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A Descriptive Analysis of the Relationship Between
Specific Teacher Characteristics and Teacher Efficacy
in Florida's Low-Performing Public High Schools

by

Pamela S. Craig

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
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teachers, secondary schools

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Dedication

This dissertation is dedicated to my husband, Randy, without whom I could never have achieved so much, and to my children, Steven, Laurie, and Brandon, who encouraged me to reach beyond my expectations.

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I wish to express my appreciation for the time and support allotted me by my dissertation committee. Each member afforded me the opportunity to discuss my research and provided me with valuable insight which allowed me move forward.

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A Descriptive Analysis of the Relationship Between
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ABSTRACT

This study was designed to collect data to determine the specific characteristics (gender, level and area of degree status, certification status, pedagogical training, gender, number of years of teaching experience, number of years teaching at the current school, and courses currently taught) of language arts teachers at Florida's low-performing public high schools and compare these characteristics to teachers' sense of efficacy (the extent to which teachers' believe they have the ability to bring about changes in student achievement independent of the student's background, behaviors, or motivation level). A total of 615 teachers representing 84 schools in 36 districts participated in the study. Teachers completed a researcher-created survey questionnaire and the Teachers' Sense of Efficacy Scale Long (Tschannen-Moran and Hoy, 2001). The data were collected and analyzed using descriptive and multiple regression statistics.

The majority of the respondents meet the minimum requirements of highly qualified teachers as defined by NCLB. However, only 37% of responding language arts teachers at Florida's low-performing public high schools have degrees in English education, and only 15% of responding reading teachers have degrees in reading or reading education. Additionally, the majority of the responding teachers have been only been teaching at the school site for five or fewer years.

Although the majority of responding teachers reported moderate to high sense of classroom management and instructional practice efficacy, over 43% reported low sense of student engagement efficacy, suggesting the teachers do not believe they possess the skills or knowledge necessary to engage students in learning.

The study suggests that improving student achievement for our lowest-performing students may require more than providing students with highly qualified teachers defined by NCLB. Districts and schools must examine more closely the characteristics of highly effective teachers in order to recruit and retain teachers who can truly impact student achievement for students who have previously demonstrated a lack of success. Additionally, schools would benefit from professional development designed to provide teachers with classroom strategies that engage students in learning and which helps develop a school-wide literacy culture reflecting high expectations for student achievement.

Chapter One

Whenever a solution appears so simple and straightforward, the cynical among us can expect it to fail. It has achieved the status of a self-evident truth, yet it may only be a collectively held myth. Indeed, the common wisdom is that the simple solutions have thus far not borne the anticipated results. Shulman, 1983.

Introduction

Raising standards, eliminating the achievement gap, and assessing student achievement are the current buzz words in public education. Concerned with declining test scores, the federal government passed the No Child Left Behind Act of 2001 (NCLB). As a result, states began imposing rigorous accountability measures on schools that did not demonstrate improved student performance on state-mandated tests. Pressured by state mandates, districts placed the burden on individual schools which ultimately placed the burden on individual teachers. Increasingly, teacher performance is measured by student performance on state-mandated tests (K-20 Education Code). The pressure on teachers to produce increased student achievement on state-mandated tests increases each year as does the call to ensure that all students have access to “highly qualified” teachers -- those who have a minimum of a bachelor’s degree in their area of responsibility, have passed a content area test, and hold an educator’s certificate.

Few will argue the need to make certain that all students receive instruction from qualified teachers who have a positive impact on student achievement; however, NCLB's narrow definition of "highly qualified" teachers appears to ignore significant research indicating that other factors are equally, if not more, important than credentials when it comes to improving student achievement.

"Effective" teachers -- those who positively impact student achievement -- encompass a myriad of characteristics in addition to degree and certification status. These characteristics include but are not limited to the number of years of teaching experience, number years of teaching at the current school, pedagogical training, gender, and courses currently taught (Anderson, Greene, & Loewen, 1988; Berry, Hoke, & Hirsch, 2004; Darling-Hammond, 2000; Goldhaber & Anthony, 2003; Hess, 2001; Ingersoll, 1996; Lankford et al., 2002; Moore & Esselman, 1994; Raudenbush, Rowan, & Cheong, 1992). In addition, effective teachers report high levels of teacher efficacy -- the extent to which teachers believe they have the ability to bring about changes in student change independent of the student's background, behaviors, or motivation level (Ashton & Web, 1986; Denham & Michael, 1981; Guskey, 1994; Tschannen-Moran & Hoy, 2001). If we recognize that effective teachers positively impact student achievement (Darling-Hammond, 2000; NCLB, 2001) and that teacher efficacy also positively impacts student achievement (Ashton & Webb, 1986; Moore & Esselman, 1994) then it becomes useful to determine whether or not there is a relationship between specific characteristics of effective teachers and teacher efficacy.

The purpose of this study is to examine the relationship between specific teacher characteristics (level and area of degree status, certification status, pedagogical training,

gender, number of years of teaching experience, number of years teaching at the current school, and courses currently taught) and teacher efficacy. High school language arts teachers teaching at Florida's "D" and "F" public high schools were surveyed to identify whether or not they possess the specific characteristics listed and whether or not a relationship exists between those characteristics and teacher efficacy.

Background of the Study

School Accountability

In 2001, President George W. Bush signed Public-law 107-110, the No Child Left Behind Act of 2001 (NCLB). NCLB narrowly defines successful and unsuccessful schools based on a rigid accountability system focusing on student test scores. It rewards those schools defined as successful and provides sanctions for those defined as unsuccessful.

Beginning in 2001, all states except Iowa and Nebraska began imposing state-wide assessments in reading and mathematics (Goertz & Duffy, 2003). Thirty-five states currently use state-mandated testing to identify underperforming schools with 18 states providing for state takeover of under-performing schools and 16 states allowing for the replacement of principals and teachers at under-performing schools (McDermott, 2003, p. 10). Several states, including Alabama, California, Illinois, Kentucky, and New Jersey, have taken over local school districts in an attempt to improve student achievement. In 2000, Maryland seized control of three elementary schools (Montbello, Gilmore, and Francis L. Templeton) in Baltimore City Public Schools due to persistent academic problems. The state hired Edison Schools, Inc., a private company, to run these three schools (Ziebarth, 2002). Many other cases exist where the state has assumed

responsibility for local schools through takeovers. While little research exists examining whether or not these have been successful takeovers, the threat of state takeover remains. Schools across the nation are being held to state-defined standards and are threatened with sanctions should they fail to meet those standards.

In response to NCLB requirements, Florida implemented the Florida Comprehensive Assessment Test (FCAT), a state-wide test given to students from the 3rd through 10th grades, to assess student progress in reading, writing, mathematics, and science. The results are reported to the public, and schools receive a grade of “A,” “B,” “C,” “D,” or “F” based on 1) student performance on the FCAT in reading, math, and writing, 2) the percentage of students who demonstrate gains in reading and math from one year to the next, and 3) the percentage of the lowest 25% of all students who demonstrate gains in reading achievement. Additionally, when less than 50% of the lowest performing 25% of all students fail to demonstrate improvement in reading achievement, the school grade is lowered by one letter. Finally, grades are affected by the percentage of eligible students who take the tests (Grading Florida Public Schools 2002-2003).

Students’ success on the FCAT determines their progression through grades 3-12 and determines school funding. Schools that repeatedly report low scores on the FCAT face consequences which can translate into lost funding. Furthermore, students who attend schools that receive an “F” two years in a row are eligible for vouchers which allow them to attend private schools.

The underlying principle behind this system suggests that competition between schools to raise student achievement will improve student achievement and hold schools

accountable to a predetermined set of standards. Schools that report adequate student achievement will receive monetary rewards while schools that report insufficient student achievement will be provided with additional state support provided they demonstrate improvement in student scores in the following years. Schools that continue to report low achievement will lose money through vouchers for students to attend private schools.

Failing schools are required to hire “high quality” educators prior to the beginning of the next school year. Florida defines highly qualified educators as those who are certified in their area of responsibility and who have demonstrated success as determined by student gains in previous years. Failing schools must also provide an incentive program to retain highly qualified educators. Schools that earned an “F” for two years in a row must also notify parents that their children are eligible for opportunity scholarships and public school choice. These two programs allow parents to send their students to other schools in the district or use vouchers to send their children to private schools. No specific sanctions are listed for Florida’s “D” schools (2004-2005 District Action Plans for Assistance Plus Schools).

For the 2004-2005 school year, 93 public high schools in Florida received “Ds” and 7 received “Fs” from the Florida Department of Education. Four of the 7 schools earning an “F” designation are repeating “F” schools (2004-2005 School Accountability Report).

Reading Achievement

Historically the attention on student achievement rested primarily on the areas of math and science; however, a growing concern about student reading achievement has risen as student performance on state-mandated standardized reading tests continues to

decline at the secondary level. This concern has shifted the focus away from the math and science classes towards the language arts classes and language arts teachers.

The 1996 International Association for the Evaluation of Educational Achievement (IEA) compared the reading achievement of students in the United States to students in 30 other countries (Brinkley, M. & Williams, T, 1996). Interestingly, the IEA reports that the United States ranked 2nd for 4th grade students reading achievement, surpassed only by Finland. However, by 9th grade, United States students rank 9th out of 31. Berliner and Biddle (1995) suggest these scores are more representative of the United States' goal to provide educational opportunity to all students than they are of a deficient educational system. They maintain that European countries limit access to education beyond middle school; therefore, their scores are not indicative of the same population as United States' scores. However, Irvin, Buehl, and Klemp (2003) provide an alternative theory. They suggest the drop in reading achievement from elementary to high school is the result of inadequate reading instruction beyond the 5th grade. They argue that reading achievement drops from elementary to high school because as a nation, we do not continue to teach our students how to read more and more complex text. Alternatively, Deborah Meier (2002) and Richard Allington (2002) suggest that the gap in reading achievement between high and low achievers is more a reflection of poverty than of ability. Both of these authors point to the inconsistencies that exist between upper socioeconomic schools and lower socioeconomic schools. They argue that it is not the students who need changing, but the whole educational system that provides different levels of educational support to students from high socioeconomic status than to students from low socioeconomic status that needs changing.

Whatever the reason for the gap between United States students' reading achievement from elementary to high school, it becomes apparent that changes need to occur. Schools in the United States must not only provide opportunities for students to attend schools, they must provide instruction that helps students achieve. If, as Irvin, Buehl, and Klemp (2003) suggest, teachers can change instructional practices to help improve student achievement in reading, then it would seem that the political pressure to improve secondary reading achievement is worthy of investigation. It also seems reasonable to suggest that identifying effective teachers who are capable of raising student reading achievement for our lowest level students needs to become priority in order to improve overall student achievement.

A recent study of Florida students indicates that 60% of Florida secondary students are performing below Level 3 (the passing point) on the FCAT in reading. Additionally, 50% of Florida high school students rank below the national median on the FCAT Norm Referenced Test (Chatterji, 2004). Compared to student performance in math and writing, Florida high school students are not improving in reading, and this single factor is having a negative influence on the ability of high schools to demonstrate successful student achievement. Of the 100 "D" and "F" public high schools in Florida, 78 schools reported that fewer than 50% of their lowest achieving students reported reading gains (2004-2005 school accountability report). The need to address literacy at the secondary level is becoming more apparent as elementary school students demonstrate success on FCAT reading tests while secondary students continue to lag behind.

Teacher Quality

Although the FCAT is used to determine whether or not Florida schools are successful, it is important to note that high-stakes testing does not measure the myriad of other factors that affect student performance. In order to truly measure a school's success, it is imperative that we identify those factors that are dependent on school and teacher performance and separate them from those factors that cannot be controlled (Committee for Economic Development, 2000; Grobe & McCall, 2004; Koper, 2001).

For example, considerable research exists suggesting that teacher quality affects student performance (Darling-Hammond, 2000; Darling-Hammond, 1996; Good, Biddle, & Brophy, 1975; Ingersoll, 2002; Langford, Loeb, & Wyckoff, 2002; Sanders & Rivers, 1996). Unfortunately, defining teacher quality is a tricky task. Darling-Hammond (2000) and others suggest that effective teachers demonstrate characteristics beyond credentialing, specifically arguing that effective teachers must demonstrate a deep knowledge of their subject matter, student learning, and teaching methods.

Three organizations attempting to more clearly define this concept are the Interstate New Teacher Assessment and Support Consortium (INTASC), the National Board for Professional Teaching Standards (NBPTS), and the National Council for the Accreditation of Teacher Education (NCATE). All of these organizations maintain that good teachers understand how children learn and develop, have a deep understanding of their content area, and are reflective practitioners. In addition, these teachers are able to share this understanding with students and engage them in the study of their content, manage and monitor student learning, and forge relationships with other professionals in an attempt to promote student learning (Goldhaber & Anthony, 2003). Of these five

major areas defined by INTASC, NBPTS, and NCATE, only one is addressed by NCLB: the requirement that teachers have a deep understanding of their content area.

The emphasis on content knowledge over pedagogical knowledge has opened the door to multiple certification paths. Unfortunately, certification requirements are not equivalent throughout the nation (Darling-Hammond & Ingersoll, 2001; Goldhaber & Brewer, 1999). Traditional certification meant that the teacher had earned a bachelor's degree in his/her content area and had also taken education courses to prepare the teacher for the classroom. Today, teachers who graduate from accredited schools of education, indicating they have content knowledge as well as learning theory and classroom methods knowledge, can receive their certification after passing a state certification test. However, teachers can also receive certification if they have a bachelor's degree (major or minor) in their subject area and they pass the state content certification test. Some states, Florida included, provide a temporary certificate that qualifies the teacher to teach for two years while the teacher enrolls in the courses required to obtain a permanent certificate.

The status of "highly qualified" teacher is granted to anyone who has a minimum of a bachelor's degree in his/her content area, has passed a state content area exam, and who has received state certification. These requirements may include educational coursework received at an accredited college or university, but they may also include local training provided by district personnel. The bottom line is that the designation of "highly qualified" teacher is determined not by a teacher's performance in the classroom nor by student achievement; rather it is determined solely based on academic credentials and state-mandated criteria testing.

If it is true that student achievement is affected more by teacher quality than demographics, language barriers, or class size (Darling-Hammond, 2000; Sanders & Rivers, 1996), then we must identify those characteristics that define quality teachers beyond those characteristics defined by No Child Left Behind. According to Darling-Hammond (2000), effective teachers are not simply those who possess certification but are those who possess specific characteristics linked to improving student achievement. Fully certified teachers -- those who possess content knowledge as well as those who have a clear understanding of how students learn and who possess effective teaching methods -- have a more positive effect on student achievement than teachers who are not fully certified. Darling-Hammond's considerable research suggests that it is not enough to simply list credentials; we must examine more closely the type of credentials and the learning history that led to the accumulation of the credentials.

Credentialing is not the only measure of effective teaching. Teacher turn-over and number of years in the classroom affect student performance (Hess, 2001; Lankford et al., 2002). These studies suggest that experienced teachers have a more positive effect on student achievement than less experienced teachers. In addition, schools with a high teacher turn-over rate tend to produce students with lower student achievement than schools with a more stable faculty. According to NCLB, a highly qualified teacher might be a beginning teacher with no experience who holds the necessary credentials. Not only is this beginning teacher trying to adapt to the new school culture, but he/she is also learning the craft of teaching. According to Langford and Hess's research, a beginning teacher may not improve student learning, so while the beginning teacher meets the

requirements of a highly qualified teacher as defined by NCLB, he/she does not necessarily demonstrate the characteristics of an effective teacher defined in research.

Goldhaber and Anthony (2003) argue that teacher quality is measured by a teacher's ability to "produce growth in student achievement" (p. 6). They specifically argue that teachers holding advanced degrees in their subject areas have the most positive impact on student achievement; however, their research also indicates that certification alone is not sufficient to determine teacher quality. They suggest the number of years teaching and the number of years teaching at the same school are also factors that affect student achievement. While Goldhaber and Anthony's research related to degree status is some of the most cited research supporting the NCLB legislation, little is mentioned of their findings related to experience.

Finally, research seems to indicate that low-performing schools traditionally hire less qualified teachers than high-performing schools. Low-performing schools are often assigned teachers with less experience and ones who do not possess degrees in their area of responsibility (Darling-Hammond, 2000; Ingersoll, 2002; Ingersoll, 2000; Lankford et al., 2002). Darling-Hammond (2000) reports that some districts hire uncertified teachers even when certified teachers are available, and schools with a majority of low socioeconomic students tend to hire teachers who either do not hold certifications or who are not certified in their teaching area. Ingersoll (1996) reports that English classes in high-poverty schools are taught by out-of-field teachers more often than English classes in low-poverty schools. Lankford et al. (2002) found non-white, poor students and limited English proficient students were more often assigned to less skilled teachers than white, middle class students. Effective teachers are more likely to leave poor, low-

performing schools than less-qualified teachers (Lankford et al., 2002), contributing to the teacher turn-over factor. Hess (2001) bemoans the fact that the most experienced teachers tend to be assigned to upper-level students and advanced classes rather than to low-performing students. It would seem that low-performing schools are most often filled with low-performing teachers as opposed to effective teachers and that effective teachers at low-performing schools are more likely to be assigned to the advanced classes rather than the struggling classes.

Teachers' Sense of Efficacy

The construct of efficacy is one that has been examined throughout the years by many researchers. Most research on efficacy is based on Bandura's (1977) theories of self-efficacy. Bandura determined that people's behavior is affected by their belief that their actions will have an impact on the outcome. People who believe their behavior will have a positive effect on the outcome are said to have a high sense of efficacy, while people who believe their behavior will have no effect or a negative effect on the outcome are said to have a low sense of efficacy. Bandura linked this research to the idea of motivation. People who believe they can positively affect the outcome are motivated to proceed while those who do not tend to shy away from action.

Early research focused on how teacher expectations impacted student learning. Rosenthal and Jacobson (1968) discovered that when teachers were told that their students were identified as low achievers, they responded to their students differently than teachers who were told that their students had been identified as having exceptional intellectual ability. The students randomly chosen and identified as being exceptional excelled while those randomly chosen and identified as being low-performers struggled

to achieve. The study revealed a “self-fulfilling prophecy” phenomenon which confirmed teachers’ attitudes towards students influenced student achievement. Rosenthal and Jacobson’s historical research demonstrated that teachers who were told their students were incapable of achieving produced students who did not learn, while those teachers who were told their students were capable of high achievement produced students with high achievement regardless of the students’ past achievement.

Rosenthal’s research led to further research by Good and Brophy (1971) who found teachers had a tendency to treat low expectation students differently than high expectation students. High expectation students received praise more often than low expectation students, even when low expectation students succeeded, and high expectation students received less criticism when they failed as compared to low expectation students. Conversely, Brophy (1983) also discusses that student reaction to teachers’ behaviors varies resulting in different outcomes dependent upon the situation. He concludes that “teacher expectation effects on students are much more complex and difficult to conceptualize, let alone predict,” (p. 653) than previously expected.

In spite of the complexity revolving around teacher expectation research, research in the area continued. Langer (2001) found teachers who believed their students were capable of success and who believed that they, as teachers, were capable of influencing student success produced higher student achievement than did those who believed their students were incapable of success. Other studies indicate teachers who believe they can affect student achievement are less likely to blame student attributes for low student performance (Hall, B. et al., 1992). These teachers tend to reexamine their own teaching

as a means of improving student achievement rather than blame the students for their low performance.

More recently, Thompson, Warren, and Carter (2004) surveyed 121 high school teachers in southern California and found “nearly 60 percent of the participants blamed students for their underachievement” (p. 11). Teachers who believe their students cannot achieve tend to blame the students rather than to look deeper into their own teaching methods as reasons for low student performance.

Based on Bandura’s research, Ashton and Webb (1986) set out to develop a teacher’s sense of efficacy scale. According to Ashton and Webb, teachers’ sense of efficacy is defined as “teachers’ situation specific expectation that they can help students learn” (p. 3). They further define two elements of teacher efficacy: teaching efficacy and personal efficacy. Teaching efficacy refers to the belief that teaching can influence student learning. Teachers with a high sense of efficacy believe that all students can learn. Teachers with a low sense of efficacy believe that students “cannot or will not learn in school and there is nothing any teacher can do to alter this unhappy reality” (p. 4). Personal efficacy refers to the individual teacher’s belief that he/she can influence student learning. Personal teaching efficacy is essentially a belief in one’s own competence as a teacher. Identifying whether or not teachers possess both teaching efficacy and personal efficacy is important in examining the effect of efficacy on student performance.

Raudenbush, Rowan, and Cheong (1992) argue that high school teachers’ sense of personal efficacy, the belief that they can use their training to motivate student learning under specific circumstances, is adversely affected when they are placed in low-level classrooms. Well-trained, highly qualified teachers who previously felt successful in the

classroom often feel unsuccessful when placed in classrooms filled with struggling students. These teachers often believe they are ineffective when placed with low-level students and do not believe they have the necessary skills to improve student learning for struggling students.

Personal efficacy can also be affected by the number of years a teacher has been teaching (Pigge & Marso, 1993). Beginning teachers often believe that teachers in general can affect student achievement but may believe that they personally will not be able to positively affect student achievement because of their (teachers') lack of experience. "Highly qualified," credentialed teachers may be ineffective if they believe they do not possess the necessary skills to improve student achievement.

Teachers' beliefs about their ability to influence student achievement affect their practices and interactions with students and determine whether or not classroom innovations are successful (Behar-Horenstein, Pajares, & George, 1996; Cabello & Burstein, 1995; Davis & Wilson, 1999; Fang, Z., 1996; Muijs & Reynolds, 2002; Olson & Singer, 1994; Pajares, 1992; Prawat, 1992; Stodolsky & Grossman, 2000; Stuart & Thurlow, 2000; Taylor & Sobel, 2001; Warren, 2002; Zohar, Dengani, & Vaaknin, 2001). Teachers who do not believe they possess the skills necessary to improve student achievement will more often place the blame on their students rather than reexamine their own teaching methods in an attempt to improve student learning.

