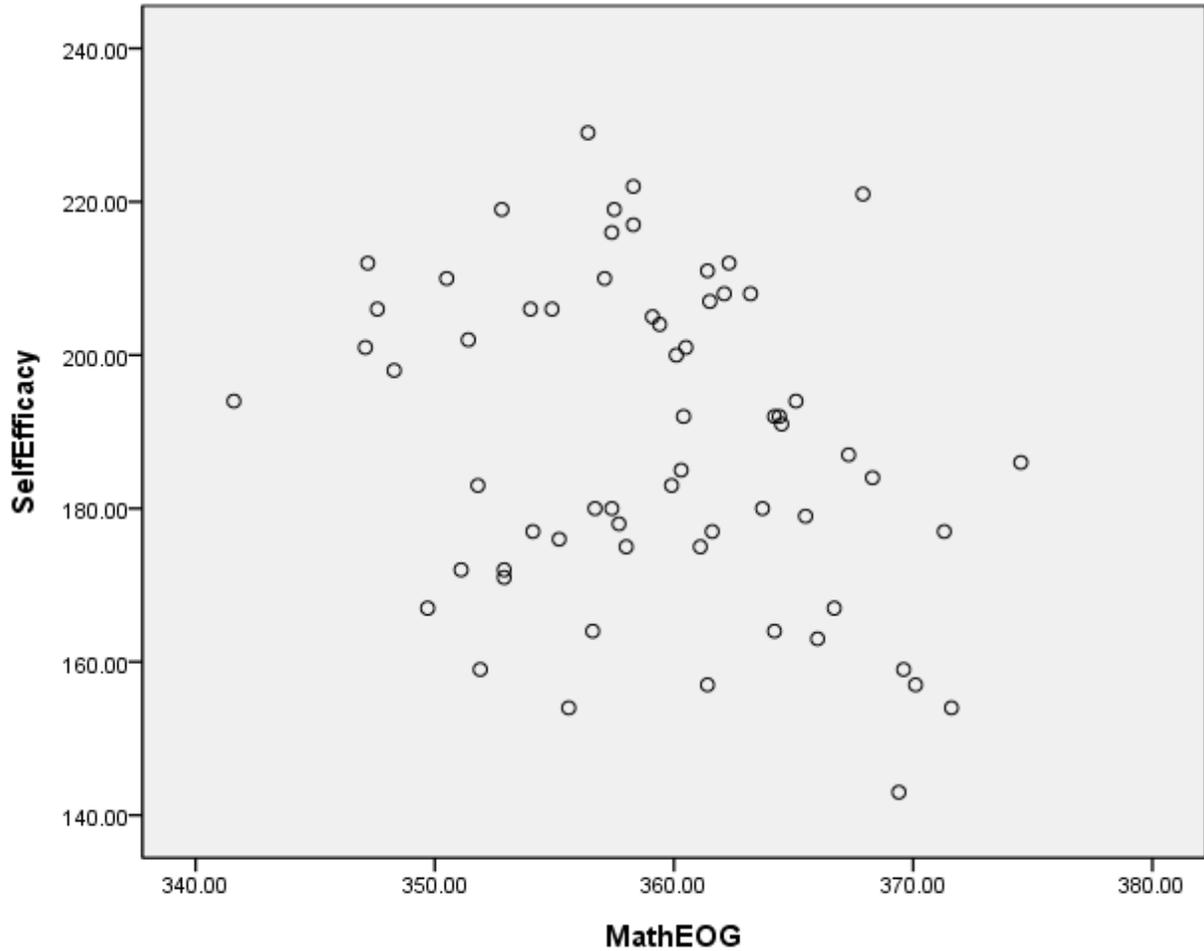
Figure 12. Boxplot for Distribution of Scores for Teachers in Grades Three through Five and Teachers in Grades Six through Eight and their Perceived Self-Efficacy

Research Question 13

Research Question #13: Is there a significant relationship between teachers' self-efficacy and their respective North Carolina End-of-Grade math test scores?

Null Hypothesis 13: There is no significant difference between teachers' self-efficacy and their respective North Carolina End-of-Grade math test scores.

A Pearson r correlation coefficient was conducted to evaluate the relationship between teachers' perceived sense of self-efficacy and their North Carolina math test scores. The results of the analysis revealed a weak negative relationship between perceived self-efficacy ($M = 188.31$, $SD = 20.26$) and North Carolina End-of-Grade math ($M = 359.23$, $SD = 188.31$) scores and a statistically significant correlation [$r(71) = -.271$, $p = .032$]. As a result of the analysis the null hypothesis was rejected. In general, the results suggest that teachers with low perceived self-efficacy also tended to have relatively higher North Carolina End-of-Grade math test scores. Figure 13 shows the distribution for the two groups.