Purpose of the Study

The purpose of this study is to examine the degree of relationship between specific teacher characteristics and teachers' sense of efficacy as determined by the Teachers' Sense of Efficacy Scale (see Appendix F). Research indicates that students at

low-performing high schools are most often taught by inexperienced teachers who tend to possess fewer qualifications than students at high-performing high schools. Therefore, the study will focus on Florida's low-performing public high schools specifically.

While NCLB's initiative to close the achievement gap and improve student reading achievement is a worthy goal, as is its mandate that all schools in the United States must employ highly qualified teachers for all academic classes, NCLB narrowly defines highly qualified teachers as those who hold a minimum of a bachelor's degree and certification in their area of responsibility. However, research also indicates that student achievement is affected by other factors as well, including teacher efficacy. It is the premise of this researcher, that in order to accomplish the goal of raising student achievement, schools must also seek to employ effective teachers who believe that they have the ability to raise student achievement and who are not hindered by preconceived ideas that their students are incapable of achieving. The purpose of this study then is to provide additional knowledge to further the discussion surrounding "highly qualified teachers."

Florida's "D" and "F" high schools have been identified as under-performing schools. Students at these schools are not meeting state and national achievement standards as evidenced by their scores on the Florida Comprehensive Achievement Test (FCAT) given to 9th and 10th grade students. The Florida Department of Education requires that "highly qualified teachers" be assigned to all of these schools and classes. Teachers at these schools recognize that their students have previously received low scores on the state-mandated tests and are in danger of not graduating. Additionally, these teachers are under considerable pressure to raise student achievement and raise the

school's grade to reflect student growth in achievement. It is of interest then to examine the characteristics of teachers teaching at these under-performing schools as well as their sense of efficacy regarding their ability to improve student achievement in light of past student performance on state-mandated tests.

Florida high school language arts teachers were chosen for this study because they are the primary sources of reading instruction at the high school level. The Sunshine State Standards lists reading as one of five strands for language arts classrooms. Language arts teachers are expected to prepare students to meet these standards that are measured on the FCAT. Additionally, Florida high school teachers were chosen because of the research indicating that Florida high school students are not achieving high levels of reading achievement despite of the fact that elementary students have shown significant gains (Chatterji, 2004).

If teacher quality is related to student achievement, as indicated in previously cited studies, then schools must clearly define what constitutes an effective teacher. The first step is to identify who is teaching our students in our low-performing schools. Recognizing that teacher quality is determined by factors extending beyond certification, the study utilized teacher surveys to collect data relating to teacher certification, years of experience, educational background, and number of years teaching at the current school in an attempt to identify the characteristics of language arts teachers currently employed at "D" and "F" Florida schools. Specifically, the survey collected the following data:

- **Content area degree.** NCLB emphasizes the importance of content area knowledge as the primary indicator of highly qualified teachers. Thus, the survey

included data indicating the degree obtained and the content area in which it was obtained as part of this study.

- **Pedagogical training.** Darling-Hammond (2000) suggests in her research that pedagogical training is equally important when determining whether or not a teacher is highly qualified. The survey collected data identifying those teachers who earned a degree in education from an accredited institution as well as the level of educational degree obtained.
- **Level of degree.** Some studies suggest that students benefit from teachers who hold master's degrees and above in their content areas (Goldhaber & Anthony, 2003). Johnson (2000) found that this was more important at the secondary level than at the elementary level. The survey collected data identifying the level of degree and the content area.
- **Number of years teaching.** Student achievement has been linked to teacher experience (Hess, 2001; Lankford et al., 2002). Additionally, some research indicates that low-performing schools often are staffed by beginning teachers or teachers with limited number of years teaching (Darling-Hammond, 2000; Ingersoll, 2002). The survey collected data identifying the number of years participants have been teaching.
- **Number of years teaching at the school.** Teacher turnover and the number of years teaching at the same school affect student achievement (Hess, 2001; Lankford et al., 2002). The survey collected data identifying the number of years participants have actually taught at the school.

- **Type of certification obtained.** With the influx of multiple certification paths, collecting data identifying the certification route of the participants is useful. The survey collected data to determine the type of certification held by participating teachers. The following certification types were identified: fully certified, temporarily certified, non-certified, and out-of-field. Goldhaber and Brewer (1999) indicate that teachers who hold a standard certification, suggesting they have met all of the state requirements for certification, have a “significantly positive impact” on student achievement when compared to teachers who are non-certified or who are certified out-of-field (p. 94).
- **Specific courses currently taught.** The survey collected data identifying which courses in language arts the teacher is currently teaching. Some research suggests that teachers with more experience and higher degrees are assigned to high-performing students rather than to low-performing students (Ingersoll, 1996). Efficacy studies suggest teachers assigned to low-performing students are more likely to demonstrate a lower sense of efficacy (Moore & Esselman, 1994). The survey collected data relating to these factors.
- **Gender.** Anderson, Greene, and Loewen (1988) suggest that female teachers tend to yield higher teacher efficacy scores than male teachers. Raudenbush, Rowan, and Cheong’s research (1992) also suggests that females report higher efficacy scores than males. The survey collected gender data to determine whether or not gender is related to teacher efficacy for teachers in low-performing schools.

Teachers chosen for this study are faced with the daunting task of raising student achievement for students who have previously demonstrated low achievement.

Determining teacher efficacy in low-performing schools and examining its relationship to teacher characteristics provides valuable knowledge for future studies as well as provides guidance for principals and district personnel in selecting future teachers for low-performing schools.

The study utilized the Teachers' Sense of Efficacy Scale long form (TSES Long) to measure teacher efficacy (Tschannen-Moran & Hoy, 2001). The results were compared to teacher characteristics using multiple regression analysis to determine whether any relationships exist.

Research Questions

In particular, the research attempted to identify specific characteristics of English language arts teachers at Florida's "D" and "F" public high schools and examined whether or not there is a relationship between teacher characteristics and teacher efficacy. The questions guiding this research follow:

1. What is the distribution of demographic, educational preparation, and professional experience factors (gender, level and type of degree, pedagogical training, type of certification, years of experience, and courses taught) among language arts teachers at low-performing Florida public high schools?
2. Based on the Teachers' Sense of Efficacy Scale (see Appendix F), what is the unweighted mean of the items loading on each factor for language arts teachers teaching at low-performing Florida public high schools?
 - a. student engagement,

- b. instructional strategies, and
 - c. classroom management
3. What is the direction and strength of the relationship between these specific teacher characteristics and teacher efficacy for language arts teachers teaching at low-performing Florida high schools?

This study is designed to collect data from the high schools identified as low-performing high schools by Florida's school accountability program in order to determine the characteristics of language arts teachers teaching at these schools. In addition, the study is designed to compare the relationship between the characteristics defined in the study and the teachers' sense of efficacy as determined by the TSES Long.

Definition of Terms

Several terms are used frequently in this study, and thus it is essential that their definitions be clearly defined to avoid confusion.

□ **Certification Status:**

- **Fully Certified Teachers:** Fully certified teachers are defined as those Florida high school language arts teachers who hold a Florida Professional Certificate in English 6-12 or Reading K-12 (Educator Certification). This full certification is renewable every five years and is Florida's highest teaching certification. In order to receive a Florida Professional Certificate, teachers must hold at least a bachelor's degree and demonstrate mastery of subject area knowledge, general knowledge, and professional preparation and educational competence.

- **Non-Certified Teachers:** Non-certified teachers are defined as those Florida high school language arts teachers who do not hold a Professional Certification or a Temporary Certification.
 - **Out-of-field:** Out-of-field teachers are those teachers teaching language arts or reading who hold a Florida Professional teaching certificate in an area other than English 6-12 or Reading K-12.
 - **Temporarily Certified Teachers:** Temporarily certified teachers are defined as those Florida high school language arts teachers who hold a Florida Temporary Certificate. This certification is non-renewable and is valid for three years. During this time, temporary certified teachers are expected to complete the requirements for full certification. Requirements for the temporary certificate are that the applicant must hold at least a bachelor's degree and demonstrate mastery of subject area knowledge or meet subject specialization with a 2.5 GPA for the requested subject area.
- **Degree Status**
- **Content Area Degree:** The content area degree is defined as the specific content area in which the participant earned a bachelor's and/or a master's degree.
 - **Level of Degree:** The level of degree is defined as the level of degree obtained from a university or college.
 - **Education Degree:** The education degree is defined as bachelor's and/or a master's degree in education. Teachers with an education degree have

received instruction in their content area as well as pedagogical training defined as specific curriculum, instruction, and methods courses.

- **High School Language Arts Teachers:** This study focuses on teachers teaching English language arts classes in grades 9-12 and reading classes grades 9-12. Language arts classes are those listed in the Florida Department of Education Course Descriptions for language arts courses. The study is limited to teachers teaching English I, II, III, and IV as well as Honors English I, II, III, and IV; Advanced Placement Language and Composition; Advanced Placement Language and Literature; Remedial Intensive Language Arts; Intensive Reading; Intensive Basic Skills; Reading I, II, III; and Advanced Reading.
- **Highly Qualified Teachers:** For the purposes of this study, highly qualified teachers refers to the definition defined in NCLB. Highly qualified teachers are those who hold at least a bachelor's degree from a four-year institution, have received full state certification, and demonstrate competence in their subject area demonstrated through a state subject-area test.
- **Low-Performing Schools:** Low-performing schools are defined as those public high schools earning a "D" or "F" based on Florida's Accountability Plan for the 2004-2005 school year. High schools are defined as Florida public schools encompassing grades 9-12. Charter schools, technical schools, and specialized schools were not included.
- **Teacher Efficacy:** Teacher efficacy is defined as the extent to which teachers' believe they have the ability to bring about changes in student achievement

independent of the student's background, behaviors, or motivation level. The construct of efficacy is further defined in the review of literature.

Assumptions, Delimitations, and Limitations

The study is designed to collect data from language arts teachers assigned to Florida's "D" and "F" public high schools. Several assumptions, delimitations, and limitations must be considered when analyzing the data.

The schools chosen for this study were identified by the State of Florida as low-performing schools based on Florida's Accountability Program. This determination is dependent upon student performance on the Florida Comprehensive Achievement Test (FCAT) which purports to measure student performance in math and reading. This study does not attempt to validate the reliability of the FCAT nor does it promote the idea that the FCAT is a true measure of student progress.

However, research indicates that teachers assigned to low-performing students often exhibit lower efficacy scores than do teachers assigned to high-achieving students. The schools and students in this study have been labeled as under-performing students based on Florida's accountability system; therefore, examining the efficacy scores of teachers assigned to these specific schools and students who have been publicly identified as low-performing is useful in determining whether or not they demonstrate low efficacy scores.

These particular schools were also chosen because they are often the most highly criticized schools. Their scores are published in newspapers across the state, and pressure is applied to the schools to improve their scores. The premise behind the accountability program is that schools with low grades will feel pressured to improve. Examining the efficacy scores for teachers assigned to Florida's low-performing schools provides insight

into how the accountability system affects teacher perceptions. The accountability system itself may function as a “self-fulfilling prophesy” rather than as a catalyst for improvement.

It must be noted that this study is descriptive and not evaluative. As such, the study does not purport to examine the effect of teacher efficacy on student achievement. Thus, student achievement data for the schools participating in the study were not collected. Rather, the study seeks to determine the characteristics of teachers who are assigned to schools and students that have been publicly labeled as low-performing and to determine whether or not teacher efficacy is also affected by the perception that these teachers are working with low-performing schools and students.

The study also does not examine the demographic data of students enrolled at the schools participating in the study. Again, the purpose of the study is to determine which teachers are teaching at these schools and their perceptions of their ability to be successful in improving student achievement.

Public policy through NCLB makes the assumption that appointing “highly-qualified” teachers who meet the specific degree and content area knowledge requirements guarantees improved student achievement on the FCAT . Little research exists focusing on these particular circumstances. Therefore, measuring the direction and strength of the relationship between teacher characteristics and teacher efficacy provided additional data to add to the discussion surrounding highly qualified teaches and identifying the most effective teachers for students at Florida’s low-performing schools.

Teacher efficacy is a relatively new construct. Although research indicates it is a predictor of student achievement, some researchers are hesitant to acknowledge the

validity of the construct. A full discussion of the construct is included in Chapter Two. While public policy limits the definition of highly qualified teachers to more easily measured teacher characteristics: teacher degree, content area knowledge, and certification, teacher efficacy is one indicator that has consistently been connected to student achievement. Several studies indicate all three of these indicators are linked to student achievement individually, yet no studies have been conducted examining their relationship to each other. The researcher makes the assumption that a positive relationship should exist between these factors, and thus the research is designed to measure that assumption.

Surveys by nature are subject to teacher perceptions. While it is assumed that all teachers responded to the surveys accurately, some teachers may have responded to the survey questions as they imagined they should rather than as they actually believe. Moreover, some research indicates what teachers claim to believe is not always reflected in their practices (Kane, Sandretto, & Heath, 2002). The questionnaire has been reviewed by the researcher's doctoral committee and adjusted as advised. Questions that may lead to bias or misrepresentation were removed.

Access to language arts teachers at Florida's public "D" and "F" high schools was, in some cases, inhibited by the research process. Prior to contacting teachers, attempts were made to obtain permission from the principals and/or district office. Due to the political nature of school accountability as well as the pressure placed on these schools to improve their school grades, access to the schools was denied by some schools, limiting access to all language arts teacher. Multiple attempts were made to gain access to the teachers, including a direct mailing to all teachers at Florida's public "D" and "F" high schools

who did not respond to the original inquiry. Inevitably, it is recognized that some teachers were not given the option of participating in the study.

Identifying the specific characteristics of teachers that ensure improved student achievement is a difficult task. Despite considerable research indicating the complexity of the task, public debate continues in hopes of discovering the right formula for success. Many studies exist which examine each of the characteristics described in this study; however, little research examining the relationship between the various factors exists. This study attempts to examine those relationships.

Significance of the Study

The rhetoric surrounding NCLB implies a sincere desire to improve student achievement by providing quality teachers for every classroom; however, the definition of highly qualified teachers has been limited to easily identifiable credentials such as level of degree, area of degree, and state certification. NCLB further seeks to ensure that all students receive quality instruction by linking student performance on state-mandated testing to teacher quality. Unfortunately, NCLB does not attempt to identify other factors that impact student learning.

While there is significant research describing the relationship between quality teachers and student achievement as well as research describing the relationship between teacher efficacy and student achievement, there is limited research examining the relationship between the characteristics of teachers and teacher efficacy. Moreover, there is considerable research indicating that identifying the qualities of highly effective teachers is a difficult, complex task. Beginning with the Second Report of the Committee on Criteria on Teacher Effectiveness (Barr et al., 1953) and continuing through today's

on-going debate, researchers, policy-makers, and the general public have been struggling to identify and define the qualities which guarantee effective teaching. In spite of this vast body of research, there is virtually no current research that describes the relationship between teacher quality with its various interpretations and teacher efficacy. Therefore, examining whether or not there is a relationship between specific teacher characteristics and teacher efficacy provides additional knowledge to further the discussion about how to ensure quality teachers for low-performing students. This knowledge is useful to districts, principals, and policy makers in determining more adequately who should be assigned to low-performing schools in order to raise student reading achievement.

Recent studies such as Thompson, Warren, and Carter (2004) suggest pre-service, beginning, and experienced teachers benefit from staff development and training to help improve their beliefs about low-performing students. Teachers who do not have a strong sense of teaching efficacy benefit from additional staff development in methods designed to improve reading instruction and student learning theory. Therefore, data from this research provide guidance relating to future staff development for teachers.

Additionally, studies indicate that teachers' sense of efficacy affects their ability to improve student achievement. Examining the data collected from teachers assigned to low-performing schools may help educators improve teacher education to better prepare teachers to understand low-performing students' needs and developmental level and may suggest factors other than credentialing need to be identified when choosing the best teacher for struggling students.

The results of this study provide knowledge that can be used in a myriad of ways to improve teacher education and educational policy to further improve student learning.

Chapter Summary

With the current trend towards standardization and accountability, it is important to examine public schools in order to make changes that directly affect student achievement. Prior to determining cause and effect, data must be collected to identify specific teacher characteristics prevalent in the schools.

This study is designed to collect data related to high school language arts teachers who are currently teaching at Florida public high schools identified as “D” and “F” schools. Florida schools have been chosen because they are representative of other states which have responded to NCLB with similar accountability policies. While Florida currently measures school success solely based on student scores as measured by the FCAT, it is evident from the research that student performance is directly correlated to teacher quality.

The research is clear that effective teachers are the most important factor affecting student achievement (Sanders & Rivers, 1996). However, defining the characteristics of effective teachers is a difficult task and is under considerable debate by policy holders as well as educational researchers. No Child Left Behind limits the definition of “highly qualified” teachers to those who hold a minimum of a bachelor’s degree and certification in their subject area. Other research indicates that teachers need more than credentials to ensure student achievement.

Significant research also indicates that teacher efficacy has a strong positive relationship to student achievement. Teachers who believe they are capable of impacting student achievement tend to produce positive results compared to teachers who believe they cannot improve student learning.

The acquisition of credentials qualifying teachers to teach does not necessarily indicate that these same teachers believe they can positively impact student learning. Thus, this study seeks to determine the level of teacher efficacy for “highly qualified” teachers as well as the relationship between teacher efficacy and other specific characteristics linked to positive student achievement in hopes that the results will further the debate surrounding effective teachers.

If the national goal of NCLB is to improve student achievement, then it is essential that all factors related to student achievement be identified. Certainly both teacher quality and teacher efficacy are important factors. Highly qualified teachers who do not believe they can influence student achievement either because their students are incapable of achieving or because the teachers do not believe they have the necessary skills to improve learning will not be successful in the classroom. The purpose of this research is to provide additional data to further the discussion of what truly constitutes quality teaching.

Chapter Two

Literature Review

Introduction

Determining what constitutes an effective teacher has been debated and researched for years. The difficulty of identifying specific measurable variables which can be used in scientific research to identify effective teachers combined with the difficulty of identifying appropriate student outcomes needed to measure teacher effectiveness hinders the process and clouds the discussion. Recent research supports the hypothesis that teachers have greater impact on student achievement than other factors such as socioeconomic status, gender, race, etc. (Sanders & Rivers, 1996), yet despite this research, identifying the specific teacher characteristics that impact student outcomes remains elusive. What we do know is that for decades, researchers have attempted to identify specifically what distinguishes an effective teacher from an ineffective teacher with mixed results.

In the midst of the research on what constitutes an effective teacher, considerable research has been conducted on teacher efficacy: a teacher's belief or conviction that he/she can influence or change student performance and achievement independent of the student's background, behaviors, or motivation level. Teacher efficacy, like teacher effectiveness, has been researched for decades, beginning with Bandura (1977) and continuing through to Tschannen-Moran and Hoy (2001). Teachers who believe they can

positively impact student achievement have been shown to produce higher student achievement than those who do not (Anderson, Greene & Loewen, 1988; Armor et al., 1976; Ashton & Webb, 1986; Denham & Michael, 1981; Moore & Esselman, 1994;). Based on teacher efficacy research, it seems reasonable to suggest a relationship exists between specific teacher characteristics linked to improved student achievement and teacher efficacy which is also linked to student achievement.

Currently, there exists an on-going debate between researchers in education and policy makers focusing on defining “highly qualified teachers.” NCLB legislation limits the definition of “highly qualified teachers” to specific, easily measurable teacher characteristics linked to educational credentials and certification while educational researchers (Feiman-Nemser, 1990; Cruickshank et al., 1996; & Darling-Hammond, 1996) suggest that effective teachers require more than simple credentials to ensure students receive quality teaching. Thus, the debate surrounding what constitutes an effective teacher rages on even today.

Historically, research indicates that effective teaching is a highly complex task affected by multiple factors. Therefore, limiting the definition of highly qualified or effective teachers to a few factors seems to be a risky business. It is hoped that the results of this study further the conversation surrounding highly qualified teachers and provide additional data to help policy makers and educators guarantee that all students have access to effective teachers. With this in mind, the purpose of this study is to identify specific characteristics which have been linked to student achievement in research and in NCLB and determine the strength of the relationship between these characteristics and teacher efficacy.

Effective Teachers

Historical Perspectives

The “Second Report of the Committee on Criteria of Teacher Effectiveness” (Barr et al., 1953) focused on the complexity of identifying the specific characteristics of effective teachers and linking those characteristics to student outcomes. The authors reported the need to examine effective teacher characteristics from several perspectives: experienced teachers, beginning teachers, pre-service teachers, and prospective teachers. They surmised the characteristics demonstrated by prospective teachers vary from the characteristics demonstrated by experienced teachers. However, they maintained that the ultimate goal of defining effective teachers must rest with student outcomes. Recognizing the complexity of defining teacher effectiveness as measured by changes in student behavior, the authors held out little hope for resolving the dilemma surrounding identifying specific teacher characteristics that guarantee effective teachers for American students. And thus began the conundrum surrounding teacher effectiveness research.

Biddle (1964), recognizing the inability of researchers to “define, prepare for, or measure teacher competence” (p. 3), proposed a seven variable model for identifying effective teachers. He identified three independent teacher variables: formative experiences, teacher properties, and teacher behaviors; two dependent student variables: immediate effects and long term consequences; and two additional variables that influence both the dependent and independent variables: school and community and classroom situations. Based on these seven variables, Biddle proposed ongoing research to determine teacher effectiveness and argued that measuring teacher effectiveness was possible. Biddle included teacher education and certification as part of his research;

however, he also included the concepts of teacher attitudes and behaviors as measurable factors affecting student outcomes. Additionally, he included student outcomes from both immediate and long-term aspects. Finally, Biddle recognized that the relationship between teachers and students was ultimately affected by the school, community, and classroom environments. Included in the research on teacher effectiveness was the need to collect data through various means: observational data, objective instruments, rating forms, self-reports, records, and a priori classifications.

Biddle effectively devised a rather complicated research model to measure teacher effectiveness that required multiple indicators, multiple forms of data collection, and multiple years to complete. In spite of his proposal and the research that ensued, 40 years later we are still attempting to determine the characteristics of effective teachers.

The problem may rest, as Gage (1972) suggested, in the idea that little research exists focusing on the theory of teaching, or it may rest in research methods which avoid teacher observation as a means for collecting data and thus ignore the process of teaching (Good, Biddle, & Brophy, 1975). It could be a result of researchers who “rely upon a priori measures of teacher’s personal attributes” (p. 220) while ignoring outcome measures (McNeil & Popham, 1973). However, we do know that research on teacher effectiveness continued well into the 70s producing mixed results and raising more questions than answers. As Dunkin and Biddle (1974) lamented, “What do we *really* know about teaching?” (p. 11). Citing many studies linked to teacher effectiveness, Dunkin and Biddle identified inconsistencies in the research, faults in the data collection instruments, and inconsistencies in the theories surrounding the research. They argued that while most of the results of these studies may indeed be found, through subsequent

research, to be valid; the research practices of the 60s and 70s left room for doubt as to the conclusions drawn. Ultimately, researchers in the 70s reported the same dilemma as previous researchers: teaching is a highly complex process affected by a myriad of factors difficult to separate.

The 1980s proved to be a decade of reflection on teacher research with some researchers positing specific conclusions about effective teachers. More importantly, it reflected research focusing not only on teacher attributes but on student outcomes as well.

Rosenshine's (1983) review of studies from 1977 through 1982 led him to identify six "teaching functions" which appear to be related to improved student achievement: daily review and reteaching if necessary, presentation of new material, guided student practice, feedback and correctives, independent student practice, and weekly and monthly reviews. According to Rosenshine, identifying these six functions opened the door to further research on how to implement these functions effectively in the classroom.

Good's (1983) review of research on classroom teaching concluded that teachers can and do make measurable differences in student learning. Further, he identified several teacher strategies and beliefs which can also impact student learning: teacher expectations, classroom management, active teaching, frequent feedback, and providing opportunities for student success.

What these researchers seem to have in common is the belief that teachers do make a difference in student achievement but that effective teaching can only be measured through careful observation of the teaching process (Brophy & Good, 1984). However, in spite of the many characteristics of effective teachers identified in research,

it was still impossible to provide a prescriptive formula for success (Brophy, 1987). This is because most research on teacher behaviors and their relationship to student achievement report correlational data rather than causal data. Although the results indicate a relationship between the teacher behavior and student outcomes, there is no direct evidence of causation. In essence, considerable research on the effectiveness of teacher behaviors and their relationship to student achievement produces principles of teaching that are beneficial for all teachers in the classroom; however, researchers are unable to determine which of these teacher effects do, indeed, result in increased student achievement (Brophy & Good, 1984; Brophy, 1987).

The Current Debate

Basically, the current debate revolves around two points of view. One view espouses that highly qualified teachers are “those who have content knowledge and have studied instructional ideas and practices that increase student learning” while the other claims that highly qualified teachers are those who exhibit “strong content knowledge” without regard to other factors (Kaplan & Owings, 2002). One side argues that teachers need more than content knowledge; they need to know how to teach the content to the students (Berry & Hirsch, 2004). The other side argues that content knowledge is the single most important factor in determining whether or not a teacher is highly qualified and urges states to adopt high standards reflecting teacher content area knowledge while lowering the barriers relating to pedagogy (U.S. Department of Education, 2003).

Proponents for stronger content area teacher standards claim that sound statistical research linking student achievement to specific teacher training, degree, or teacher preparation program is limited. The U.S. Secretary of Education in his *Annual Report on*

Teacher Quality (2002) cites research by the Abell Foundation which reviewed approximately 175 studies covering 50 years of research. The Abell Foundation concluded that, although the studies indicate a relationship between teacher certification and student achievement, these studies are seriously flawed and do not reflect the rigorous scientific study expected by the Department of Education. Research supported by those calling for stronger content area teacher standards suggests a relationship exists between teachers who hold advanced degrees in specific academic subjects (specifically math and science) and student achievement (Goldhaber & Anthony, 2003; Goldhaber & Brewer, 1996). These researchers argue that teachers with advanced degrees can have a positive impact on student learning in specific circumstance.

In contrast, Barnett Berry, Executive Director for the Southeast Center for Teaching Quality, (2001) argues that no research exists indicating that content knowledge alone is significant enough to ensure student achievement. He calls for states to develop teacher preparation programs that address content as well as pedagogical knowledge. Kaplan and Owings (2002) define these two factors as teacher quality and teaching quality. Teacher quality refers to the academic knowledge that the teacher holds while teaching quality refers to the skills and strategies the teacher possesses that improve instruction. Cruickshank et al. (1996) and Feiman-Nemser (1990) also maintain that teacher content knowledge alone is not sufficient to guarantee student achievement. They argue that in order for teachers be able to teach the content to their students, they must have pedagogical knowledge as well as content knowledge. These researchers argue that content knowledge alone does not guarantee teacher quality. They do not argue that

one is more important than the other; rather they argue that both are necessary to make certain that all students have access to quality teaching.

Darling-Hammond (1996) provides the most significant current research relating to teacher characteristics and student achievement. She maintains that effective teachers must demonstrate a deep knowledge of their subject matter along with knowledge of student learning and teaching methods. According to Darling-Hammond, effective teachers are defined not only by their content area degree, but by their ability to teach the content to student in a manner that allows them to learn the content. Ultimately, teachers require not only content area training, but they also require training in how students learn and what methods are successful in order to ensure that students learn the content.

The current debate surrounding teacher quality and effectiveness is a reflection of the 70s research indicating the difficulty of establishing causal relationships between teacher behaviors, attitudes, characteristics, etc. and student outcomes. The complexity of narrowing the relationship of specific student outcomes to specific teacher behaviors while maintaining control of a myriad of variables inhibits a researcher's ability to define distinctively what merits effective teaching.

Content Area Degree and Student Achievement

One side of the current debate surrounding teacher quality focuses on teacher's degree status as a significant factor affecting student achievement. Proponents of this concept argue that highly effective teachers are those who have a degree in their area of teaching. Further, they reason that not only will students benefit from teachers who hold a degree in their content area, but that students will benefit even more if teachers hold a

degree beyond a bachelor's degree in their content area. A review of current literature surrounding this supposition follows.

Goldhaber and Brewer's (1996, 1999) analysis of data from the National Educational Longitudinal Study of 1988 (NELS) is perhaps one of the most cited studies advocating increasing standards for teacher content area degrees. Their research indicates a positive relationship between student math and science achievement outcomes and teacher degree status. They argue teacher degree "subject-specific training" is more indicative of student outcomes than teacher ability, and they promote increasing the requirements for teacher training in science and math.

Johnson (2000) conducted a study for the Heritage Center, utilizing data from the 1998 National Assessment of Educational Progress (NAEP) reading test and the 1996 NAEP math test to determine whether or not student achievement was related to teachers with advanced degrees. Johnson collected data identifying whether teachers held a bachelor's degree in education, advanced degree in education, bachelor's degree in subject area, advanced degree in subject area, bachelor's degree in another subject, or advanced degree in another subject area. Using regression analysis, he found that "fourth grade students of teachers who hold degrees in English or math do not score higher on the reading or math exams than fourth graders taught by teachers with advanced degrees in education" (p. 7). However, fourth grade students who were taught by teachers holding a bachelor's degree in subjects other than English, language arts, math, or education show a significant negative difference in achievement from students who have teachers who hold advanced degrees in education (-6.1% for English and -5.5% for math) (p. 8).

For eighth grade students the results were different. Students of teachers who held an advanced degree in English or language arts showed a positive significant difference in achievement from students of teachers with advanced degrees in education (2.7%); similarly, students of teachers who held a bachelor's degree or advanced degree in math or science showed positive significant differences in achievement (2.2% for bachelor's and 3.4% for advanced degree) from students of teachers with advanced degrees in education.

Johnson concludes that elementary students are more successful when their teachers hold advanced degrees in education, but eighth grade students are more successful when their teachers hold a bachelor's or advanced degree in math or English as opposed to an advanced degree in education. Johnson rationalizes the difference in outcomes by suggesting that eighth grade students require teachers with stronger content area knowledge due to the nature of their teaching position; whereas, fourth grade elementary teachers require less rigorous content area knowledge.

Okpala, Smith, Jones, and Ellis (2000) collected data on fourth grade students in a North Carolina county during the 1995-1996 school year. They wanted to determine whether or not a relationship exists between school characteristics, teacher characteristics, and student/family demographics and student achievement on reading and mathematics. The study included 4,256 students in 42 public elementary schools. Using a Pearson correlation coefficient, their data indicated a positive correlation between teachers with mathematics master's degrees and math achievement (.379). However, they reported no significant correlation between teachers with English master's degrees and

reading achievement. Teachers with 10 or more years of experience were significantly correlated to student achievement in both math (.0404) and reading (0.366).

Wenglinsky (2000) also used NAEP's 1996 data to examine the relationships between teacher characteristics and student achievement. Wenglinsky focused on three measures of teacher quality: teacher education levels and years of experience, classroom practices, and professional development. Using data from 7,146 eighth grade students who took the math assessment and 7,776 eighth grade students who took the science assessment, Wenglinsky concluded that, "Students whose teachers majored or minored in the subject they are teaching outperform their peers by about 40% of a grade level in both math and science" (p. 9). Additionally, he notes that on the average, all students benefit from teachers with advanced degrees in any subject compared to teachers with bachelor's degrees.

On the other hand, Wenglinsky also reports in the same study that increased student achievement can be linked to classroom practices and professional development. Utilizing a multilevel structural equation model designed to "isolate the influence of any given factor on an outcome" (p. 21), he reports that classroom activities and professional development designed to enhance classroom activities have a greater impact on student achievement than does teacher degree. Teachers who promote hands-on activities and focus on higher-order thinking skills, specifically strategy skills, tend to produce students who perform better on math assessments. Students who receive hands-on learning opportunities "on a weekly rather than a monthly basis" demonstrate a 72% increase in mathematics and 40% increase in science in grade level from those who do not (p. 27).

Wenglinsky maintains that determining highly qualified teachers must focus not only content area knowledge but on classroom practices as well.

Both Johnson and Wenglinsky report relationships between teachers' content area degree and student achievement, indicating that content area degree is an important factor in determining teacher quality. However, Wenglinsky's data also reinforces the concept that classroom practices and professional development focusing on classroom practices have a stronger relationship with student achievement than educational degree.

Wenglinsky's research seems to indicate that what the teacher does in the classroom is a better indicator of student achievement than the teacher's subject area and degree status.

Wayne and Youngs (2003) reviewed 21 studies examining the relationship between teacher characteristics and student achievement. They found 4 studies yielding conflicting data pertaining to the relationship between teacher degrees or coursework and student achievement: Ferguson and Ladd (1996), Eberts and Stone (1984), Ehrenberg and Brewer (1994), and Kiesling (1984). Of these 4 studies, only one (Ferguson & Ladd, 1996) reports a positive relationship between teacher degree and student achievement. Although Ferguson and Ladd's study yields convincing data, there exists a degree of uncertainty as they do not differentiate between a mathematics degree and a mathematics education degree. Participants were expected to choose between a degree in mathematics and a degree in education. Wayne and Youngs suspect teachers with mathematics education degrees may have been unclear as to whether they should select "mathematics degree" or "education degree," thus the results reported in this study may not be conclusive.

Rice (2003) supports Wayne and Youngs conclusions linking teachers with mathematics degrees to increased student achievement as well as a link between science degrees and increased student achievement. Her review of literature focusing on the relationship between teacher attributes and teacher effectiveness, however, reveals a negative or no relationship between history and English degrees and student achievement.

What all of these studies and reviews have in common is the supposition that students benefit from teachers who hold degrees in math or science, but may not show the same benefit from teachers with degrees in other areas. While a positive relationship exists between teachers who hold a minimum of a bachelor's degree in math with increased student achievement in math, as Wayne and Youngs report, there is some confusion concerning the difference between a mathematics degree and a math education degree due to study design which clouds the discussion.

It is important to note, however, that while proponents of stronger educational requirements for teachers dismiss the need for pedagogical training, those who support the need for pedagogical training do not dismiss the need for strong content area knowledge. Based on the research available, it is difficult to understand the reasoning behind limiting the distinction of highly qualified teachers to those who possess a degree in their content area. It may simply be a matter of practicality as Fabiano (1999) argues: "measuring teacher qualifications is conceptually and practically more approachable than defining and measuring teacher quality" (p. 1). With that in mind, a discussion of the research surrounding the relationship between pedagogical training and student achievement will be presented.

Pedagogical Knowledge and Student Achievement

On the other side of the debate reside those who argue there is a need for all teachers to engage in pedagogical training as well as content area training. These researchers maintain that it is not enough for teachers to have content area knowledge; rather, they must also understand student learning and instructional practices that promote student learning in order to guarantee that students are able to learn the content. The following is a review of current literature focusing on this theory.

Guyton and Farokhi (1987) conducted a study of Georgia State University graduates utilizing the Regents' Test which measures basic skills, the Teacher Certification Test (TCT) which measures subject matter knowledge, the participants' grade point averages (GPA), and the Teacher Certification Teacher Performance Assessment Instrument (TPAI). They computed two GPAs. The first was the Sophomore GPA (SGPA) which included all 100 and 200 level courses, and the second was the Upper Level GPA (ULGPA) which included all 300 and 400 level course. The TPAI measures teacher performance based demonstration of 14 competencies as evidenced through a teaching portfolio and classroom performance. Georgia requires all beginning teachers to pass this assessment within three years. Guyton and Farokhi used the data from the participants' first assessment for this study.

Guyton and Farokhi found that while high performance on the basic skills test was a good indicator of high performance on the subject-matter tests, neither of these measures were good indicators of on-the-job performance as measured by the TPAI. They also report that the ULGPA had a much stronger correlation with teaching performance (.34) than did the SGPA (.18) (p. 40). They suggest that ULGPA is a better

predictor of teacher performance than subject matter tests surmising that ULGPA reflects students' performance in education courses, and thus indicates that teachers who do well in education courses are better prepared to be successful classroom teachers than teachers who do poorly. Finally, they suggest that "teacher quality implies a firm grounding in the content area and pedagogical skills" (p. 41).

Ferguson and Womack's (1993) research at Arkansas Tech University supports Guyton and Farokhi's research. Using ANOVA and a step-wise regression model, they examined 266 secondary student teachers over a seven-semester period (1988-1991) by comparing their grade point averages in content and education courses to evaluations using a 107 Likert-response survey. Their results indicate that education coursework GPA is a better indicator of teacher performance than content area coursework GPA. They report a 3.4% variance in teaching performance for content area coursework GPA compared to a 19% variance in teaching performance for educational coursework.

Wilson, Floden, and Ferrini-Mundy (2002) were asked by the Office of Educational Research and Improvement and the U.S. Department of Education "to conduct a review of high-quality research" relating to teacher preparation (p. 190). Their review focused on "empirical research on U.S. teacher education, published in the past two decades." While acknowledging that some research supports the connection between subject-area knowledge and student achievement, they also explain that most of these studies are dependent upon "proxies for subject matter knowledge, such as majors or coursework" (p. 191). When GPAs and scores on National Teachers Examinations are used, there is very little variance in teaching performance.

On the other hand, when GPAs based on education coursework are used, they noted a variance in teaching performance between 48% and 39%. It seems a relationship exists between pedagogical coursework and student achievement, although the researchers acknowledge the need to more clearly define which specific pedagogical practices are most important. Further, they stress that “teaching credential is a crude indicator of professional study” (p. 193).

Rice’s (2003) review of literature concludes that no “strong evidence” exists linking teacher education coursework to teacher performance. According to Rice, limited research has been conducted in this area, and that which has been conducted provides little evidence as to the degree in which these programs impact teacher effectiveness.

Rice’s review speaks to the same dilemma as reported in the earlier studies during the 70s. It is difficult to determine which teacher characteristics and behaviors are learned through coursework and which are learned through experience on the job. While volumes of studies exist analyzing teacher education programs and offering suggestions for further studies (Feiman-Nemser, 2001, 1989; Goodlad, 1994; Wilson, Floden, & Ferrini-Mundy, 2002), little research specifically linking teacher education coursework to student achievement exists. Perhaps this is because the focus of most of these studies is on how to improve teacher education with little emphasis on how teacher education impacts student learning. More specifically, the studies focus on how teachers learn specific behaviors which, through different studies, have been shown to impact student achievement. Fabiano (1999) suggests that pedagogical knowledge is more difficult to measure than content knowledge because of the subjective nature of measuring the

impact of pedagogical knowledge on student achievement. Thus, it is difficult to link the chain between teacher education, teacher characteristics, and student achievement.

Just as it seems ill-advised to limit the status of highly qualified teachers to those who possess content-area degrees, it also seems ill-advised to limit the status of highly qualified teachers to those who have graduated from a teacher education program. What research seems to indicate across the board is that teaching is a highly complex task requiring expertise not only in content but in pedagogy as well.

Teacher Certification and Student Achievement

Teacher certification is the remaining factor to be considered in the current debate surrounding highly qualified, effective teachers. Traditional certification routes focused on teachers who earned a degree from an accredited teaching college and passed a state licensing exam. Today, that route may encompass a variety of paths which include teacher programs and alternative routes as well. The following review focuses on research linking teacher certification to student achievement.

Darling-Hammond (1996) examined teacher data from the 1993-1994 Schools and Staffing Surveys (SASS) and student data from 1990, 1992, 1994, and 1996 NAEP assessments in reading and mathematics to determine whether a relationship exists between student achievement and teacher qualifications. Utilizing regression analysis, her research suggests that teacher preparation and certification hold the strongest correlations to student achievement after controlling for other factors such as student socioeconomic and language status. Darling-Hammond reports that while there is strong evidence suggesting that student achievement is linked to socioeconomic status, language status, and minority status of students, there is also considerable evidence that students who live

in poverty, are non-English speakers, or are minorities are most often taught by teachers with the least qualifications. This indicates that student achievement may be related more to teacher qualifications than social status. Her research is supported by Ingersoll (1996) whose analysis of data from the 1990-91 Schools and Staffing Survey (SASS) indicates a higher percentage of out-of-field teachers in schools serving minority and high poverty students than schools serving predominantly white, middle-class students.

Darling-Hammond also reports a significant relationship between teacher characteristics such as certification and content area degree to student achievement. She defines certification status as “a measure of teacher qualifications that combines aspects of knowledge about subject matter and about teaching and learning” (2000, p. 7). Students who are taught by teachers who are fully certified and hold a degree in the subject area outperform students who are taught by teachers who do not have these qualifications. Highly qualified teachers, then, are those who have mastered both their subject area as well as those who have a clear understanding of teaching and learning.

Goldhaber and Anthony (2003) also report a link between teacher certification and student achievement. Citing their 2000 study, they indicate that teachers with certifications in math and science report higher student achievement scores than teachers who hold standard state certifications (non-content specific certifications). However, the data also indicate that when comparing student growth from one year to the next, there is no difference between students who are assigned to teachers with math or science certifications versus students assigned to teachers with emergency certifications.

According to Wilson, Floden, and Ferrini-Mundy's (2002) review, little research examining alternative certification paths exist and the research that does exist yields

mixed reports. However, they report that states requiring “full certification and a major in their field” (p. 192) yield higher student achievement scores in mathematics and reading than do states with less rigorous requirements.

Rice’s (2003) review indicates a link between teachers with mathematics certification and increased student math achievement. However, this finding does not generalize to other content areas.

Qu and Becker’s (2003) meta-analysis reveals that traditionally and alternatively certified teachers produce higher student achievement results than teachers with emergency certificates. Qu and Becker (2003) identify three major certification types: traditional, alternative, and emergency. Traditional certification is defined as those who have earned a bachelor’s degree in education and have completed student teaching under the direction of a mentor or supervisor. Alternatively certified teachers hold a bachelor’s degree in an area other than education and may or may not have been required to complete student teaching. Emergency certificates are the least specific certificates and can vary from state to state.

Qu and Becker report that while teachers with traditional certifications tend to outperform teachers with alternative certifications in some states, this did not seem to be the case across all states. Further, their analysis suggests that “a certain amount of educational coursework and training on teaching skills improves the quality of teaching outcomes” (p. 38). They draw this conclusion based on the limited requirements for emergency certification. Finally, they report that teachers with full-traditional certification outperform teachers who are teaching out-of-field. Ultimately, they argue

that traditional and alternative routes to certification appear to be equally effective and both are more effective than emergency certifications.

Wayne and Youngs (2003) suggest the only significant research linking student outcomes to teacher certification are the studies conducted by Goldhaber and Anthony (2003). While this research might indicate that all students in all core subject areas might benefit from teachers who hold subject matter certification in their area of teaching, when examining student gains as opposed to student scores, the data becomes less convincing. However, most studies conclude that student achievement is linked to teacher certification and that traditional and alternative certification routes are better for student than emergency routes.

Teacher Quality and Student Equity

In light of the difficulty of narrowing the definition of effective teachers to easily measurable factors, why do we continue to try? As Dunkin and Biddle lamented in 1974, “What do we *really* know about teaching?” (p. 11). Well, after 50 years of research, we actually know quite a lot. Current research has, in fact, been successful in measuring teacher effects on student achievement (What Matters Most, 1996). Additionally, Sanders and Rivers’ (1996) value-added research reveals a difference in student achievement of 50 percentile points as a result of teacher sequence after only three years. Further, they found that low achieving students benefit the most from teacher effectiveness. Armed with the knowledge that teachers do make a difference, the goal now is to continue the research to determine which characteristics are prevalent in those teachers who improve student achievement.

This leads us to the next dilemma: if low achieving students benefit the most from teacher effectiveness, then it would seem necessary to ensure that these students have access to the most effective teachers. Further review of the research indicates that this is often not the case.

The National Commission on Teaching and America's Future (What Matters Most, 1996) reports shocking statistics related to teachers assigned to disadvantaged schools: 23% of all secondary teachers at disadvantaged schools do not hold a college minor in their main teaching field; 56% of high school students taking physical science are taught by out-of-field teachers; 21% of high school students taking English are taught by out-of-field teachers; 50% of math students in the highest minority schools are taught by teachers who do not hold a license or degree in mathematics.