N=65

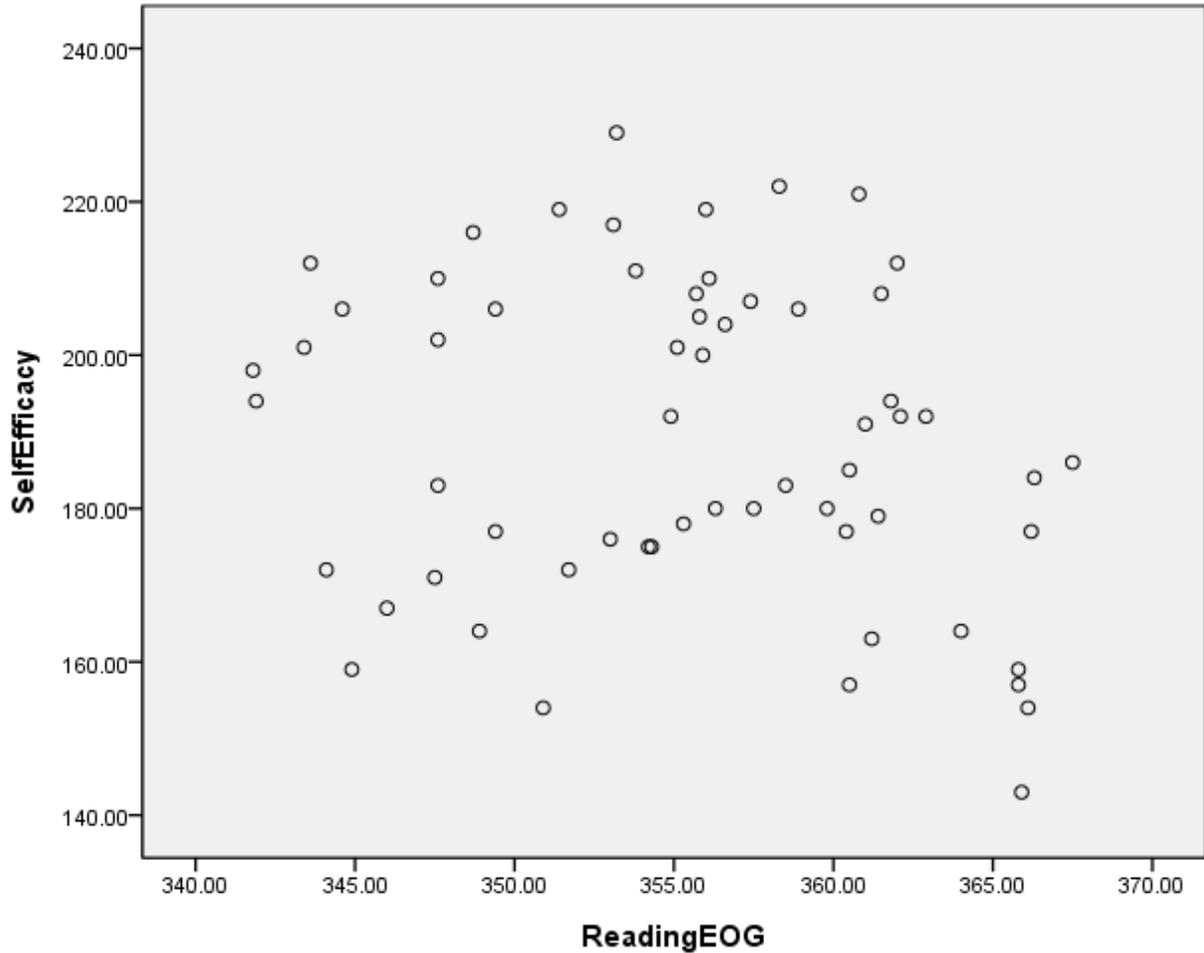
Figure 13. Scatterplot for Teachers' Self-Efficacy and their Respective North Carolina End-of-Grade Math Test Scores

Research Question 14

Research Question #14: Is there a significant relationship between teachers' self-efficacy and their respective North Carolina End-of-Grade reading test scores?

Null Hypothesis 14: There is no significant difference between teachers' self-efficacy and their respective North Carolina End-of-Grade reading test scores.