Ingersoll's (2002) analysis of data from the Schools and Staffing Survey reveals that fewer teachers at disadvantaged schools (poor/minority/urban schools) hold advanced degrees than do teachers at advantaged schools. They also tend to be less experienced than teachers at advantaged schools. Finally, disadvantaged schools report more teachers teaching out-of-field than advantaged schools. The data indicate that students at the most needy schools are assigned the least experienced teachers with the least training who are often teaching subjects for which they are unprepared.

Darling-Hammond (2004) reports on California's educational system which has a history of hiring under-qualified teachers for schools serving disadvantaged students. She identifies several factors related to this trend: noncompetitive salaries across districts, poor working conditions in disadvantaged school districts, elimination of undergraduate teacher education in California, limiting teacher certification reciprocity with other states,

lack of recruitment incentives, over reliance on emergency and short-term certification routes, inadequate teacher support, personnel practices that hinder teacher retention, and lack of accountability to make certain that qualified teachers are hired when available.

It seems reasonable to suggest that if we are going to successfully close the achievement gap between white students and minority students and between advantaged students and disadvantaged students, then we need to guarantee that all students have access to highly qualified, effective teachers. This is even more important for low-performing students who historically have received the least qualified teachers. Perhaps more importantly, it becomes necessary to identify the characteristics not only of effective teachers, but of teachers who are effective with students at disadvantaged schools.

Summary

Beginning with the Coleman Report (1966) which reported that schools had little effect on student outcomes; rather, that socioeconomic status was the key indicator of student success, policy makers and educational researchers have attempted to determine who and what has the most positive impact on student learning. This report generated considerable research on teacher effectiveness and eventually resulted in wide-spread consensus that teachers do impact student achievement (Brophy, 1987; Brophy & Good, 1984; Goldhaber & Anthony, 2003; Rosenshine, 1983). While there is widespread consensus that teacher quality is the most important factor affecting student achievement, defining quality or effective teachers has been the focus of much debate and continues to dominate the discussion today.

Based on current research, it is difficult to determine whether just holding a degree in a subject area constitutes a highly qualified teacher. At the same time, the research is inconsistent when it comes to measuring pedagogical skills, those defined by Darling-Hammond as student learning and teaching skills, because the items of measurement are somewhat vague. Having a degree in science is not necessarily an indicator of how much science knowledge the teacher holds. Content area GPA may be a better indicator of teacher effectiveness, yet research indicates when focusing on GPA, educational course work GPA is a better indicator of teacher success than content area coursework GPA.

Some research indicates that secondary math and science students benefit from teachers who hold degrees in their subject areas, but the research is less clear with relationship to English teachers. This may be due to the dearth of research examining the relationship between reading achievement and either subject area knowledge or pedagogical knowledge.

Politically, the tendency is to designate subject area knowledge as more valuable than pedagogical knowledge, yet numerous studies indicate teachers need to know how to teach the subject area and must also have an understanding of how students learn in order to facilitate student learning. As reported by the National Commission on Teaching and American's Future (Darling-Hammond, 1996), "to be effective, teachers must know their subject matter so thoroughly that they can present it in a challenging, clear, and compelling way" (p. 6). Based on the research reviewed in this section, it would seem reasonable to expand the definition of highly qualified teachers to include factors in addition to content knowledge when determining teacher effectiveness.

Teacher Efficacy

Historical Context

Bandura's (1977) early research in personal efficacy led to the study of teachers' sense of efficacy. Bandura hypothesized that the ability to cope in specific situations is determined by a sense of self-efficacy. People with a high sense of efficacy tend to persevere when faced with obstacles while people with a low sense of efficacy tend to avoid difficult situations. Additionally, people with a high sense of efficacy who persevere and succeed will realize a strengthening sense of efficacy while those who already suffer from low efficacy and who avoid difficult situations will reinforce their low self-efficacy resulting in continuing to avoid demanding situations.

Bandura found that efficacy can be affected by four factors: performance accomplishments, vicarious experience, verbal persuasion, and emotional arousal. Performance accomplishments are personal experiences in which a person masters or succeeds in specific situations. Vicarious experience is linked to observation either through observing others in a similar situation or someone modeling a given behavior. Verbal persuasion is simply when people are influenced by others who convince them that they have the necessary traits to be successful in a given situation. Finally, emotional arousal is related to a person's response to a stressful situation. All of these factors can have either a positive or negative effect on self-efficacy.

Bandura also posits that efficacy can be enhanced through behavior intervention. Based on individual needs, psychologists can improve self-efficacy through behavioral modification techniques. He also maintains that self-efficacy is an accurate predictor of performance. Thus, Bandura's research indicates that self-efficacy is a measurable

construct that can be influenced through various factors and is situation specific. While strength of self-efficacy is a predictor of success in specific situations, it is not stagnant. Self-efficacy can be enhanced through behavioral modifications, resulting in improved performance.

Construct Validity and Measurement Instruments

The Rand Corporation published a study in 1976 that examined the effects of specific reading programs and interventions on student reading achievement (Armor et al., 1976). The Rand study was developed based on the work of Rotter (1966) which focused primarily on the psychological concept of locus of control. Included in the Rand study were two questions purporting to measure teacher efficacy:

1. “When it comes right down to it, a teacher really can’t do much because most of a student’s motivation and performance depends on his or her home environment.”
2. “If I really try hard, I can get through to even the most difficult or unmotivated student.”

Teachers who strongly agree with the first question believe that the results of their teaching rest externally, outside their locus of control. These teachers do not believe that teaching alone can affect student learning, nor do they believe that they personally are capable of influencing student achievement. These teachers believe that student achievement is dependent upon the learner.

Alternatively, teachers who strongly agree with the second question believe the results of their teaching rest internally, within their locus of control. These teachers believe that teaching improves student learning and that they

personally possess the necessary skills to improve student learning. These two questions formed the basis for most subsequent teacher efficacy research and led to the development of more sophisticated efficacy measurement tools.

Denham and Michael (1981) argue that teacher efficacy not only affects student outcomes, but student outcomes affect teacher efficacy. In keeping with other researchers, Denham and Michael argue that the relationship between efficacy and student outcomes is reciprocal. Teachers' beliefs that they can affect student achievement results in improved student achievement, while improved student achievement reinforces teachers' sense of efficacy. The reverse is equally true. Poor performing students can negatively affect teachers' sense of efficacy and teachers' with a low sense of efficacy negatively affect student achievement. Efficacy can change depending on the circumstances. While teachers may have a strong sense of efficacy with regard to their ability to improve student learning, in some specific circumstances that sense of efficacy may diminish. Efficacy is affected by various variables such as teacher training, teaching experience, system variables, personal variables, and causal attributions. Additionally, Denham and Michael acknowledge that some studies indicate that teacher efficacy is adversely affected when teachers are working with poor, minority students.

Gibson and Dembo (1984) conducted research to 1) determine the construct validity of both teaching and personal efficacy, 2) develop an instrument to measure teacher efficacy (Teacher Efficacy Scale), and 3) examine the relationship between teacher efficacy and teacher behaviors. Utilizing three different data collection methods, the researchers concluded that teacher efficacy is multidimensional, encompassing both

professional and personal dimensions. Additionally, they assert that teacher efficacy influences teacher behaviors that ultimately influence student achievement.

Gibson and Dembo used factor analysis to determine internal consistency of the Teacher Efficacy Scale and to identify the dimensions of teacher efficacy. The researchers then implemented a multitrait-multimethod analysis of data to determine if evidence of teacher efficacy was present in the data collected from different sources and whether or not teacher efficacy could be identified separately from other constructs. Finally, they used classroom observation to determine differences in teacher behaviors between teachers who demonstrated high-efficacy ratings as compared to teachers who demonstrated low-efficacy ratings.

Gibson's Teacher Efficacy Scale was completed by 208 elementary school teachers from 13 different elementary schools. The researchers were interested in three research questions: "What are the dimensions of teacher efficacy? How do these dimensions relate to Bandura's theory of self-efficacy? What is the internal consistency of the teacher efficacy measure?" (p. 573). Based on the factor analysis, the researchers were able to identify two dimensions: teachers' sense of personal efficacy and teachers' sense of teaching efficacy. Cronbach's alpha was used to examine internal reliability yielding an internal consistency reliability of .75 for personal teaching efficacy and .75 for teaching efficacy. However, the data also indicated that only 16 of the 30 items yielded a reliability of .79 leading Gibson and Dembo to suggest possibly limiting the original items to between 16 and 20 instead of the original 30.

After determining the reliability of the instrument, Gibson and Dembo then conducted a multitrait-multimethod analysis to determine whether or not the dimensions

of teacher efficacy can be differentiated from other constructs and if the evidence of teacher efficacy converges when gathered from two different sources. The researchers used the Teacher Efficacy Scale along with an open-ended survey to measure convergent validity. Additionally, participants were given the *Beginning Teacher Evaluation Study, Phase 2, 1976-1976*, the Verbal Facility Test, the Controlled Associations Test, the Finding Useful Parts, and the Planning Test. These tests were included to measure both verbal ability and flexibility and to determine whether or not teacher efficacy can be differentiated from other constructs. Participants included 55 teachers enrolled in a graduate education course.

The convergent validity results correlating the Teacher Efficacy Scale with the open-ended survey yielded a .42 ($p < .001$) positive correlation for teacher efficacy. Additionally, further analysis of the data confirmed discriminate validity when efficacy is compared to verbal ability and flexibility. Gibson and Dembo's research indicates that teacher efficacy, both teaching efficacy and personal teaching efficacy, are valid constructs that can be identified through the Teacher Efficacy Scale.

Subsequent research confirms Gibson and Dembo's position that efficacy can be divided into two dimensions: teaching efficacy and personal teaching efficacy. However, the research identifies some questions about the reliability of the Teacher Efficacy Scale. Tschannen-Moran and Hoy report that some items on the Teacher Efficacy Scale load "on both factors" (2001, p. 789) yielding inconsistent results. These concerns have opened the door to additional attempts to more tightly define efficacy and its dimensions.

Ashton and Webb's (1986) definition of efficacy also includes two dimensions: teaching efficacy and personal teaching efficacy. They developed the Webb Efficacy

Scale to further measure teachers' sense of teaching efficacy. They found that the Webb Efficacy Scale correlated positively with the two Rand questions. The researchers concluded that two dimensions of efficacy exist: teaching efficacy and personal teaching efficacy. According to Ashton and Webb, teachers with a high sense of teaching efficacy believe that teaching can positively influence student achievement despite student demographics. Teachers with a high sense of personal teaching efficacy believe their own personal skills as a teacher can positively influence student achievement.

Ashton and Webb maintain that it is important to differentiate between the two dimensions in order to determine specific interventions to improve efficacy. For instance, if teachers' sense of teaching efficacy is low because they believe their students are incapable of achieving, then they must be provided evidence that their students can, in fact, learn. However, if teachers' sense of personal teaching efficacy is low, then they need training in strategies that have been shown to improve student learning. Accordingly, Ashton and Webb maintain that identifying the levels of both teaching efficacy and personal teaching efficacy becomes important in order to determine possible teacher interventions to promote student learning and change teachers' preconceptions about students and their ability to learn.

Ashton and Webb's construct of efficacy is also useful in defining efficacy. According to their research, efficacy is multidimensional and affected by both generalized and specific beliefs. Teachers' generalized beliefs about response-outcome contingencies relate to their generalized beliefs that student outcomes are affected by specific teacher actions. In other words, student achievement is contingent upon teacher intervention. Teachers' generalized beliefs about perceived self-efficacy relates to their

generalized beliefs about their own abilities as teachers to positively influence student behavior. Alternatively, specific beliefs about both teachers' ability to influence student achievement (response-outcome contingencies) and personal competence (perceived self-efficacy) in motivating students is related to teachers' personal experiences in specific situations. According to Ashton and Webb's multidimensional model, efficacy is dependent on all four dimensions (Ashton & Webb, 1986, p. 5).

Based on this model, teachers' sense of efficacy is generally affected by their beliefs about students as well as their beliefs about their own abilities to influence student behavior. However, those beliefs are influenced by specific personal experience which can either raise or lower the sense of efficacy.

While Ashton and Webb (1986) and Gibson and Dembo (1984) confer on their findings that efficacy can be measured by two dimensions: teaching efficacy and personal efficacy, Guskey and Passaro (1994) yielded different results. They compared the results from Woolfolk and Hoy's research (1990) with Gibson and Dembo's (1984) and noticed some confusion relating to whether or not a true difference actually exists between teaching and personal efficacy. They argue that items loading on personal teaching efficacy all contain "I" which carries with it a perception of "I can" while items loading on teaching efficacy all contain "teachers" which carries the perception of "teachers cannot." Thus, they maintain that rather than demonstrating a clear difference between teacher efficacy and personal teaching efficacy, the scales measure a difference between internal and external locus of control.

Guskey and Passaro designed a study to compare the two scales. Their study included 283 experienced classroom teachers and 59 pre-service teachers. They utilized a

16-item scale taken from Gibson and Dembo's (1984) original study that had also been included in Woolfolk and Hoy's (1990) extended study. They also included 3 additional items from the Woolfolk and Hoy study as well as the two original Rand items. Of these 21 items, 12 had previously been shown to load on the personal efficacy dimension and 9 on the teaching efficacy dimension. Guskey and Passaro then randomly chose 7 of the 12 personal efficacy items and reworded them, changing the personal "I" to the generic "the teacher." Similarly, they randomly selected 4 of the 9 teaching efficacy items and reworded them, replacing "the teacher" with "I."

The results of the factor analysis led Guskey and Passaro to confirm earlier studies indicating that teacher efficacy is a multidimensional construct (Ashton & Webb, 1986; Gibson & Dembo, 1984; Woolfolk & Hoy, 1990); however, Guskey and Passaro maintain that the dimensions relate more to internal and external locus of control than they do to either teaching efficacy or personal teaching efficacy, in keeping with the original Rand study (Armor et al., 1976) and Rotter's (1966) theories. Guskey and Passaro argue that this bipolar relationship (internal/external) more adequately reflects the differences teachers feel between their ability to influence student achievement and the outside forces that influence student achievement. Teachers who possess a strong sense of efficacy, the belief that they can influence student achievement, are not influenced by outside factors that may or may not affect student achievement as much as teachers who possess a weak sense of efficacy. Thus, teachers with a strong sense of efficacy believe they can improve student achievement in spite of outside factors such as low socioeconomic status, parental involvement, student motivation, etc. Teachers who

possess a weak sense of efficacy are more likely to blame external factors for their students' lack of achievement rather than re-examine their own influence on students.

Concerns about construct validity led to further research by Tschannen-Moran et al. (1998) which led to the proposal of a new, integrated model of teacher efficacy. Recognizing that teacher efficacy is context specific, dependent upon the specific teaching situation, Tschannen-Moran et al. proposed that teacher efficacy must be measured in context with the specific task at hand. Beginning with the four factors influencing efficacy as described by Bandura (1977), Tschannen-Moran et al. factored in task and context. Their model proposes that efficacy is affected not only by the sources of efficacy information examined by Bandura, but it also is affected by the specific teaching situation. Teachers who have high efficacy in some situations may exhibit low efficacy under different circumstances. Efficacy then, as defined by Tschannen-Moran et al. is determined by multiple factors, is situation specific, and is reciprocal in nature.

Tschannen-Moran and Hoy (2001) expanded their efficacy research to develop a new efficacy scale, the *Ohio State Teacher Efficacy Scale (OSTES)*. Recognizing that teacher efficacy is context and task specific, Tschannen-Moran and Hoy set out to design an instrument that would balance the need for specificity with the need for generalization in order for the instrument to maintain its ability to predict. Their model defines teacher efficacy within three dimensions rather than two. Their model does not distinguish between personal efficacy and teaching efficacy. Instead, it defines teacher efficacy as the belief that the teacher can impact student learning in relationship to the three dimensions: efficacy for instructional strategies, efficacy for classroom management, and efficacy for student engagement.

The scale originally consisted of 19 items with each item scored using a 9-point Likert-scale. After developing the scale, the instrument was examined through two separate studies. The two studies resulted in an 18-item instrument identifying three dimensions previously stated. Tschannen-Moran and Hoy recognized a weakness in the instrument relative to efficacy for classroom management, which they attributed to the fact that only 3 items were included in the instrument relating to classroom management. Henson's (2001) research of the 18-item OSTES scale confirmed this weakness and recommended the items' removal. However, Tschannen-Moran and Hoy decided instead to include more items related to classroom management in order to counter the original concerns. They expanded the 18-item instrument to a 36-item instrument.

A third study was conducted which included 410 participants comprised of pre-service teachers (103), in-service teachers (255), and 38 who did not identify their level of teaching experience. The researchers used principal-axis factoring with varimax rotation of the 36-items. After analysis, they reduced the 36-item instrument into a 24-item instrument that included 8 items for each of the three dimensions: instructional strategies, classroom management, and student engagement. From this 24-item instrument, they choose 4 items with the highest loadings for each of the 3 dimensions and created a 12-item instrument.

Both forms, the 24-item and the 12-item, were subjected to further factor analyses (see Table 1). Finally, in order to determine construct validity, correlation studies between the OSTES and other efficacy scales were conducted. The results are reported in Table 2.

Table 1 Factor Loadings for the Ostes (study 3)

Factor loadings for the OSTES (study 3)					
Ohio State teacher efficacy scale (OSTES)	24 items	12 items			
Factor 1: Efficacy for instructional strategies					
1. To what extent can you use a variety of assessment strategies?	0.72	0.73			
2. To what extent can you provide an alternative explanation or example when students are confused?	0.70	0.75			
3. To what extent can you craft good questions for your students?	0.68	0.63			
4. How well can you implement alternative strategies in your classroom?	0.66	0.73			
5. How well can you respond to difficult questions from your students?	0.66				
6. How much can you do to adjust your lessons to the proper level for individual students?	0.59				
7. To what extent can you gauge student comprehension of what you have taught?	0.57				
8. How well can you provide appropriate challenges for very capable students?	0.55				
Factor 2: Efficacy for classroom management					
9. How much can you do to control disruptive behavior in the classroom?	0.78	0.83			
10. How much can you do to get children to follow classroom rules?	0.69	0.66			
11. How much can you do to calm a student who is disruptive or noisy?	0.66	0.63			
12. How well can you establish a classroom management system with each group of students?	0.66	0.61			
13. How well can you keep a few problem students from ruining an entire lesson?	0.62				
14. How well can you respond to defiant students?	0.61				
15. To what extent can you make your expectation clear about student behavior?	0.53				
16. How well can you establish routines to keep activities running smoothly?	0.50				
Factor 3: Efficacy for student engagement					
17. How much can you do to get students to believe they can do well in schoolwork?		0.75			
18. How much can you do to help your students value learning?	0.75	0.69			
19. How much can you do to motivate students who show low interest in schoolwork?	0.70	0.64			
20. How much can you assist families in helping their children do well in school?	0.66	0.62			
21. How much can you do to improve the understanding of a student who is failing?	0.63				
22. How much can you do to help your students think critically?	0.57				
23. How much can you do to foster student creativity?	0.56				
24. How much can you do to get through to the most difficult students?	0.50				
		Long form		Short form	
		Eigenvalue	Cum %	Eigenvalue	Cum %
Factor 1		10.38	43.25	5.68	47.30
Factor 2		2.03	51.72	1.51	59.89
Factor 3		1.62	58.47	1.11	69.10

Table 2 Validity Correlations for the OSTES*

	OSTES	Instruct	Manage	Engage	Rand 1	Rand 2	GTE	PTE
OSTES		0.89**	0.84**	0.87**	0.18**	0.53**	0.16**	0.64**
Instructional Strategies	0.84**		0.60**	0.70**	0.07	0.45**	0.06	0.62**
Classroom Management	0.79**	0.46**		0.58**	0.29**	0.46**	0.30**	0.45**
Student engagement	0.85**	0.61**	0.50**		0.11*	0.47**	0.06	0.58**
Rand 1	0.18**	0.08	0.26**	0.11*		0.23**	0.65**	0.12*
Rand 2	0.52**	0.45**	0.39**	0.45**	0.23**		0.13*	0.65**
General Teaching Efficacy	0.16**	0.08	0.26**	0.06	0.65**	0.13*		0.07
Personal Teaching Efficacy	0.61**	0.60	0.37**	0.56**	0.12*	0.65	0.07	

*Above diagonal, long form (24 items); below diagonal, short form (12 items); ** $p < 0.01$ (2-tailed); * $p < 0.05$ (2-tailed).

At the request of the researchers, from this point on, the OSTES Long Form will be referred to as the Teachers' Sense of Efficacy Scale Long Form (TSES Long). The TSES Long will be used for this study (see Appendix F).

Working Definitions

Denham and Michael (1981) define teacher efficacy as the extent to which teachers believe they personally can affect changes in student achievement as well as by the extent to which teachers believe that teaching can bring about changes in student achievement.

Ashton and Web (1986) define efficacy as teachers' expectations that they can influence student learning in specific situations. They identify two dimensions of efficacy: personal teaching efficacy and teaching efficacy. Teaching efficacy refers to

teachers' "expectations that teaching can influence student learning" (p. 4) while personal teaching efficacy refers to teachers' expectations that they personally possess the necessary skills to influence student learning.

Guskey (1994) defines efficacy as "teachers' belief or conviction that they can influence how well students learn, even those who may be considered difficult or unmotivated" (p 628).

Finally, Tschannen-Moran and Hoy (2001) define teacher efficacy as teachers' beliefs that they can "bring about desired outcomes of student engagement and learning, even among those students who may be difficult or unmotivated" (p. 783). They posit that teachers' sense of efficacy is related to both student and teacher behaviors which ultimately affect student achievement.

All these definitions maintain that efficacy is a teacher's belief or conviction that he/she can influence or change student performance and achievement independent of the student's background, behaviors, or motivation level. Efficacy can be measured as either positive or negative, dependent upon the teacher's beliefs. Teachers who possess a positive sense of efficacy believe they can improve student achievement while teachers with a negative sense of efficacy believe they are incapable of influencing student achievement. For purposes of this study, teacher efficacy will be defined as the extent to which teachers believe they have the ability to bring about changes in student achievement independent of the student's background, behaviors, or motivation level.