A Pearson r correlation coefficient was conducted to evaluate the relationship between teachers' perceived sense of self-efficacy and their North Carolina reading test scores. The results of the analysis revealed no relationship between perceived self-efficacy ($M = 188.31$, $SD = 20.26$) and North Carolina End-of-Grade reading ($M = 355.52$, $SD = 6.99$) scores. Furthermore, there was not a statistically significant correlation [$r(71) = -.219$, $p = .089$]. As a result of the analysis the null hypothesis was not rejected. In general, the results suggest that teachers with high perceived self-efficacy do not tend to have high North Carolina End-of-Grade reading test scores. Figure 14 shows the distribution for the two groups.



N=63

Figure 14. Scatterplot for Teachers' Self-Efficacy and their Respective North Carolina End-of-Grade Reading Test Scores

Summary

The purpose of this study was to examine the relationship between teacher self-efficacy as proposed by Bandura (1997) to determine whether there is a relationship to student achievement. Data from the survey were used to analyze 14 research questions and 14 associated null hypotheses. Twelve of the research questions were analyzed using either

independent sample or single sample t test. Two of the research questions were analyzed using Pearson r bivariate correlation tests.

A portion of the comparisons within this study did not reveal a significant relationship between perceived teacher self-efficacy and North Carolina End-of-Grade reading and math test scores. Of the 14 research questions investigated, 6 of them were not significant and 8 of them were significant. A relationship between perceived self-efficacy between genders did reveal that female participants tended to have higher perceived self-efficacy than male participants. It should also be noted that this finding may be a result of a limited amount of male respondents. Additionally male teacher participants tended to have higher North Carolina End-of-Grade reading test scores than female teacher participants. It was also discovered that each of the respondents regardless of perceived self-efficacy score had test results in both reading and math that were significantly higher than the state average. Finally, a relationship was found between teacher respondents with lower perceived self-efficacy scores and North Carolina math test scores.

CHAPTER 5

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

The purpose of this quantitative study was to examine the relationship between teacher self-efficacy and student achievement. I analyzed data collected from a survey of teachers within the Watauga County School system. *Bandura Teacher Self-Efficacy Scale (TSES)* was the instrument used to measure teacher self-efficacy. *North Carolina End-Of-Grade* test data from the 2009-2010 school year were also used to correlate perceived teacher self-efficacy with student achievement in the content areas of reading and math. Demographic data include gender, teachers in grades three through five, and teachers in grades six through eight. This chapter summarizes the findings, conclusions, and recommendations for further research.

Summary of Findings

A portion of the comparisons within this study did not reveal a significant relationship between perceived teacher self-efficacy and North Carolina End-of-Grade reading and math test scores. In fact of the 14 research questions investigated, 6 of them were not significant and 8 of them were significant. However a relationship between perceived self-efficacy between genders did reveal that female participants tended to have higher perceived self-efficacy than male participants. In addition, male teacher participants tended to have higher North Carolina End-of-Grade reading test scores than female teacher participants. It was also discovered that each of the respondents, regardless of perceived self-efficacy score, had test results in both reading and math that were significantly higher than the state average. Finally, a relationship was found between teacher respondents with lower perceived self-efficacy scores and North Carolina math test scores.

There was no statistically significant difference in the mean scores of the North Carolina End-of-Grade math and mean scores of the North Carolina End-of-Grade reading tests for those teachers rated high versus low in perceived self-efficacy. Mean scores were actually higher in both reading and math with those teachers who had a lower perceived level of self-efficacy. The results of this study are not in agreement with Vartuli's 2005 article or Shidler's 2009 article. Both discussed teachers with a high level of instructional efficacy would deliver content more clearly and would produce better outcomes. Both articles, however, failed to define outcomes; therefore it cannot be deciphered if they focused solely on the content areas of reading and math.

There was no statistically significant difference in the mean scores of the North Carolina End-of-Grade math tests for male and female teachers. Mean scores were significantly higher for males than females in North Carolina End-of-Grade math tests; however, it should be noted that the findings may be the result of a limited number of male respondents. Repeating this study with a more balanced number of male and female participants may produce different results.

There was no statistically significant difference between the perceived self-efficacy scores for teachers in grades three through five and teachers in grades six through eight. Although mean scores for perceived self-efficacy tended to be higher among teachers in grades three through five than those in grades six through eight, the results overall did not suggest that a significant difference existed.