Efficacy and Student Achievement

Having examined the construct of efficacy and defined efficacy as it will be used in this research, the relationship between efficacy and specific teacher characteristics will

be now be examined, focusing primarily on research examining teacher efficacy and its link to student achievement.

Perhaps the most widely quoted research on the relationship between teachers' sense of efficacy and student achievement is that conducted by Ashton, Webb, and Doda (1983). Their research yielded interesting results relating to student outcomes and teacher classroom behaviors. They conducted multiple studies incorporating multiple methods of data collection.

Ashton, Webb, and Doda's middle school teachers' study utilized the two Rand efficacy items and a questionnaire. After scoring the Rand items, four teachers (two with high efficacy scores (one social science and one language arts) and two with low efficacy scores (one social science and one language arts)) were chosen for additional study. Those teachers were observed teaching two of their classes, four to five times over a six week period, followed by an interview. The final research was conducted on another four teachers and included observation and interviews over the period of a year.

The high school study focused on basic skills mathematics and communications teachers. Forty-eight teachers averaging 10 years of classroom experience participated in this portion of the study. Student achievement data were measured using the Mathematics, Language, and Reading subtests of the 1980 and 1981 Metropolitan Achievement Tests. The researchers chose basic skills classes because the students had been identified as low performers and the curriculum was basically consistent across classrooms. Teacher attitudes were measured using the two Rand efficacy items as well as two additional efficacy scales, two items assessing teacher stress, and a question regarding the degree of responsibility the teacher assumed for student learning. Finally,

classroom observations were conducted using the Climate and Control System, an instrument which measures classroom organization, teacher control strategies, pupil response to teacher control, and teacher response to pupil reaction to control strategies.

Additionally, the researchers conducted an interview study of 23 high school and 10 middle and junior high school teachers, and they conducted a teacher change study on the 48 teachers of basic skills mathematics and communication who participated in the high school study.

Based on the data collected, Ashton, Webb, and Doda concluded that student achievement in high school basic skills classes was significantly related to teachers' sense of efficacy. They also determined that efficacy is situation specific. This was especially noticeable when the researchers used regression analysis to examine the relationship between efficacy and mathematics achievement and efficacy and language achievement. When teachers' sense of efficacy scores were added to the regression equation, the variance between students' prior achievement and students' current achievement increased by 24% in mathematics and 46% in language. However, in the same study, the researchers found no relationship between students' reading achievement and teachers' sense of efficacy. These results are contrary to the Rand Corporation study (Armor et al., 1976) which reported that teachers' sense of efficacy was strongly correlated to increased student achievement in reading. Ashton and Webb attribute the lack of relationship between reading achievement and efficacy in their study to the design and purpose of the communications skills classes. These classes were focused on specific language skills rather than on reading skills and thus may not be indicative of the results that might be expected in future studies where the focus is on reading instruction.

Furthermore, they surmise that teachers with a high sense of efficacy tend to maintain high academic standards and create classrooms supportive of those standards. Perhaps more importantly, teachers with low efficacy scores tend to sort and stratify their classes according to ability and give preferential treatment to high ability students. Ashton and Webb's research supports the hypothesis that teacher efficacy is situation specific. It also raises some interesting questions that hopefully will be addressed in this study. Although efficacy is linked to increased student achievement in math, there seems to be no relationship between efficacy and student achievement in language arts. This study will focus specifically on the efficacy level of language arts teachers assigned to low-performing schools and will hopefully yield data to further the discussion concerning teacher efficacy and language arts achievement.

Anderson, Greene, and Loewen (1988) studied the relationship among teachers' and students' thinking skills, sense of efficacy and student achievement. The study included 24 teachers who taught grades 3 and 6 in Canada. Teachers were selected for the study based on their sense of personal and teaching efficacy scores. Originally, 65 teachers participated in the study by taking the Teacher Efficacy Scale (Gibson & Dembo, 1984). The researchers reported some interesting results. They found no correlation between teacher efficacy and personal efficacy scores among their participants, supporting Ashton and Webb's 1984 research. They also report that efficacy scores were significantly related to gender with females demonstrating higher efficacy scores than males. Finally, they reported a statistically significant relationship between teacher efficacy and positive student achievement for grade 3 teachers, but they did not find a significant similar relationship for grade 6 teachers.

The researchers conclude that more research needs to be conducted to more clearly define the relationships based on the small number of participants in this survey. However, their research does provide points of interest for further study.

Teachers' perceptions about their ability to influence student behaviors also affects teachers' perceptions concerning why some students achieve. Hall, Hines, Bacon, and Koulianos (1992) examined teachers assigned to grades 1 – 12 in order to determine if there were differences in teacher efficacy based on student attributions (characteristics of students) which teachers believed were linked to academic success. Using random sampling, 262 teachers in a Florida school district were surveyed using the Teacher Attributions for Academic Performance Scale (TAAPS) and two items adapted from Berman and McLaughlin (1977). The TAAPS scale identified specific attributes which teachers assigned to students focusing on internal influences, such as student's ability, effort, ability to concentrate, and subject-matter interest, and external influences, such as task difficulty, teacher influence, peer influence, and home influence. The two items from Berman and McLaughlin were designed to measure personal teacher efficacy and teaching efficacy. Results were analyzed using descriptive statistics and two-factor MANOVAs.

The results indicated that teachers with high efficacy scores tended to place more significance on their own ability to impact student achievement than teachers with low efficacy scores. High-efficacy teachers took more responsibility for student failure than low-efficacy teachers.

Martin, Crossland, and Johnson's (2001) yielded similar findings. They examined 271 classroom teachers at small and mid-sized Midwestern school districts in order to

determine whether or not relationships exist between teachers' perceived levels of empowerment in the workplace, teachers' perceived levels of responsibility for student learning, and levels of student success. Participants were administered the Responsibility for Student Achievement Scale (RSA) and the School Participant Empowerment Scale (SPES). The researchers did not report how they determined student achievement, but they did report student achievement in math and reading.

The results of this study indicate that teachers were more willing to accept credit for student success but were less willing to accept responsibility for student failure. In spite of this generalization, the study did reveal that teachers with a higher perceived level of empowerment (which included a sense of efficacy) tended to express a higher degree of responsibility for student success than their counterparts. However, the study also reported no significant difference in student achievement between teachers who exhibit high levels of empowerment as compared to those who exhibit low levels of empowerment. While there are problems in the design of the study and some lack of information reported in the study, it is interesting to note the finding that teachers who believe they are empowered tend to take more responsibility for student learning than those who feel powerless. Whether this is a causal relationship or not is undetermined; however, it does support other research indicating teachers who strongly believe they can influence student achievement take on more responsibility for student achievement and are less likely to blame their students for low achievement.

Tournaki and Podell's (2005) research supports the findings of Hall's research. In a study examining 384 general education middle school and elementary teachers in the New York metropolitan area, the researchers concluded that teachers with a high efficacy

score tend to make less negative predictions about student performance than do teachers with a low efficacy score. Each participant was randomly assigned to read 1 of 32 versions of a case study developed by the authors and complete a 9-item predictor of student success survey. Participants were also asked to complete a 16-item short version of the Gibson and Dembo Efficacy Scale. Based on their analysis of the data, the researchers indicate that teachers with high efficacy scores tend to rely less on student characteristics as a predictor of student success than do teachers with low efficacy scores. Ultimately, teachers with high efficacy scores have higher expectations for their students than teachers with low efficacy scores.

Moore and Esselman (1994) conducted a multi-year study of nearly 1,500 elementary teachers designed to measure teachers' perceptions of "efficacy, power, and school climate" and their relationship to student achievement. They focused on the constructs of teaching efficacy and personal efficacy. Their research indicated that reading achievement was significantly related to teachers' sense of personal efficacy ($r=.35$; $p=.03$) but was not significantly related to teaching efficacy ($r=.22$; $p=.17$). These results indicate that teachers' sense of personal efficacy impacts student achievement. Teachers with a high sense of personal efficacy produce students who demonstrate higher reading achievement than do teachers with a low sense of personal efficacy. Of equal importance is the link between teacher efficacy and student reading achievement. While previous studies have reported no relationship between teacher efficacy and student reading achievement, Moore and Esselman report a significant relationship.

Moore and Esselman also found that student academic history had an effect on teacher efficacy. Teacher's sense of efficacy remained lower for teachers assigned to low-

performing students and higher for teachers assigned to high achieving students. Moore and Esselman conclude that past student performance has a significant impact on both personal and teaching efficacy as it relates to the school context. They suggest that teachers in low-achieving schools may report lower efficacy scales than teachers in high-achieving schools. The results of their study also indicated that teaching and personal efficacy remain unchanged over the course of one academic year. They further suggest that while teacher efficacy, both personal and teaching, is influenced by prior student performance and does not change throughout the course of the year, it can be mitigated through changes in school atmosphere such as changing the instructional focus and allowing teachers to have a positive role in making curricular decisions.

The link between teacher efficacy and student achievement is reciprocal. Teachers who possess a high sense of efficacy behave differently toward their students than do teachers with a low sense of efficacy and tend to produce higher student achievement scores than low efficacy teachers. However, it must also be noted that teachers who are confronted with low-achieving classrooms tend to lose their sense of efficacy. In other words, teachers who strongly believe they can impact student achievement may find their beliefs wavering when expected to raise the achievement of students who have previously been unsuccessful. The implication here is that teacher efficacy can change dependent upon situation. Thus, if teacher efficacy is a predictor of student achievement, and if teacher efficacy is affected by prior student achievement, then it becomes important to measure teacher efficacy in context with specific teaching situations.

Efficacy and Certification

Few studies exist examining the relationship between teacher efficacy and teacher certification. However, Flores et al. (2004) designed a study to determine whether or not a relationship exists between teacher efficacy and teacher preparation/certification routes. They surveyed 162 public school teachers in a predominantly minority study district. They classified 103 of the participants as non-traditional or alternatively certified teachers. The remaining 59 were classified as traditional teachers, teachers who were university-prepared and held educational related bachelor's degrees and teaching certificates.

The results of the study indicated that traditional teachers had greater sense of self-efficacy than non-traditional teachers. They concluded that while non-traditional teachers, especially beginning non-traditional teachers, may show evidence of a lower sense of efficacy than traditional teachers, this can change over time. These results are in keeping with efficacy research that indicates that personal experience plays a role in teachers' sense of efficacy.

Efficacy and Number of Years Teaching

Pigge and Marso (1993) surveyed approximately 300 "outstanding" pre-service and in-service teachers to determine whether or not teacher efficacy levels changed with experience. They reported that no significant statistical differences in teacher efficacy levels existed between the teachers they surveyed. They divided the teachers into four categories: pre-service teachers, early career teachers (5 – 19 years), middle career teachers (20 – 29 years), and late career teachers (30+ years). Teachers were selected based on criteria established the Jennings Scholars Superintendents Advisory Committee.

Teachers were surveyed using the Teacher Efficacy Scale (Gibson and Dembo, 1984) which reports both personal teaching efficacy and teaching efficacy. The researchers used a one-way ANOVA to determine whether or not statistically significant mean differences existed between the teachers responses and the four groups of teachers. Although there was no significant statistical differences between four groups' total scores ($p < .05$), they did report some differences on 5 of the 16 individual items. These differences revealed that pre-service teachers demonstrated a lower sense of personal teaching efficacy than in-service teachers, but they demonstrated a higher sense of teaching efficacy than in-service teachers. There were no significant differences on any of the items between the three in-service teacher groups.

Previous studies indicate that efficacy increases with positive experiences (Bandura, 1997, 1977; Denham & Michael, 1981; Ashton & Webb, 1986). However, this study would indicate otherwise. It is important to note, however, that the study was limited to teachers who were labeled "outstanding" teachers which may have some bearing on the results. Outstanding teachers are those who have shown success in the classroom. These particular teachers had previously demonstrated success in the classroom or were identified by their schools as high performers; thus, their prior experiences would seem to be positive. As the study did not include other teachers, it is difficult to determine whether or not significant changes in efficacy would be reported among all teachers as opposed to limiting the study to outstanding teachers.

Hoy (2000) conducted a longitudinal study of 53 teachers enrolled in a Master's of Education program. She followed the pre-service teachers through their first year of teaching. The teachers were randomly assigned to two cohorts. Of the 53 teachers who

began the study, 29 completed it. The participants completed the Gibson and Dembo short form, Bandura's Teacher Self Efficacy Scale, and the OSU Teaching Confidence Scale. Data were collected in three phases: 1) during the first quarter of their teacher preparation, 2) at the end of their participation in the teacher preparation program, and 3) at the end of their first year of teaching. Their results were quite interesting. They found that teachers' sense of efficacy rose from the first to the second phases. However, their levels of efficacy fell after their first year of teaching.

Hoy indicates that the results may be a factor of the nature of the graduate program. Teachers enrolled in the program were provided with ample support during their year-long internship. Once this support was removed, when they entered the classroom as teachers, their sense of efficacy diminished.

Parker and Guarino (2001) studied 196 students enrolled in undergraduate and graduate education programs at a university located in the southeastern United States. Of the participants, 60 were pre-service students enrolled in their final semester, 50 were interns who had just completed their student teaching experience, and 86 were in-service teachers (mean number of years teaching = 5.51, SC = 3.83). Utilizing the Teacher Efficacy Scale Short Form (Hoy & Woolfolk, 1993), they surveyed the teachers to determine the sense of efficacy. The results indicate that pre-service teachers and those who had just completed their intern experience scored significantly higher on general teaching efficacy than in-service teachers. Additionally, they found that personal teaching efficacy remained high for all three groups. The researchers attribute the data indicating personal efficacy does not change over time is a result of the sample selection and may

not be generalized to all teaching s. All of these teachers were pursuing education to further their teaching careers, which may have an effect on the outcomes.

Theoretically, teachers' sense of efficacy should improve with time and experience. However, as noted in Hoy's study, if the experience is not positive, efficacy can decrease. On the other hand, Parker and Guarino (2001) indicate no significant differences in efficacy exist between pre-service and in-service teachers. Some research examining pre-service and beginning teachers' sense of efficacy exists, but little exists focusing on the number of years teaching and its relationship to teachers' sense of efficacy. While this study will not attempt to measure how efficacy levels change over time, it will attempt to determine whether or not there is a statistically significant difference in level of efficacy between in-service teachers at different stages of their careers. Additionally, this study will be limited to teachers in low-performing schools, which differs from some of the previous studies.

Efficacy and Low Achieving Students

Raudenbush, Rowan, and Cheong's (1992) research suggests that teacher efficacy varies between males and females with males showing significantly lower self-efficacy than females ($b = -.185$, $t = -2.75$). Additionally, their study indicates that teachers' sense of efficacy changes depending on the classroom. They collected data from 16 different high school teachers, limiting their sample to academic teachers (math, science, social studies, and English). Teachers reported a higher sense of efficacy when teaching honors classes and a lower sense of efficacy when teaching regular classes. Their sense of efficacy was even lower for vocational and general tracked students. This research reinforces the concept that efficacy is situation specific while at the same time raising an

interesting element suggesting that efficacy can differ within the same year dependent upon each classroom make-up. Ross, Cousins, and Gadalla (1996) support this concept and report that teachers' perception of student engagement is a significant predictor of teacher efficacy.

Collective Efficacy: A Brief Discussion

Collective efficacy is defined as the “expectations of the effectiveness of the staff to which one belongs” (Ross, Hogaboam-Gray, & Gray, 2003). This is different from teacher efficacy which refers to teachers' beliefs that they personally can affect student outcomes. Recently, more researchers have begun to examine the relationship of collective efficacy to student achievement (Goddard & Goddard, 2000; Ross, Hogaboam-Gray & Gray, 2003). While this study will not attempt to ascertain the collective efficacy of the participating schools, it is important in relationship to the types of schools chosen for the study. This study will focus on low-performing schools, those who have received a “D” or an “F” based on Florida's school accountability formula. Thus, the concept of collective efficacy may have some bearing on the results of the study.

Goddard and Goddard (2000) examined 452 teachers in 47 elementary schools in a large urban school district to determine whether or not collective efficacy was related to teacher efficacy. The results of their study indicate that teacher efficacy varies dependent upon school context. Teachers in schools that report a high collective efficacy score tend to report high teacher efficacy scores. The reverse is equally true.

Ross, Hogaboam-Gray, and Gray (2003) report that student academic history affects collective efficacy. In a study of 2170 teachers in 141 elementary schools, they found that prior school achievement was a predictor of collective efficacy. However, they

also report that historically low-performing schools can overcome the tendency towards a low collective sense of efficacy through the creation of a positive school climate and culture.

Summary

Based on the research, teacher efficacy can be defined as the extent to which teachers believe they have the ability to bring about changes in student achievement independent of the student's background, behaviors, or motivation level. Efficacy is situation specific, indicating that a teacher's sense of efficacy is dependent upon the specific teaching situation. More importantly, significant research links teacher efficacy to student achievement.

Tschannen-Moran and Hoy (2001) have developed the Teacher Efficacy Scale which measures efficacy based on instructional strategies, classroom management, and student engagement. This was developed in response to concerns that other scales yielded inconclusive results. Therefore, the Teacher Efficacy Scale Long Form will be used in this study.

Some research indicates that teachers in low-performing schools may demonstrate a lower sense of efficacy than teachers in high-performing schools. This tendency may, in fact, have an impact on research that indicates that students benefit from low teacher turnover. If teachers who remain in low-performing schools exhibit low efficacy which is related to low student performance, perhaps these students would benefit more from teachers who are new to the school who demonstrate a high sense of efficacy.

Additionally, teacher efficacy has been shown to be related to student academic achievement. Teachers with a high sense of efficacy have a positive effect on student

achievement while teachers with a low sense of efficacy have a negative effect on student achievement. There is also some indication that collective efficacy is related to prior student achievement. Teachers in high-performing schools report a higher sense of efficacy than teachers in low-performing schools. This study will not attempt to determine the collective efficacy of the participating schools; however, it will examine the relationship between teacher efficacy and number of years teaching at the participating schools.

It is also unclear from current research whether teacher efficacy is related to the number of years teaching. Some studies indicate that efficacy remains stagnant over time, while others suggest that it may change depending on teacher experiences. It will be interesting to examine whether or not a relationship exists between the number of years teaching and teacher efficacy for teachers at low-performing Florida high schools. Florida recommends that all “F” schools be staffed with experienced teachers who have demonstrated past success at raising student achievement. However, some studies indicate that beginning teachers have a higher sense of efficacy than experienced teachers. The collection of data relating to numbers of years taught and efficacy will provide more knowledge to help further the discussion.

Clearly, teacher efficacy is a factor related to student achievement. Identifying specific characteristics of teachers at low-performing schools and their relationship to teacher efficacy will provide data to drive further research to help districts and schools define highly qualified teachers for low-performing schools.

Chapter Summary

With the national focus on education and specifically on insuring that all students have access to highly qualified teachers by the end of the 2005-2006 school year, the need to clearly define highly qualified teachers becomes more apparent. The debate over subject area knowledge versus teaching methods and student learning knowledge wages on without a clear, definitive solution in sight. However, the relationship between teacher efficacy and student achievement seems to be more clearly defined. The purpose of this study is to widen the definition of highly qualified teachers to include teacher efficacy as a predictor of improved student achievement. In order to accomplish this task, more research must be conducted to determine whether a relationship exists between these variables.

Chapter Three

Method

The purpose of this chapter is to explain the research design and methodology. Surveys were sent to 1434 language arts teachers at Florida public high schools designated as “D” and “F” based on Florida’s A Plus Plan. A total of 615 surveys were returned. Multiple regression and descriptive analyses were conducted using the SAS System.

Purpose of the Study and Research Questions

The purpose of this study was to examine the relationship between specific teacher characteristics (level and area of degree status, certification status, pedagogical training, gender, number of years of teaching experience, number of years teaching at the current school, and courses currently taught) and teacher efficacy. High school language arts teachers teaching at Florida’s “D” and “F” public high schools were surveyed to identify whether or not they possess the specific characteristics listed and whether or not a relationship exists between these characteristics and teacher efficacy.

Current public policy based on the No Child Left Behind Act (NCLB) of 2001 defines highly qualified teachers as those who hold a minimum of a bachelor’s degree from a four-year institution, have received full state certification, and have demonstrated competency in the subject area they are teaching. These three easily measurable factors are linked to research indicating that student achievement is linked to teacher subject

matter knowledge, certification, and level of degree obtained (Goldhaber & Anthony, 2003).

Current educational research on teacher effectiveness indicates that student achievement is affected by a complex combination of factors. Some factors that have also been linked to increases in student achievement include specific teacher characteristics such as pedagogical training (Darling-Hammond, 2000), number of years teaching and number of years teaching at the same school (Hess, 2001; Langford et al., 2002), type of certification held (Goldhaber & Brewer, 1999); specific courses taught (Ingersoll, 1996; Moore & Esselman, 1994), and gender (Anderson, Greene, & Loewen, 1988). None of these factors are included in the public policy definition of highly qualified teachers, yet research indicates they are also predictors of increased student achievement.

Finally, significant research suggests that teacher efficacy is a reliable predictor of student achievement (Ashton, Webb, & Doda, 1983; Behar-Horenstein, Pajares, & George, 1996; Cabello & Burstein, 1995; Davis & Wilson, 1999; Fang, Z., 1996; Muijs & Reynolds, 2002; Olson & Singer, 1994; Pajares, 1992; Prawat, 1992; Stodolsky & Grossman, 2000; Stuart & Thurlow, 2000; Taylor & Sobel, 2001; Warren, 2002; Zohar, Dengani, & Vaaknin, 2001). Teachers who believe they have the ability to improve student achievement have a positive effect on student achievement. Therefore, it seems prudent to widen the scope of the conversation beyond the limits set by public policy to include additional variables found in educational research that are also linked to student achievement, including teacher efficacy.

A review of the literature suggests that little research has been conducted examining the characteristics of teachers in relationship to teacher efficacy. Questions

such as which teacher characteristics are predictors of teacher efficacy scores still remain unanswered. Therefore, this study examines the relationship between specific teacher characteristics identified in research that affect student achievement to teachers' sense of efficacy in student engagement, instructional practices, and classroom management.