There was no statistically significant correlation found in the mean scores of the North Carolina End-of-Grade reading tests for teachers who were rated high in perceived self-efficacy; however, there was a statistically significant weak positive correlation in the mean scores of the North Carolina End-of-Grade math test scores for teachers who were rated high in perceived self-efficacy. Therefore, it could be inferred from this study that teachers with a high perceived

sense of self-efficacy could produce higher North Carolina End-of-Grade math test scores. This cannot be said for those teachers and their North Carolina End-of-Grade reading test scores.

Implications for Practice

This study suggests that teacher self-efficacy is an important factor in student success. The goal of increasing teachers' perceived self-efficacy is to provide teachers better working environments that may help increase student achievement.

Based on literature and results of this study the following considerations could be made to administrators:

1. School systems may consider designing professional development opportunities so that teachers may collaborate and participate in the decision-making process and long range planning.
2. Administrators and teachers may consider designing master schedules around the theme of team planning.
3. Administrators and teachers may consider the development and use of pacing guides that are aligned with the state's curriculum and adhere to them to ensure the bulk of the curriculum is taught during the course of the school year.
4. Administrators and teachers may consider strategies to foster positive school climate.

Recommendations for Future Research

Results of this study can be used across the educational continuum with an emphasis on the K-12 sector. Teacher empowerment through motivation may be the single best indicator of how well a child will perform (Vartuli, 2005). Couple that with a supportive and nurturing school system and the end result will, hopefully, be a beneficial place for children to learn and

grow. Hemric et al. (2010) further affirms the need to better connect quality teacher with students by stating the importance of implementing empowerment structures.

The results of this study can be expanded upon to encompass other specific content including, but not limited, to science, social studies, and the arts. Content that is specific can enhance and improve the confidence the teacher feels in delivery and thus can increase efficacy (Shidler, 2009). This study can also be expanded by investigating each of the seven domains that exist within the survey to determine if a significant difference can be found between any domain and the North Carolina End-of-Grade test scores in reading and math.

Suggestions for future research would include:

1. This study could be replicated using a larger county or multiple counties.
2. This study could be replicated to include other content areas.
3. This study could be replicated using school administrators and compare their results with their school composite scores.
4. This study could be replicated using urban school systems to see if their perceptions of perceived self-efficacy are different.
5. More research could be conducted to determine the effects of legislation requiring standardize testing and student achievement.

Summary

Increasing teachers' perceived self-efficacy has the potential to better the overall work environment and subsequently increase student achievement. In this study teachers' perceived self-efficacy was compared to their North Carolina End-of-Grade test scores in the content areas of reading and math. Comparisons were made using gender and grade levels. In addition, it was

discovered that teachers in this study had significantly higher test results than the North Carolina state averages.

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APPENDIX A

Bandura Teacher Self-Efficacy Scale

This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. Please indicate your opinions about each of the statements below by circling the appropriate number. Your answers will be kept strictly confidential and will not be identified by name.

Efficacy to Influence Decision Making

How much can you influence the decisions that are made in the school?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great Deal

How much can you express your views freely on important school matters?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great Deal

Efficacy to Influence School Resources

How much can you do to get the instructional materials and equipment you need?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great Deal

Instructional Self-Efficacy

How much can you do to influence the class size in your school?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great Deal

How much can you do to get through to the most difficult students?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great Deal

How much can you do to promote learning when there is a lack of support from the home?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great Deal

How much can you do to keep students on task on difficult assignments?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

How much can you do to increase students' memory of what they have been taught in previous lessons?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

How much can you do to motivate students who show low interest in schoolwork?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

How much can you do to get students to work together?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

How much can you do to overcome the influence of adverse community conditions on students' learning?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

How much can you do to get children to do their homework?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

Disciplinary Self-Efficacy

How much can you do to get children to follow classroom rules?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

How much can you do to control disruptive behavior in the classroom?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

How much can you do to prevent problem behavior on the school grounds?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

Efficacy to Enlist Parental Involvement

How much can you do to get parents to become involved in school activities?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great Deal

How much can you do to assist parents in helping their children do well in school?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great Deal

How much can you do to make parents feel comfortable coming to school?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great Deal

Efficacy to Enlist Community Involvement

How much can you do to get community groups involved in working with the schools?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great Deal

How much can you do to get churches involved in working with the school?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great Deal

How much can you do to get businesses involved in working with the school?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great Deal

How much can you do to get local colleges and universities involved in working with the school?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great Deal

Efficacy to Create a Positive School Climate

How much can you do to make the school a safe place?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great Deal

How much can you do to make students enjoy coming to school?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great Deal

How much can you do to get students to trust teachers?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great Deal

How much can you help other teachers with their teaching skills?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great Deal

How much can you do to enhance collaboration between teachers and the administration to make the school run effectively?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great Deal

How much can you do to reduce school dropout?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great Deal

How much can you do to reduce school absenteeism?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great Deal

How much can you do to get students to believe they can do well in schoolwork?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great Deal

APPENDIX B

Permission to use Teachers' Sense of Efficacy Scale



ANITA WOOLFOLK HOY, Ph.D.