The study was designed using a teacher survey to collect the data. Simple statistics along with multiple regression statistics were used to analyze the data based on the following guiding questions:

1. What is the distribution of demographic, educational preparation, and professional experience factors (gender, level and type of degree, pedagogical training, type of certification, years of experience, and courses taught) among language arts teachers at low-performing Florida public high schools?
2. Based on the Teachers' Sense of Efficacy Scale (see Appendix F), what is unweighted mean of the items that load on each factor for language arts teachers teaching at low-performing Florida public high schools?
 - a. student engagement,
 - b. instructional strategies, and
 - c. classroom management
3. What is the direction and strength of the relationship between these specific teacher characteristics and teacher efficacy for language arts teachers teaching at low-performing Florida high schools?

Population

The population for this study included all language arts teachers teaching during the 2005-2006 school year Florida public high schools designated as "D" and "F" based

on Florida's A Plus Plan. Names and addresses for these teachers were collected from the Florida Department of Education and from the individual school websites. A total of 1434 teachers were identified.

Language arts teachers are those teachers defined by the Florida Department of Education who teach English I, II, III, and IV, Honors English I, II, III, and IV, Advanced Placement Language and Composition, Advanced Placement Language and Literature, International Baccalaureate Language Arts, remedial intensive language arts; intensive reading; intensive basic skills, reading I, II, III; and advanced reading.

These teachers were chosen because they are required to teach reading to high school students. Recent data suggest that students are failing to achieve in reading (Chatterji, 2004) while at the same time making gains in math achievement. Both NCLB as well as the Florida Department of Education (DOE) have made the teaching of reading a primary goal. No Child Left Behind and the Florida DOE also direct schools to provide "highly-qualified" teachers for all students in all academic areas.

Schools were selected based on the 2004-2005 school grades they received from the Florida DOE. Schools in Florida are graded based on 1) student performance on the FCAT in reading, math, and writing, 2) the percentage of students who demonstrate gains in reading and math from one year to the next, and 3) the percentage of students scoring in the lowest 25% of all students who demonstrate gains in student achievement in math and reading. Additionally, grades are affected by the percentage of eligible students who take the tests (Grading Florida Public Schools 2002-2003). Public high schools identified as receiving a "D" or an "F," based on Florida's grading policy, were chosen for the

study. For the 2004-2005 school year, 90 public high schools in Florida received grades of “D” and 7 received “F” based on the Florida DOE scoring system.

These schools were chosen because they are identified as low-performing schools. Research indicates that teachers who are assigned to low-performing schools have lower efficacy scores than teachers assigned to high-performing schools (Raudenbush, Rowan, & Cheong, 1992). While it is impossible to control for all variables in the study, limiting the study to teachers assigned to low-performing schools will control for teacher perceptions of their students’ past performance.

Study Design

Utilizing survey data, an attempt was made to survey all language arts teachers at Florida’s “D” and “F” public high schools. Of the 1434 surveys sent out, 615 were returned (43%).

Survey Instrument

Teachers were asked to complete the English/Language Arts/Reading Teacher Questionnaire (see Appendix E) which includes closed response questions relating to the specific teacher characteristics identified in this study. The characteristics were chosen based on research indicating these characteristics are correlated to effective teachers. A pilot test was conducted prior to beginning the final study. The purpose of the pilot was to provide feedback on the questionnaire. This questionnaire was created by the researcher with input from four professors at the University of South Florida. Data from the questionnaires were analyzed using descriptive analysis.

Additionally, the teachers were asked to complete the Teachers’ Sense of Efficacy Scale (TSES Long) (see Appendix F). Analysis of the means and standard deviations

were conducted based on the research by Tschannen-Moran and Hoy (2001), the creators of the scale. According to their research, teachers' sense of efficacy can be reported through three distinct factors: student engagement, instructional strategies, and classroom management. Items loading on each factor are as follows:

Efficacy in Student Engagement: Items 1, 2, 4, 6, 9, 12, 14, 22

Efficacy in Instructional Strategies: Items 7, 10, 11, 17, 18, 20, 23, 24

Efficacy in Classroom Management: Items 3, 5, 8, 13, 15, 16, 19, 21

According to Tschannen-Moran and Hoy's research (2001), teachers demonstrating high teacher efficacy for student engagement and instructional strategies are those with mean scores higher than 8.4 on a 9.0 Likert scale. Teachers demonstrating medium teacher efficacy for student engagement and instructional strategies are those with scores ranging from 6.2 to 8.4, and teachers demonstrating low teacher efficacy for student engagement and instructional strategies are those with scores less than 6.2. For classroom management, high efficacy scores are those higher than 7.8, medium scores are those ranging from 5.6 to 7.8, and low efficacy scores are those below 5.6.

The results from both the teacher questionnaire and the teacher efficacy scale were analyzed using multiple regression analysis to determine whether or not a relationship exists between the level of teacher efficacy for each of the three factors and the specific teacher characteristics defined in this paper.

Survey Research

Surveys are often used by researchers to collect information because of the low cost involved and the ease of distribution. However, several potential errors exist when conducting survey research: sampling error, non-coverage error, non-response error, and

measurement error (Cui, 2003). Steps were taken in the research design to limit the possibility of these errors.

Sampling Error: Every attempt was made to contact all language arts teachers at all low-performing schools in the state of Florida. However, some schools and/or teachers chose not to respond to the survey which limited the sample size, and, thus, may have contributed some sampling error.

Of the 100 original schools identified in the study, 84 participated in the actual study (84%). Table 3 reports the comparison of reading achievement data, free and reduced lunch percentages, and minority rates for participating and non-participating schools. Forty-five percent of the participating schools report a minority population of more than 50% compared to 63% of the non-participating schools. The percentage of non-participating schools reporting 50% or more of their students qualifying for free and reduced lunch is 50% compared to 33% of the participating schools. The percentage of non-participating schools reporting more than 50% of the lowest 25% of their students are making gains in reading is 12% compared to 24% of the participating schools. Five of the non-participating schools (31%) are located in the same district.

It appears that the non-participating schools have higher minority populations, more students on free and reduced lunch, and fewer of their lowest 25% of all students are making learning gains in reading. However, both the non-participating and the participating schools report that 50% of their students are not meeting the state standards for reading achievement.

Table 3: Participating and Non-Participating School Data

% of Students	% of Schools							
	Students Meeting High Standards in Reading		Lowest 25% of students making learning gains in reading		Free and Reduced Lunch		Minority Rate	
	NP	P	NP	P	NP	P	NP	P
0-25%	56.00%	32.00%	0.00%	1.20%	0.00%	4.80%	31.00%	19.05%
26-50%	44.00%	68.00%	88.00%	75.00%	50.00%	63.10%	6.00%	35.71%
51-75%	0.00%	0.00%	12.00%	23.80%	50.00%	22.60%	19.00%	19.05%
76-100%	0.00%	0.00%	0.00%	0.00%	0.00%	9.50%	44.00%	26.19%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

NP = Non-participating Schools

P=Participating School

Of the 1434 surveys sent out, 615 were returned (43%).

Non-coverage Error: Non-coverage errors are often the result of excluding some portion of the population. This study incorporated all teachers of language arts at all Florida public high schools scoring a “D” or “F” under Florida’s accountability program. The study was not intended to collect data from other teachers or from other schools. Every attempt was made to provide access to the study for all identified teachers.

For those schools that agreed to serve as a study site, the surveys were mailed to the school for data collection. Some teachers may have been absent during the data collection process and, therefore, not included in the study.

Additionally, the majority of surveys were mailed to individual teachers whose names were obtained from the Florida Department of Education through the Office of Education Information and Accounting Services and from individual school websites. While it is hoped that these lists incorporated all language arts teachers at “D” and “F” schools in the state of Florida, it is acknowledged that the lists may, in fact, be inaccurate. Some

teachers may have transferred to other sites or changed course assignments. Teachers assigned after the web-page was created may not have been listed on the site.

Non-Response Error: In spite of the precautions taken to ensure that all members of the population had an equal opportunity to respond to the survey, it is recognized that some chose not to respond or may not have had the opportunity to respond.

Measurement Error: Measurement error occurs when respondents do not answer the survey appropriately. They may not respond to some of the questions or they may provide inadequate answers to open-ended questions. These errors also occur when respondents respond in the wrong order. Precautions have been taken to address these errors. The surveys were printed on one piece of 11" x 14" paper which was printed front and back and folded in a book format. Additionally, the survey does not provide for open ended responses. Finally, the survey was limited to three pages to eliminate time constraints and was printed on colored paper with the follow-up surveys printed on a different color paper. According to Cui (2003) and Aiken (1988), these modifications to the survey delivery and presentation often result in higher response rates.

Data Collection

Survey Distribution

The purpose of the study was to collect data from all language arts and reading teachers at Florida's "D" and "F" public high schools who were teaching during the 2005-2006 school year. While the Florida Department of Education listed 1,272 language arts teachers who were teaching at Florida's "D" and "F" schools, it is recognized that some teachers teaching language arts classes are not certified as language arts teachers and are, in fact, primarily assigned to another content area and, therefore, were not listed

on the Florida DOE list of language arts teachers. Additionally, during the data collection process, it was noted that not all schools identified as “D” and “F” high schools reported accurate data to the Florida DOE. Some schools and districts were missing from the Florida DOE list. Therefore, all attempts were made to identify language arts teachers by finding the schools’ web pages and creating a more up-to-date list from these sites by comparing the websites to the Florida DOE list.

The first two attempts to collect data focused on contacting principals and language arts department chairs who would be able to distribute the surveys to all teachers at their schools teaching language arts classes. Unfortunately, of the 100 high schools identified as receiving grades of “D” or “F”, only 18 agreed to participate as a school in the study (18%), four schools declined (4%), and the remaining schools did not respond after two attempts (78%). The four schools that refused to participate in the study are not included in the study.

Three districts asked that the researcher obtain approval from the district office prior to conducting research in their schools. All three districts gave approval; however, once district approval was given, the principals were still the final source of approval prior to conducting the study at the school site.

For schools that did not respond to the first two attempts to collect data, letters were sent to individual teachers who were listed with the Florida Department of Education as language arts teachers at Florida’s “D” and “F” schools and/or listed as language arts and reading teachers from the individual school websites. Eight schools were missing from the Florida DOE list and did not have websites with teacher information. Those schools were not included in the study.

Surveys were sent to 1434 teachers. A total of 615 teachers returned completed surveys.

Time Line

September 12, 2005: Letters were sent to all principals at Florida's "D" and "F" public high schools seeking permission to visit their schools to conduct the research or to mail the surveys to their schools (see Appendix A). Principals were asked to return a stamped, addressed post card indicating whether or not they would allow the study to take place at their school (see Appendix B). Follow-up letters and return post cards were sent to schools not responding within three weeks of the original mailing. Some principals requested that permission be granted from district level personnel. In this case, the specified district personnel were contacted in order to obtain permission.

October 15, 2005: A pilot study was conducted by choosing two schools not on the list of "D" or "F" public high schools. Each school was contacted to obtain permission and to determine how many surveys were required. The researcher took the surveys to each language arts department and facilitated the completion and collection of the surveys. The data were reviewed to determine if adjustments needed to be made prior to sending out the remaining documents. After consulting with my major professor, it was decided that no changes to the survey were necessary.

January 30, 2006 through May 30, 2006: Surveys were sent using the following methods:

- Schools that agreed to participate in the survey were contacted by the researcher to determine how many surveys they needed. Each school was mailed a packet containing a cover letter (see Appendix C), a post card (see Appendix G), and a

stamped, addressed envelope to allow for the return of the surveys. They also received enough of the survey instruments for all of their teachers. Follow-up letters were sent to non-responding schools two weeks after the surveys have been mailed to the schools.

- For schools that did not respond to the original request to participate, teacher lists for each school were created by combining the information from Florida’s DOE Information and Accounting Services and from individual school websites. Letters were sent to those teachers requesting their participation in the study. Each teacher received a letter asking him/her to participate in the study (see Appendix D), a copy of the survey instrument, and a stamped, addressed envelope in which to return the survey. Informed consent was documented by the return of the completed survey. Follow-up letters were sent to non-respondents three weeks after the first mailing.

June 15, 2006: Analysis of data began.

Table 4 Research Time Line

Date	Activity	Time Allowed
9-12-05	Mail letters to principals requesting permission to conduct research at their school sites.	3 weeks
10-4-05	Mail follow-up letters to principals requesting permission to conduct research at their schools sites.	2 weeks
10-15-05	Pilot Study – 2 schools sites chosen from schools not included in the study.	2 weeks
11-15-05	Obtain teacher names and addresses at schools not responding to the survey.	2 months
1-30-06	Study – Letters and survey instruments sent to all schools sites that have given permission to conduct research at their school sites and to individual teachers at non-participating schools. Follow up letters sent in rotations of 3 weeks after original letters sent.	4 months
6-15-06	Data Analysis	2 months

Incentives

Recognizing that monetary incentives often improve the return rate of surveys (Hopkins & Gullickson, 1992), five incentives - \$20.00 gift certificates to Barnes and Noble – were offered to schools returning the completed surveys. Five schools were selected to receive the gift certificates.

Data Analysis

The data from this study were analyzed using the SAS System (SAS version 9.1.3). The data collected from the English/Language Arts/Reading Teacher Questionnaire were analyzed using descriptive statistics.

The data collected from the TSES Long were calculated by computing the unweighted means of the items that load on each factor, yielding individual scores for each factor: student engagement, instructional strategies, and classroom management. Based on Tschannen-Moran and Hoy's data (2001), items for each of the three factors load as follows:

Efficacy in Student Engagement Items 1, 2, 4, 6, 9, 12, 14, 22

Efficacy in Instructional Practices Items 7, 10, 11, 17, 18, 20, 23, 24

Efficacy in Classroom Management Items 3, 5, 8, 13, 15, 16, 19, 21.

The sample mean and standard deviation scores for each factor are reported. The percentage of teachers who report means falling within the high, medium, and low ranges for each of the factors was also computed and reported.

The results from the questionnaire and the TSES Long were correlated using multiple regression analysis to determine whether or not relationships exist between teacher characteristics and efficacy scores.

Multiple regression analysis is widely used in educational research to determine correlations between multiple predictor variables and one criterion variable (Gall, Gall, & Borg, 2003). In this case, the criterion variables are student engagement, instructional strategies, and classroom management scores, and the predictor variables are teacher characteristics. Some of the predictor variables were grouped to compensate for possible problems with collinearity which may occur when there is very little difference in correlation between the predictor variables. The following predictor variables were grouped accordingly:

Bachelor's Degrees:

- Teachers with Bachelor's Degrees in English/Language Arts/Reading
- Teachers with Bachelor's Degrees in Other Content Areas.

Master's Degrees:

- Teachers with Master's Degrees
- Teachers without Master's Degrees

Advanced Degrees:

- Teachers with Advanced Degrees
- Teachers without Advanced Degrees

Years Teaching:

- 0-5 years
- 6-10 years
- 11-20 years
- 21+ years

Years Teaching at this school:

- 0-5 years
- 6-10 years
- 11-20 years
- 21+ years

Years Teaching English/Language Arts/Reading:

- 0-5 years
- 6-10 years
- 11-20 years
- 21+ years

Certification:

- Certification in English/Language Arts/Reading
- Temporary Certification in English/Language Arts/Reading
- Certification in another Content Area

Reading Endorsement:

- Teacher has a reading endorsement
- Teacher is seeking a reading endorsement
- No reading endorsement

Certification Route:

- Traditional
- Non-Traditional

Courses:

- Regular classes (English I, II, III, & IV)
- Honors classes (English I Honors, II Honors, III Honors, and IV Honors)
- Advanced classes (AP Language & Composition and AP Language and Literature, and International Baccalaureate Language Arts Classes)
- Remedial Classes (Remedial Intensive Language Arts and Intensive Basic Skills)
- Reading Classes (Reading I, II, III, Intensive Reading, and Advanced Reading)

Dummy variables were created for each of the categorical variables listed above and used for the multiple regression statistics.

Chapter Summary

This study utilized a researcher-developed survey to collect demographic, educational preparation, and professional experience data of language arts and reading teachers at Florida's "D" and "F" public high schools. Additionally, teachers responded to the Teacher's Sense of Efficacy Scale to determine their sense of efficacy in three

areas: student engagement, instructional practices, and classroom management. The data were analyzed using descriptive and multiple regression analysis.

Teachers were selected from the Florida Department of Education data based and from the individual school websites. A total of 1434 surveys were sent to language arts and reading teachers at Florida's "D" and "F" public high schools. Six hundred and fifteen surveys were returned and used in the data analysis.

The results of the data are reported in Chapter Four.

Chapter Four

Results

This study examined a possible relationship between specific teacher characteristics and teacher efficacy. Surveys were sent to language arts and reading teachers at Florida's public high schools that had been designated as low-performing high schools. Specifically, 1434 surveys were sent to language arts and reading teachers at 89 schools receiving grades of "D" and "F" based on Florida's school accountability program. Six hundred and fifteen surveys were returned from 84 schools.

The study was guided by the following research questions:

1. What is the distribution of demographic, educational preparation, and professional experience factors (gender, level and type of degree, pedagogical training, type of certification, years of experience, and courses taught) among language arts teachers at low-performing Florida public high schools?
2. Based on the Teachers' Sense of Efficacy Scale (see Appendix F), what is the unweighted mean of the items that load on each factor for language arts teachers teaching at low-performing Florida public high schools?
 - a. student engagement,
 - b. instructional strategies, and
 - c. classroom management

3. What is the direction and strength of the relationship between these specific teacher characteristics and teacher efficacy for language arts teachers teaching at low-performing Florida high schools?

Descriptive Statistics

Although 615 surveys were returned for the study, in some instances, respondents failed or chose not to complete each question on the survey. In this case, the SAS System did not include the non-response as part of the statistical analysis.

The data contained in the No Child Left Behind (NCLB) School Public Accountability Reports 2005-2006 (SPARS) for Florida were compared to the data collected from the study in order to measure the percentage of teachers at Florida's "D" and "F" public high schools in relationship to all teachers in Florida's public schools. Most of the data included in the SPARS relates to student demographics and assessments; however, the SPARS does report data related to the highest degree level obtained by teachers within the state, each district, and each school. Additionally, it compares the percentage of highly qualified teachers in the state, each district, and each school as well as the percentage of teachers teaching in-field in Florida, each district, and each school. It does not report national data on these same characteristics.

Participating Schools

Eighty-four schools participated in the study. Seven of the schools were labeled as "F" schools (8%), and 77 of the schools were "D" schools (92%). Within this sample, 100% of them reported 50% or fewer of their students were meeting the state requirements for high standards in reading with 32% reporting fewer than 25% of their students meeting the state requirements for high standards in reading. Additionally, 24%

of the schools reported that 51% or more of the lowest 25% of their students were making learning gains in reading, while 76% reported fewer than 50% of their lowest 25% of their students were making learning gains in reading. Thirty-two percent of schools reported 51% or more of their students were on free and reduced lunch. Sixty-three percent of the schools reported between 25% and 50% of their students were on free and reduced lunch. Forty-five percent of the schools reported 51% or more of their students were minority students. An additional 36% reported a minority rate between 26% and 50% (see Table 5).

Table 5: Participating Schools Reading Achievement, Free and Reduced Lunch Rates, and Minority Rates

% of Students	% of Schools			
	Students Meeting High Standards in Reading	Lowest 25% of students making learning gains in reading	Free and Reduced Lunch	Minority Rate
0-25%	32.00%	1.20%	4.80%	19.05%
26-50%	68.00%	75.00%	63.10%	35.71%
51-75%	0.00%	23.80%	22.60%	19.05%
76-100%	0.00%	0.00%	9.50%	26.19%
Total	100.00%	100.00%	100.00%	100.00%

Teacher Degrees

Data was collected to examine the type of degree as well as the level of degree obtained by the teachers participating in the study. The results follow.

Bachelor's Degrees

Forty-one percent of the respondents reported holding a bachelor's degree in English with 22% holding a bachelor's degree in English education. Only 0.33% of the respondents reported holding a degree in reading, and 0.65% reported holding a degree in reading education. The remaining 35% reported holding a bachelor's degree in another content area (See Table 6).

Table 6 Type of Bachelor's Degrees Obtained

Bachelor's Degree	<i>f</i>	% Sample
BA or BS in English	250	40.65%
BA or BS in English Education	137	22.28%
BA or BS in Reading	2	0.33%
BA or BS in Reading Education	4	0.65%
BA or BS in another content area	215	34.96%
Non-response	7	1.14%
Total No. Teachers with Bachelor's Degrees	608	98.86%
TOTAL	615	100.00%

The data were recoded for the multiple regression statistics to reflect those teachers who reported holding any type of bachelor's degree in English, language arts, or reading compared to those teachers who reported holding a bachelor's degree in another content area. Of the 615 teachers returning surveys, 393 (64%) reported holding a bachelor's degree in English, language arts, or reading, and 215 (35%) reported holding a bachelor's degree in another content area.

Master's Degrees

Six percent of the respondents reported holding a master's degree in English and 13% reported holding a master's degree in English education (this includes those teachers holding an M.A.T in English education). The percentage of responding teachers who reported holding a master's degree in reading education is 6%. The remaining responding teachers reported holding an M.A. or M.Ed. in other content areas (22%). The total number of teachers who reported holding a master's degree is 285 (46%) (See Table 7).

Table 7 Type of Master's Degrees Obtained

Master's Degree	<i>f</i>	% Sample
MA in English	37	6.02%
M.Ed. or M.A. in English Education	71	11.54%
M.Ed. or MA. Reading Education	37	6.02%
M.A.T in English Education	6	0.98%
M. A. in another content area	89	14.47%
M.Ed. In another content area	45	7.31%
Non-response	330	53.66%
Total No. Teachers with Master's Degrees	285	46.35%
TOTAL	615	100.00%

The data were recoded for the multiple regression statistics to reflect those teachers who reported holding any type of master's degree in English, language arts, or reading compared to those teachers who reported holding a master's degree in another content area. Of the total number of teachers returning surveys, 151 (25%) reported holding a master's degree in English, language arts, or reading and 134 (22%) reported holding a master's degree in another content area.

Advanced Degrees

Two percent of the respondents reported holding an Educational Specialist Degree, 2% reported holding an Educational Doctorate Degree, fewer than 1% reported holding a PhD in Curriculum and Instruction, and 2% reported holding a doctorate in another content area (See Table 8).

Table 8 Types of Advanced Degrees Obtained

Advanced Degree	<i>f</i>	% Sample
Ed.S	12	1.95%
Ed.D.	13	2.11%
Ph.D. Curriculum and Instruction	2	0.33%
Doctorate in another area	12	1.95%
Non-response	576	93.66%
Total No. Teachers with Advanced Degrees	39	6.34%
TOTAL	615	100.00%

The total number of teachers who reported holding a specialist or doctorate degree is 39 (6%).

Comparison of Teacher Degree Levels to SPARS

Teacher degree level data were compared with the data reported in the 2005-2006 SPARS for Florida. The percentage of responding teachers who report their highest obtained degree is a bachelor's degree 53% compared to the state percentage of 65% for all teachers. The percentage of responding teachers who report their highest obtained degree is a master's degrees is 41% compared to the state percentage of 32% for all teachers, and the percentage of responding teachers who report their highest obtained degree is specialist or doctorate degree is 6.5% compared to the state percentage of 3% for all teachers (see Table 9).

Table 9 Comparison of Teacher Degree Levels to 2005-2006 SPARS

	Survey Data	2005-2006 SPARS
Bachelor	52.9%	65.2%
Master	40.6%	32.1%
Advanced	6.5%	2.7%

Years Teaching

Data was collected to examine the number of years respondents had been teaching, the number of years teaching language arts and/or reading, and the number of years teaching at the current school. The results follow:

The results indicate 15% of the responding teachers have been teaching for 0-2 years, 17% for 3-5 years, 16% for 6-10 years, 20% for 11-20 years, 20% for 21-30 years and 12% for more than 30 years (See Table 10).

Table 10 Years Teaching

Years Teaching	<i>f</i>	% Sample
0-2 years	90	14.63%
3-5 years	104	16.91%
6-10 years	102	16.59%
11-20 years	121	19.67%
21-30 years	122	19.84%
30+ years	73	11.87%
Non-response	3	.49%
Total	615	100.00%

Years at the Current School

The results indicate 36% of the responding teachers were new to the school (0-2 years), 26% had been at the school for 3-5 years, 13% for 6-10 years, 12% for 11-20 years, 9% for 21-30 years and 3% for more than 30 years (see Table 11).

Table 11 Years at Current School

Years at School	<i>f</i>	% Sample
0-2 years	224	36.42%
3-5 years	162	26.34%
6-10 years	82	13.33%
11-20 years	73	11.87%
21-30 years	52	8.46%
30+ years	20	3.25%
Non-response	2	.33%
Total	615	100.00%

The majority of responding teachers (63%) have been teaching at the school for five years or less. Of the 63% of the responding teachers who have been at the school site for 5 years or less, 15% have been teaching for 0-2 years, and 17% have been teaching for 3-5 years. These results demonstrate that 32% of the responding teachers at Florida's "D" and "F" public high schools have taught for 5 years or fewer at the school site and have 5 years or fewer years teaching experience (see Table 12 and Figure 1).

Figure 1 Comparison Years Teaching and Years at Current School

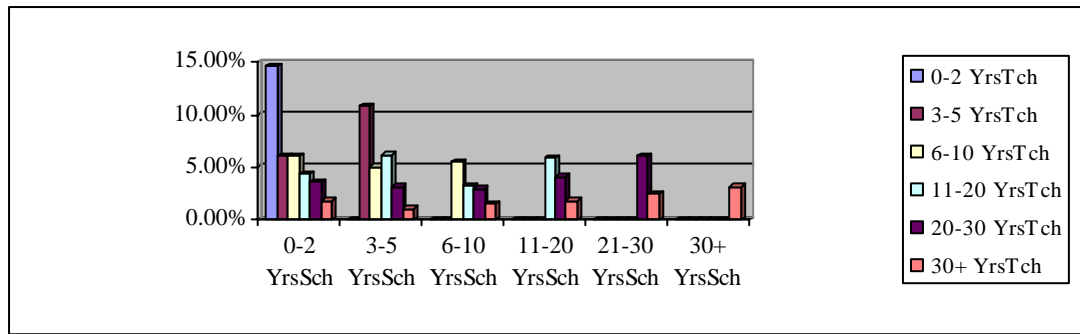


Table 12 Comparison Years Teaching and Years at Current School

Years Teaching	Years at Current School					
	0-2	3-5	6-10	11-20	21-30	30+
0-2	14.63%	0.00%	0.00%	0.00%	0.00%	0.00%
3-5	6.02%	10.89%	0.00%	0.00%	0.00%	0.00%
6-10	6.02%	5.04%	5.53%	0.00%	0.00%	0.00%
11-20	4.39%	6.18%	3.25%	5.85%	0.00%	0.00%
20-30	3.58%	3.09%	2.93%	4.07%	6.02%	0.00%
30+	1.79%	0.98%	1.46%	1.79%	2.44%	3.09%

Years Teaching Language Arts

The results indicate 20% of the sample are inexperienced language arts teachers (0-2 years), 19% have been teaching language arts for 3-5 years, 17% for 6-10 years, 18% for 11-20 years, 16% for 21-30 years and 9% for more than 30 years (See Table 13).

Table 13 Years Teaching Language Arts

Years Teaching English/LA/Reading	<i>f</i>	% Sample
0-2	124	20.16%
3-5	115	18.70%
6-10	106	17.23%
11-20	111	18.05%
21-30	99	16.10%
30+	58	9.43%
Non-response	2	0.33%
TOTAL	615	100%

The data for number of years teaching, number of years teaching at the current school, and number of years teaching language arts were collapsed and recoded into 4

categories for the multiple regression statistics. The data indicate 39% of responding teachers who have been teaching at the school for 5 or fewer years have been teaching language arts and/or reading classes for five or fewer years (see Figure 2).

Figure 2 Comparison of Years Teaching, Years Teaching at Current School, and Years Teaching Language Arts

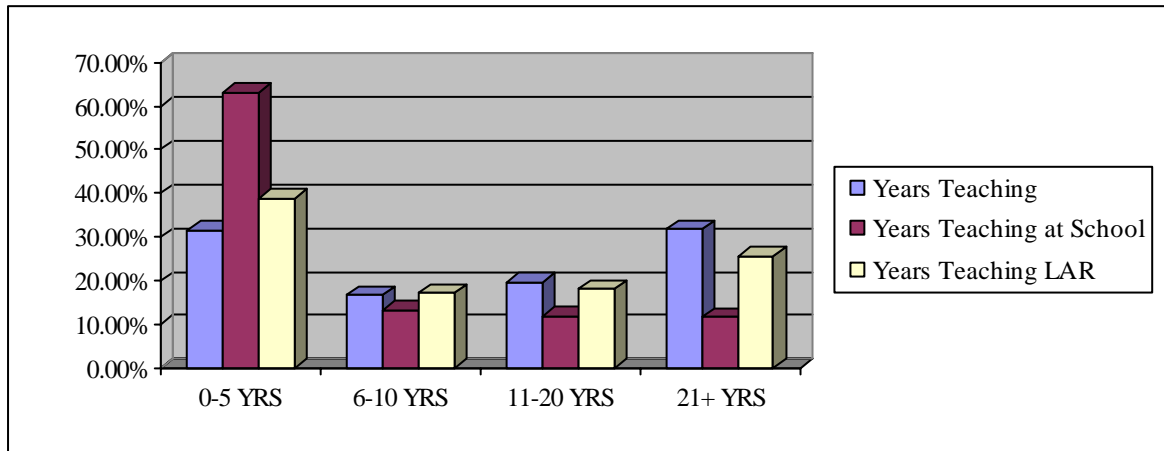


Table 14 Comparison of Years Teaching, Years Teaching at Current School, and Years Teaching Language Arts

Years Teaching	Number of Years					
	Teaching		School		Language Arts	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
0-5	194	31.54%	386	62.76%	239	38.86%
6-10	102	16.59%	82	13.33%	106	17.23%
11-20	121	19.67%	73	11.87%	111	18.05%
21+	195	31.71%	72	11.71%	157	25.53%
Non-Response	3	.49%	2	.33%	2	.33%
TOTAL	615	100%	615	100%	615	100%

Certification

Data was collected to determine the type of certification held by the respondents as well as whether or not the respondents obtained certification through traditional or non-traditional routes. The results follow.

The results indicate 68% of the respondents report holding a Florida Professional Certificate in Language Arts, 6% report holding an Florida Professional Certificate in Reading K-12, 12% report holding a temporary certificate in Language Arts, less than 1% report holding a temporary certificate in Reading K-12, 9% report holding a professional certificate in another area, 4% report holding a temporary certificate in another area, and less than 1% report not holding any certificate.

The data were collapsed and recoded for the multiple regression statistics to reflect those teachers who are certified in language arts and/or reading, those teachers who hold a temporary certificate in language arts and/or reading, and teachers who hold a professional or temporary certificate in another content area. The results indicate 434 (74%) report holding a Florida Professional Certificate in English, language arts, or reading, 76 (12%) report holding a Florida Temporary Certificate in English, language arts, or reading, and 79 (13%) report holding a Florida Professional or Temporary Certificate in another content area (See Table 15).

The SPARS indicates that 93% of all teachers in all grades in Florida public schools are teaching in-field. Florida defines out-of-field teachers as those who are “assigned teaching duties in a class dealing with subject matter that is outside the field in which the teacher is certified, outside the field that was the applicant’s minor field of study, or outside the field in which the applicant has demonstrated sufficient subject area expertise, as determined by district school board policy in the subject area to be taught” (No Child Left Behind (NCLB) School Public Accountability Reports 2005-2006). The study indicates 86% of respondents report holding professional or temporary teaching certificates in reading or language arts (See Table 15).

Table 15 Type of Certification

Type of Certification Held	<i>f</i>	% Sample
Florida Professional Certificate Language Arts 6-12	417	67.80%
Florida Professional Certificate Reading K-12	37	6.02%
Florida Temporary Certificate Language Arts 6-12	72	11.71%
Florida Temporary Certificate in Reading K-12	4	0.65%
Sub Total	530	86.18%
Florida Professional Certificate in another area	52	8.45%
Florida Temporary Certificate in another area	27	4.39%
Not certified	3	.49%
Non-Response	3	.49%
Total	615	100%

The results indicate 436 (71 %) of respondents reported earning their certification through traditional procedures and 176 (29%) reported earning their certification through non-traditional procedures.

K-12 Reading Endorsement

Data was collected to determine the percentage of respondents who have earned the K-12 Reading Endorsement as well as the percentage of respondents who were seeking the endorsement and the percentage of teachers who were teaching reading but not seeking either endorsement or certification. The results follow.

Of the 229 teachers who reported teaching reading, 24% are K-12 reading endorsed and 48% are seeking endorsement. The percentage of teachers who reported teaching reading classes but who are not certified, are not endorsed, and are not seeking endorsement is 21% (see Table 16).

Table 16 Reading Endorsement Status for Reading Teachers

Reading Endorsement Status	# Teachers	% Teachers
Not Certified but Endorsed	34	14.85%
Certified & Endorsed	20	8.73%
Total Endorsed	54	23.58%
Certified & Seeking Endorsement	3	1.31%
Certified but Not Endorsed	12	5.24%
Total Certified	15	6.55%
Temp. Certified in K-12 Reading & Seeking Endorsement	2	0.88%
Not Certified but seeking Endorsement	108	47.16%
Total Seeking Endorsement	110	48.04%
Not Endorsed & Not Seeking	47	20.52%
Non-Response	3	1.31%
TOTAL	229	100%

Courses Taught and Highly Qualified Teachers

NCLB defines highly qualified teachers are those that hold at least a bachelor’s degree from a four-year institution, have received full state certification, and demonstrate competence in their subject area, demonstrated through a state subject-area test. In order to determine the percentage of highly qualified teachers teaching specific courses, the data were sorted into three categories: teachers teaching English courses, teachers teaching only reading courses, and teachers teaching reading in combination with other courses. Additionally, the data were further delineated to determine the percentage of teachers who have a degree in the content area as well as the percentage of teachers who have an educational degree in the content area and the percentage of teachers who are certified in the content area. The percentage of teachers who meet the definition of highly qualified teachers as defined by NCLB was then calculated and compared to the SPARS report. The results are reported in Table 17.

Table 17 Comparison of HQT for Florida and Sample Population

	2005-2006 SPARS	Sample
Highest Degree Level Obtained		
Bachelor	65.20%	52.90%
Master	32.10%	40.60%
Advanced	2.70%	6.50%
Teachers Teaching English (481)		
English Degree (194)		40.33%
English Education Degree (178)		37.01%
Other (108)		22.45%
No Response (1)		0.21%
Temp or Prof. Certificate LA (438)		91.06%
NCLB HQT* (441)	89.60%	91.68%
Teachers Teaching Reading Only (126)		
Reading/Reading Education Degree (28)		22.22%
Temp or Prof. Certificate Reading (34)		26.98%
K-12 Reading Endorsement (36)		28.57%
NCLB HQT** (50)	89.60%	39.68%
Teachers Teaching Reading (229)		
Reading/Reading Education Degree (35)		15.28%
Temp or Prof. Certificate Reading (37)		16.16%
K-12 Reading Endorsement (54)		23.58%
NCLB HQT** (71)	89.60%	31.00%

*Bachelor's and Temporary or Professional Certificate in Language Arts 6-12

**Bachelor's and Temporary or Professional Certificate in K-12 Reading and/or Endorsed in K-12 Reading

HQT = Highly Qualified Teacher

The number of teachers who reported teaching English courses and who reported holding at least a bachelor's degree, full state certification, and who reported demonstrating competence in their subject area is 441 (92%). Of these same teachers, only 37.01% reported holding a bachelor's and/or master's degree in English education. The SPARS report indicates the percentage of all teachers at all Florida public schools who are highly qualified is 90%. The designation of highly qualified teacher does not address whether or not the teacher holds a degree in education.

The percentage of responding teachers who are only teaching reading courses in who reported holding at least a bachelor’s degree, are fully certified, and demonstrate competence in their subject area is 30 (31%). The number of all teachers teaching reading who report holding at least a bachelor’s degree, who are fully certified in K-12 reading, and who demonstrate competence in their subject area is 31 (40%).

Many teachers (46%) reported teaching more than one course during the year while 25% reported teaching only English courses, 21% reported teaching only reading courses, 2% reported teaching only honors English courses, and 1% reported teaching only remedial English Courses. The total percentage of teachers who reported teaching at least one reading course is 78% (see Table 18).

Table 18 Courses Currently Taught

Courses Taught	# Teachers	% Sample
Reading Only	126	20.49%
English Only	154	25.04%
Remedial English Only	8	1.30%
Advanced Courses Only	15	2.44%
Honors Courses Only	24	3.90%
Mixed Courses	280	45.53%
Non-response	8	1.30%
TOTAL	615	100.00%

Figure 3 and Figure 4 represent the number of years teaching compared to the courses taught. The majority of teachers reported teaching English classes, followed closely by English honors classes. However, there is little difference within each course pertaining to the number of years teaching.

Years Teaching and Courses Taught

Figure 3 Number of Years Teaching by Courses Taught

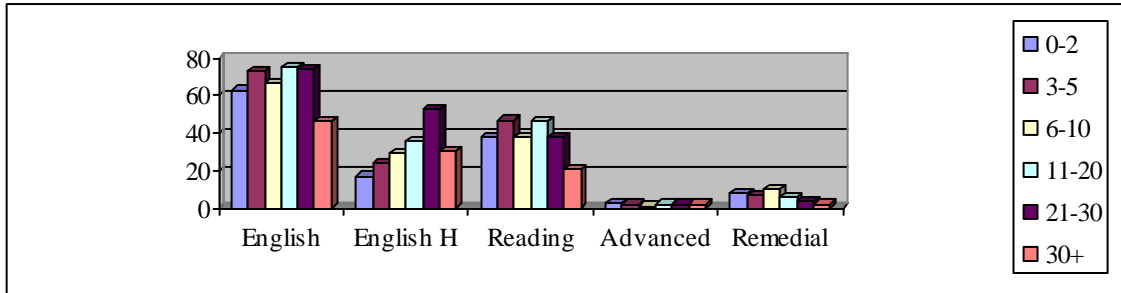
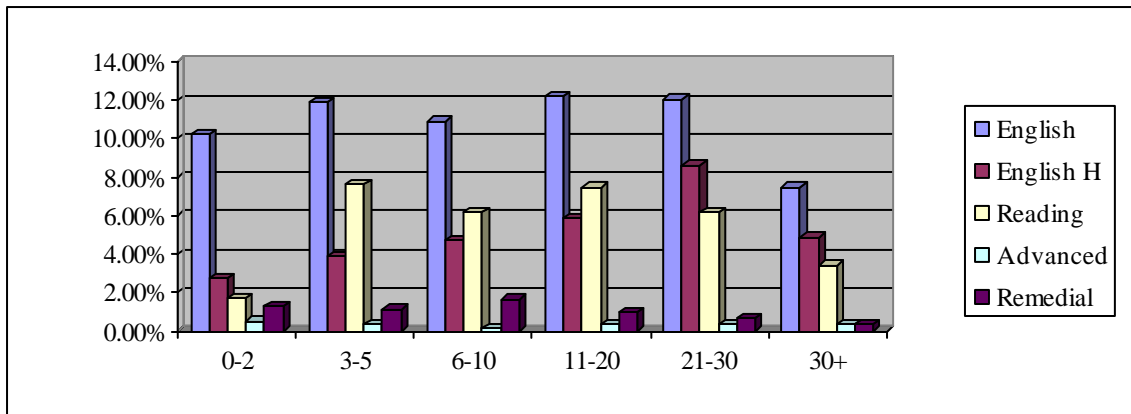


Figure 4 Courses Taught by Number of Years Teaching



Gender

Data was collected to determine the percentage of female and male language arts and reading teachers. Of the 608 teachers who responded to this question, 476 (78.29%) were female and 132 (21.71%) were male.

Efficacy Means

In order to compare the sample data to Tschannen-Moran and Hoy's data (2001), the efficacy means for student engagement, instructional practices, and classroom management were computed. Effect sizes were also computed using the following

formula to examine the differences between the sample means and Tschannen-Moran and Hoy's means:

$$\text{Effect Size} = \frac{\bar{X}_{\text{TSES}} - \bar{X}_{\text{Sample}}}{\text{SD}}$$

The sample mean for student engagement is 6.4 (see Table 19). Tschannen-Moran and Hoy (2001) report a mean for student engagement of 7.3 in their research with a standard deviation of 1.1. The effect size for student engagement is large (-.81). The sample mean for instructional practices is 7.4. The mean reported by Tschannen-Moran and Hoy is 7.3. The effect size for instructional practices is small (.09). Finally, the sample mean for classroom management is 7.4. The mean reported by Tschannen-Moran and Hoy is 6.7 with a standard deviation of 1.1. The effect size is medium (.64).

Table 19 Comparison of Efficacy Means

	Student Engagement		Instructional Strategies		Classroom Management	
	Mean	SD	Mean	SD	Mean	SD
TSES	7.3	1.1	7.3	1.1	6.7	1.1
Sample	6.4	1.2	7.4	0.9	7.4	1

Figure 5 and Table 20 examine the frequency distribution for teachers' efficacy scores on all three factors. While the mean scores of all teachers in the sample on all three factors are within the average range for each factor as reported by Tschannen-Moran and Hoy, the frequency table indicates that 43% of teachers in the sample report low efficacy means for student engagement while 52% report average student engagement efficacy means with only 5% reporting high efficacy means. Over three-fourths of the teachers report average efficacy means for instructional strategies (79%) with an additional 13%

reporting high efficacy means and only 6% reporting low efficacy means. The percentage of teachers reporting high efficacy means for classroom management is 41% with an additional 53% reporting average means and only 6% reporting low efficacy means.

Figure 5 Efficacy Scores Frequency Chart

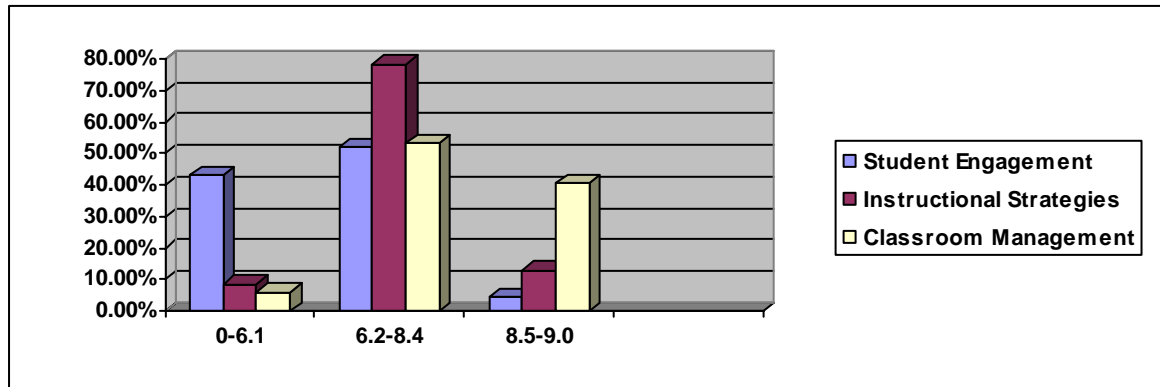


Table 20 Percent of Teachers with High, Medium, and Low Efficacy Means

Efficacy Means								
Student Engagement			Instructional Strategies			Classroom Management		
0.0 - 6.1	6.2 - 8.4	8.5 - 9.0	0.0 - 6.1	6.2 - 8.4	8.5 - 9.0	0.0 - 5.5	5.6 - 7.8	7.9 - 9.0
43.27%	52.19%	4.55%	8.44%	78.54%	13.01%	6.02%	53.35%	40.64%

Multiple Regression

Correlation Matrix

Examining the correlation between variables is useful in determining relationship. Preferably, all of the predictor (independent) variables should be significantly correlated with the dependent variables and uncorrelated with each other (Stevens, 1999). Using the SAS System, a correlation matrix was generated examining the relationship between the dependent variables and the independent variables (see Table 21). The data indicate the

majority of predictor variables are not significantly correlated to the dependent variables ($p > .05$).