PROFESSOR
PSYCHOLOGICAL STUDIES IN EDUCATION

Dear

You have my permission to use the *Teachers' Sense of Efficacy Scale* in your research. A copy of both the long and short forms of the instrument as well as scoring instructions can be found at:

<http://www.coe.ohio-state.edu/ahoy/researchinstruments.htm>

Best wishes in your work,

A handwritten signature in cursive script that reads 'Anita Woolfolk Hoy'.

Anita Woolfolk Hoy, Ph.D.
Professor

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29 WEST WOODRUFF AVENUE
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APPENDIX C

Letter to Request Permission to use Data and Survey Teachers

Wayne M. Eberle II
PO Box 1634
Boone, NC 28607
(828) 781-4351

31 August 2010

Dr. Marty T. Hemric
Watauga County Schools
175 Pioneer Trail
PO Box 1790
Boone, NC 28607

Dear Dr. Hemric:

I am writing this letter to request your permission to use Watauga County Schools system test data as well as ask teachers if they would be willing to participate in a brief survey on teacher self-efficacy. I am completing a doctoral dissertation at East Tennessee State University. The study relates to how teacher self-efficacy could or could not have an impact on student achievement.

The confidentiality of individual teacher scores as well as their responses to the survey will be protected at all times.

If these arrangements meet with your approval, please sign this letter where indicated below. As always, thank you for your continued support of this project and I hope that the results will benefit school systems as a whole.

Sincerely,

Wayne M. Eberle II
Principal
Valle Crucis School
(828) 963-4712

PERMISSION GRANTED FOR THE ABOVE REQUEST



Marty T. Hemric, Ed.D

APPENDIX D

Letter to Accompany Survey

9 December 2010

Dear Teacher,

My name is Wayne M. Eberle and I am a graduate student at East Tennessee State University. I am working on my Doctoral degree in Educational Leadership and Policy Analysis. I am currently conducting research to complete the requirements for my dissertation. The title of my dissertation is *Teacher Self-Efficacy and Student Achievement as Measured by Reading and Math End-Of-Grade Tests*. The chair for this project is Dr. Pamela Scott in the Educational Leadership and Policy Analysis department at ETSU.

The purpose of this study is to survey teachers in grades 3-8 about their self-efficacy. I would like to ask that you complete a short survey about your perception of your own self-efficacy. The survey should take no longer than 15 minutes. The results of that survey will then be compared to the schools overall composite EOG results.

Please know that this process and methodology is completely anonymous and confidential. There will be no way to connect you with your responses.

Participation in this research experiment is completely voluntary. Please accept this gift certificate from Stick Boy Bread Company in Boone, NC as a way of saying “thank you” for your time and effort. When finished with the survey, they may be placed in the provided envelope and send to Valle Crucis School via the pony.

Again, thank you for taking time to consider this request. Please have your responses back to me by 10 January 2011 so that they may be analyzed. Should you have any questions about this research, please do not hesitate to call me at Valle Crucis School at (828) 963-4712 or Dr. Scott at (423) 439-7618.

Sincerely,

Wayne M. Eberle II
Principal
Valle Crucis School
(828) 963-4712

VITA

WAYNE M. EBERLE II

Personal Data: Date of Birth: 2 August 1975
 Place of Birth: Miami, Florida
 Marital Status: Married

Education: East Tennessee State University, Johnson City, Tennessee;
 Educational Leadership, Ed.D. 2011
 Appalachian State University, Boone, North Carolina;
 School Administration, Ed.S. 2008
 Appalachian State University, Boone, North Carolina;
 School Administration, M.S.A 2002
 Appalachian State University, Boone, North Carolina;
 Elementary Education, B.S. 1998

Professional
Experience: Principal, Pre K-8th grade
 Valle Crucis School, Sugar Grove; NC;
 2005- Present

 Assistant Principal, Pre K-8th grade
 Hardin Park School, Boone; NC;
 2004-2005

 Teacher, 3rd Grade
 Blowing Rock School, Blowing Rock; NC;
 1998-2004