Table 21 Correlation Matrix: Dependent and Independent Variables

Variables	Student Engagement	Instructional Strategies	Classroom Management
Student Engagement	*1.00	*0.67	*0.59
Instructional Strategies	*0.67	*1.00	*0.61
Classroom Management	*0.59	*0.61	*1.00
Bachelor's Degree	0.06	0.02	0.06
Master's Degree	-0.04	-0.08	-0.05
Advanced Degrees	0.00	0.02	0.00
Teaching 0-5 Years	0.00	-0.07	0.00
Teaching 6-10 Years	0.01	0.06	0.05
Teaching 11-20 years	0.03	0.04	0.09
Teaching 21+ years	-0.10	0.05	0.01
Teaching at Current School 0-5 years	0.02	0.00	0.06
Teaching at Current School 6-10 years	-0.04	0.02	0.02
Teaching at Current School 11-20 years	0.05	*0.09	*0.09
Teaching at Current School 21+ years	*-0.08	0.02	0.03
Teaching Language Arts 0-5 years	0.00	-0.05	0.01
Teaching Language Arts 6-10 years	0.02	0.06	0.04
Teaching Language Arts 11-20 years	0.04	0.07	*0.11
Teaching Language Arts 21+ years	0.05	0.06	0.04
Professional Certificate Language Arts/Reading	-0.04	0.00	-0.02
Temporary Certificate Language Arts/Reading	-0.02	-0.03	-0.02
Certified in Another Content Area	0.00	0.00	0.04
No Certification	0.02	-0.01	0.01
K-12 Reading Endorsement	0.00	0.02	-0.01
Pursuing K-12 Reading Endorsement	0.02	-0.02	0.01
Traditional Certification Route	0.03	*0.11	*0.11
Teaching English Courses	-0.07	*-0.09	-0.07
Teaching Honors English Courses	-0.03	-0.01	-0.05
Teaching Advanced English Courses	0.02	0.05	0.04
Teaching Remedial English Courses	0.06	0.06	0.02
Teaching Reading Courses	0.01	-0.01	0.01
Gender	0.08	0.09	0.02

* $p < .05$

While the majority of predictor variables are not correlated to the dependent variables, a few are correlated. The following predictor variables are significantly correlated to the dependent variables ($p < .05$): Teaching at the current school for 21 or more years has a negative correlation (-0.08) to student engagement efficacy. Teaching at the current school for 11-20 years (0.09), and obtaining certification through traditional means (0.11) have significant positive correlations to instructional strategies efficacy while teaching English courses (-0.09) has a negative correlation to instructional strategies efficacy. Finally, teaching at the current schools for 11-20 years (0.09), teaching language arts for 11-20 years (0.11), obtaining certification through traditional means (0.11) have significant positive correlations to classroom management efficacy.

Multicollinearity can be a problem in multiple regression statistics because it limits the size of R, increases the difficulty in determining the importance of specific predictor variables, and increases the variances of the regression coefficients (Stevens, 1999). The correlation matrix (Table 23) reports the correlation between all of the variables. Many of the predictor variables are significantly correlated to each other ($p < .05$). There are 28 possible predictor variables. Possessing a bachelor's degree and teaching language arts for 1-5 years are significantly correlated to 17 of the 28 independent variables. Teaching at the current school for 11-20 years, teaching advanced language arts classes, and certification route are correlated to 15. All variables are correlated to 1 or more of the predictor variables (see Table 22).

Table 22 Independent Variables Correlation Numbers

Independent Variable	# Correlated Variables	Independent Variable	# Correlated Variables
Bachelor's Degree	17	Teaching LA for 20+ years	13
Master's Degree	4	Certified in LA/R	9
Advanced Degrees	3	Temporary Certification in LA/R	1
Teaching 1-5 years	13	Other Area Certification	7
Teaching 6-10 years	9	No certification	1
Teaching 11-20 years	9	K-12 Reading Endorsed	8
Teaching 21+ years	13	Pursuing K-12 Reading Endorse	12
Teaching at school 1-5 years	6	Certification Route	15
Teaching at school for 6-10 years	7	Teaching Language Arts Courses	8
Teaching at school for 11-20 years	15	Teaching L/A Honors Courses	14
Teaching at school for 21+ years	13	Teaching Advanced L/A Courses	15
Teaching LA for 1-5 years	17	Teaching Remedial L/A Courses	5
Teaching LA for 6-10 years	11	Teaching Reading	13
Teaching LA for 11-20 years	10	Gender	1

Table 23 Correlation Matrix – Independent Variables

	Bach	Mstr	ADV	Beg	Exp	Exp1	Exp2	Sch	Sch1	Sch2
Bachelor’s Degree	1.00	*0.08	-0.06	*-0.09	0.01	-0.01	*0.12	-0.03	*0.09	*0.13
Master’s Degree	*0.08	1.00	*-0.14	0.04	-0.01	0.01	0.01	0.01	-0.04	-0.05
Advanced Degrees	-0.06	*-0.14	1.00	*0.09	-0.02	-0.02	-0.01	-0.02	-0.02	-0.01
Teaching 0-5 Years	*-0.09	0.04	*0.09	1.00	*-0.20	*-0.22	*-0.17	*0.39	*-0.18	*-0.17
Teaching 6-10 Years	0.01	-0.01	-0.02	*-0.20	1.00	*-0.22	*-0.16	0.04	*0.26	*-0.16
Teaching 11-20 years	-0.01	0.01	-0.02	*-0.22	*-0.22	1.00	*-0.18	0.06	0.05	*0.27
Teaching 21+ years	0.12	0.01	-0.01	-0.17	-0.16	-0.18	1.00	-0.15	-0.01	0.04
Teaching at Current School 0-5 years	-0.03	0.01	-0.02	*0.39	0.04	0.06	*-0.15	1.00	*-0.23	*-0.22
Teaching at Current School 6-10 years	*0.09	-0.04	-0.02	*-0.18	*0.26	0.05	-0.01	*-0.23	1.00	*-0.14
Teaching at Current School 11-20 yrs	*0.13	-0.05	-0.01	*-0.17	*-0.16	*0.27	0.04	*-0.22	*-0.14	1.00
Teaching at Current School 21+ years	*0.10	-0.02	-0.01	*-0.08	*-0.08	*-0.09	*0.50	*-0.11	-0.07	-0.07
Teaching Language Arts 0-5 years	*-0.10	-0.04	-0.02	*0.77	*-0.09	*-0.14	*-0.15	*0.43	*-0.11	*-0.12
Teaching Language Arts 6-10 years	0.03	-0.02	-0.02	*-0.21	*0.80	*-0.11	*-0.14	0.01	*0.26	*-0.14
Teaching Language Arts 11-20 years	0.06	0.02	-0.02	*-0.21	*-0.21	*0.74	*-0.13	0.07	0.04	*0.31
Teaching Language Arts 21+ years	*0.18	0.04	-0.02	*-0.20	*-0.20	*-0.19	-0.08	*-0.13	0.04	*0.10
Professional Certificate LA/R	*-0.16	-0.01	-0.01	0.01	-0.08	0.06	*0.10	0.03	-0.04	-0.05
Temporary Certificate LA/R	-0.07	0.02	0.00	-0.04	0.07	-0.04	-0.03	0.00	-0.03	-0.03
Certified in Another Content Area	*-0.39	-0.03	-0.01	-0.04	0.07	0.06	-0.08	-0.02	-0.07	-0.04
No Certification	0.00	0.02	0.00	-0.03	-0.03	0.02	-0.03	-0.04	-0.03	-0.03
K-12 Reading Endorsement	*-0.09	-0.07	-0.01	0.04	0.00	0.04	0.02	0.02	-0.03	*-0.09
Pursuing K-12 Reading Endorsement	*-0.20	-0.02	-0.02	0.09	0.00	-0.07	*-0.17	0.01	*-0.08	-0.07
Traditional Certification Route	*0.26	0.03	-0.06	*-0.16	-0.04	*0.15	*0.19	0.00	0.06	*0.14
Teaching English Courses	*0.23	-0.05	0.03	0.05	0.01	-0.03	-0.02	0.04	0.07	0.03
Teaching Honors English Courses	*0.24	0.05	-0.03	-0.07	-0.02	-0.01	*0.08	-0.03	0.07	*0.15
Teaching Advanced English Courses	*0.21	*0.09	-0.02	-0.07	-0.04	0.03	*0.13	-0.06	0.03	*0.21
Teaching Remedial English Courses	*-0.10	-0.06	*0.16	0.01	0.07	-0.02	-0.05	0.03	0.00	-0.03
Teaching Reading Courses	*-0.24	*-0.09	-0.03	0.07	0.00	0.01	-0.06	0.06	*-0.09	*-0.13
Gender	0.01	-0.02	0.02	0.02	-0.03	0.00	0.04	-0.04	-0.02	0.03

*p < .05

Table 23 Continued

	Sch3	TchLA	ExpLA	ExpLA1	Exp LA2	LAR	Temp LAR	Certh	NoCert
Bachelor's Degree	*0.10	*-0.10	0.03	0.06	*0.18	*-0.16	-0.07	*-0.39	0.00
Master's Degree	-0.02	-0.04	-0.02	0.02	0.04	-0.01	0.02	-0.03	0.02
Advanced Degrees	-0.01	-0.02	-0.02	-0.02	-0.02	-0.01	0.00	-0.01	0.00
Teaching 0-5 Years	*-0.08	*0.77	*-0.21	*-0.21	*-0.20	0.01	-0.04	-0.04	-0.03
Teaching 6-10 Years	*-0.08	*-0.09	*0.80	*-0.21	*-0.20	-0.08	0.07	0.07	-0.03
Teaching 11-20 years	*-0.09	*-0.14	*-0.11	*0.74	*-0.19	0.06	-0.04	0.06	0.02
Teaching 21+ years	*0.50	*-0.15	*-0.14	*-0.13	-0.08	*0.10	-0.03	-0.08	-0.03
Teaching at Current School 0-5 years	*-0.11	*0.43	0.01	0.07	*-0.13	0.03	0.00	-0.02	-0.04
Teaching at Current School 6-10 years	-0.07	*-0.11	*0.26	0.04	0.04	-0.04	-0.03	-0.07	-0.03
Teaching at Current School 11-20 years	-0.07	*-0.12	*-0.14	*0.31	*0.10	-0.05	-0.03	-0.04	-0.03
Teaching at Current School 21+ years	1.00	*-0.09	*-0.08	*-0.09	-0.08	-0.01	-0.01	-0.06	-0.01
Teaching Language Arts 0-5 years	*-0.09	1.00	*-0.22	*-0.23	*-0.21	0.00	-0.04	-0.03	0.03
Teaching Language Arts 6-10 years	*-0.08	*-0.22	1.00	*-0.21	*-0.20	-0.02	0.07	0.00	-0.03
Teaching Language Arts 11-20 years	*-0.09	*-0.23	*-0.21	1.00	*-0.21	0.04	-0.04	-0.04	-0.03
Teaching Language Arts 21+ years	-0.08	*-0.21	*-0.20	*-0.21	1.00	0.00	-0.04	-0.05	-0.03
Professional Certificate LA/R	-0.01	0.00	-0.02	0.04	0.00	1.00	-0.02	-0.08	-0.02
Temporary Certificate LA/R	-0.01	-0.04	0.07	-0.04	-0.04	-0.02	1.00	-0.02	-0.01
Certified in Another Content Area	-0.06	-0.03	0.00	-0.04	-0.05	-0.08	-0.02	1.00	-0.02
No Certification	-0.01	0.03	-0.03	-0.03	-0.03	-0.02	-0.01	-0.02	1.00
K-12 Reading Endorsement	-0.06	0.08	0.00	0.02	-0.05	*0.36	0.04	0.03	-0.02
Pursuing K-12 Reading Endorsement	*-0.09	*0.12	-0.05	*-0.08	-0.07	*-0.11	0.04	*0.20	0.01
Traditional Certification Route	*0.12	*-0.19	0.00	*0.19	*0.20	*0.07	*-0.13	0.07	*-0.11
Teaching English Courses	0.02	-0.02	0.04	0.00	0.00	*-0.33	0.02	*-0.21	0.00
Teaching Honors English Courses	0.06	*-0.09	-0.01	0.04	*0.17	*-0.14	0.03	*-0.18	-0.05
Teaching Advanced English Courses	*0.17	*-0.08	-0.02	0.07	*0.08	*-0.10	-0.03	*-0.12	-0.03
Teaching Remedial English Courses	-0.01	0.05	*0.08	-0.07	-0.06	-0.06	0.06	*0.12	0.08
Teaching Reading Courses	*-0.08	*0.11	-0.02	-0.02	*-0.08	*0.30	0.02	*0.18	-0.05
Gender	-0.03	-0.01	-0.01	0.00	0.04	0.07	0.00	0.04	-0.02

*p < .05

Table 23 continued

	K12	K12pur	rt	Eng	EngH	AdvCrS	Remd	Read	G
Bachelor's Degree	*-0.09	-0.20	*0.26	*0.23	*0.24	*0.21	*-0.10	*-0.24	0.01
Master's Degree	-0.07	-0.02	0.03	-0.05	0.05	*0.09	-0.06	-0.09	-0.02
Advanced Degrees	-0.01	-0.02	-0.06	0.03	-0.03	-0.02	*0.16	-0.03	0.02
Teaching 0-5 Years	0.04	*0.09	*-0.16	0.05	-0.07	-0.07	0.01	0.07	0.02
Teaching 6-10 Years	0.00	0.00	-0.04	0.01	-0.02	-0.04	0.07	0.00	-0.03
Teaching 11-20 years	0.04	-0.07	*0.15	-0.03	-0.01	0.03	-0.02	0.01	0.00
Teaching 21+ years	0.02	*-0.17	*0.19	-0.02	*0.08	*0.13	-0.05	-0.06	0.04
Teaching at Current School 0-5 years	0.02	0.01	0.00	0.04	-0.03	-0.06	0.03	0.06	-0.04
Teaching at Current School 6-10 years	-0.03	-0.08	0.06	0.07	0.07	0.03	0.00	*-0.09	-0.02
Teaching at Current School 11-20 yrs	*-0.09	-0.07	*0.14	0.03	*0.15	*0.21	-0.03	*-0.13	0.03
Teaching at Current School 21+ years	-0.06	*-0.09	*0.12	0.02	0.06	*0.17	-0.01	*-0.08	-0.03
Teaching Language Arts 0-5 years	0.08	*0.12	*-0.19	-0.02	*-0.09	*-0.08	0.05	*0.11	-0.01
Teaching Language Arts 6-10 years	0.00	-0.05	0.00	0.04	-0.01	-0.02	*0.08	-0.02	-0.01
Teaching Language Arts 11-20 years	0.02	*-0.08	*0.19	0.00	0.04	0.07	-0.07	-0.02	0.00
Teaching Language Arts 21+ years	-0.05	-0.07	*0.20	0.00	*0.17	*0.08	-0.06	*-0.08	0.04
Professional Certificate LA/R	*0.36	*-0.11	0.07	*-0.33	*-0.14	*-0.10	-0.06	*0.30	0.07
Temporary Certificate LA/R	0.04	0.04	*-0.13	0.02	0.03	-0.03	0.06	0.02	0.00
Certified in Another Content Area	0.03	*0.20	0.07	*-0.21	*-0.18	*-0.12	*0.12	*0.18	0.04
No Certification	-0.02	0.01	*-0.11	0.00	-0.05	-0.03	0.08	-0.05	-0.02
K-12 Reading Endorsement	1.00	*-0.21	0.06	*-0.17	*-0.15	*-0.12	0.05	*0.33	0.05
Pursuing K-12 Reading Endorsement	*-0.21	1.00	*-0.18	*-0.12	*-0.22	*-0.16	0.03	*0.37	0.05
Traditional Certification Route	0.06	*-0.18	1.00	-0.05	*0.12	*0.13	-0.06	-0.01	*0.08
Teaching English Courses	*-0.17	*-0.12	-0.05	1.00	*0.11	*-0.11	-0.02	*-0.40	0.00
Teaching Honors English Courses	*-0.15	*-0.22	*0.12	*0.11	1.00	*0.14	*-0.12	*-0.30	0.03
Teaching Advanced English Courses	*-0.12	*-0.16	*0.13	*-0.11	*0.14	1.00	-0.08	*-0.27	-0.06
Teaching Remedial English Courses	0.05	0.03	-0.06	-0.02	*-0.12	*-0.08	1.00	-0.04	-0.03
Teaching Reading Courses	*0.33	*0.37	-0.01	*-0.40	*-0.30	*-0.27	-0.04	1.00	0.05
Gender	0.05	0.05	*0.08	0.00	0.03	-0.06	-0.03	0.05	1.00

*p < .05

Regression Models

Multiple regression analysis was computed for each of the dependent variables: student engagement, instructional strategies, and classroom management. The purpose of the analysis was to determine whether or not any of the independent variables were predictors of the dependent variables. The following tables reflect the results for each of the three dependent variables: Student Engagement, Instructional Strategies, and Classroom Management.

Student Engagement Efficacy:

The multiple regression analysis for student engagement reports an R-square of 0.06 ($p < .05$). This suggests that the independent variables are not predictors of the dependent variable (see Table 24).

Table 24 Student Engagement Efficacy Regression Model

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	28	46.63	1.67	1.19	0.23
Error	555	775.27	1.40		
Corrected Total	583	821.90			

The parameter estimates indicate holding an advanced degree ($b = 0.74$, $t = 2.06$) and teaching English courses ($b = -0.31$, $t = -2.48$) are significant predictors ($p < .05$) of student engagement efficacy when controlling for the remaining variables (see Table 25). Teachers who hold an advanced degree (specialist or doctorate) are more likely to report a mean student engagement efficacy score nearly 3/4 of a point higher than those without advanced degrees after controlling for all of the other predictors. However, teachers teaching English courses are more likely to report a mean student engagement efficacy

score nearly 1/3 of a point lower than teachers teaching other courses after controlling for all of the other predictors.

Table 25 Student Engagement Efficacy Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t	Standardized Estimate
Intercept	1	6.47864	0.27530	23.53	<.0001	0.00000
Bachelor's Degree	1	0.19302	0.12677	1.52	0.1284	0.07748
Master's Degree	1	-0.23232	0.19416	-1.20	0.2320	-0.05115
Advanced Degree	1	0.73855	0.35930	2.06	0.0403	0.08832
Teaching 0-5 Years	1	0.10468	0.24137	0.43	0.6647	0.03363
Teaching 6-10 Years	1	0.03953	0.26311	0.15	0.8806	0.01260
Teaching 11-20 Years	1	0.07113	0.21095	0.34	0.7361	0.02392
Teaching 21+ Years	1	-0.25410	0.22448	-1.13	0.2581	-0.06645
At School 0-5 Years	1	0.00775	0.14596	0.05	0.9577	0.00288
At School 6-10 Years	1	-0.23320	0.17190	-1.36	0.1755	-0.06687
At School 11-20 Years	1	0.04895	0.18995	0.26	0.7968	0.01323
At School 21+ Years	1	-0.24967	0.33445	-0.75	0.4557	-0.03827
Certified LA/R	1	-0.41784	0.24791	-1.69	0.0925	-0.08471
Temporary Cert. LA/R	1	-0.14418	0.60767	-0.24	0.8125	-0.01002
Other Certification	1	-0.15143	0.21122	-0.72	0.4737	-0.03539
No Certification	1	0.07193	0.70903	0.10	0.9192	0.00433
Teaching LA 0-5 Years	1	-0.04287	0.23797	-0.18	0.8571	-0.01427
Teaching LA 6-10 Years	1	0.13444	0.26324	0.51	0.6098	0.04319
Teaching LA 11-20 Years	1	0.06835	0.23494	0.29	0.7712	0.02213
Teaching LA 21+ Years	1	0.19098	0.18875	1.01	0.3121	0.05813
K-12 Reading Endorsed	1	0.06086	0.18941	0.32	0.7481	0.01603
Pursuing K-12 Rdg. End.	1	0.04068	0.13584	0.30	0.7647	0.01544
Traditional Certification	1	0.09196	0.12855	0.72	0.4747	0.03521
Teaching English Courses	1	-0.31461	0.12675	-2.48	0.0134	-0.12643
Teaching English H Crs.	1	-0.11769	0.11783	-1.00	0.3183	-0.04581
Teaching Adv. English Crs.	1	0.01311	0.16708	0.08	0.9375	0.00380
Teaching Remdial Eng. Crs.	1	0.23176	0.21506	1.08	0.2817	0.04637
Teaching Reading Crs.	1	-0.04417	0.14034	-0.31	0.7531	-0.01803
Gender	1	0.18710	0.11984	1.56	0.1190	0.06561

Instructional Strategies Efficacy

The multiple regression analysis for instructional strategies reports an R-square of 0.08 ($p < .05$). This suggests that the independent variables are predictors of the dependent variable (see Table 26).

Table 26 Instructional Strategies Efficacy Regression Model

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	28	36.46	1.30	1.62	0.02
Error	555	445.67	0.80		
Corrected Total	583	482.13			

The parameter estimates indicate holding a master's degree ($b = -0.30$, $t = -2.01$), teaching English courses ($b = -0.26$, $t = -2.69$), and teaching language arts for 21 or more years ($b = 0.38$, $t = 2.63$) are significant predictors ($p < .05$) of instructional strategies efficacy when controlling for the remaining variables (see Table 27). Teachers who hold a master's are more likely to report an instructional strategy mean efficacy score nearly 1/3 of a point lower than teachers who do not hold a master's degree. Teachers teaching English courses are more likely to report an instructional strategy mean efficacy score of approximately 1/4 of a point lower than teachers teaching other courses, and teachers who have been teaching language arts for 21 or more years report an instructional strategy mean efficacy scores of nearly 2/5 higher than language arts teacher with fewer years of experience.

Table 27 Instructional Strategies Efficacy Parameter Estimates

Variable	DF	Parameter		t Value	Pr > t	Standardized
		Estimate	Error			Estimate
Intercept	1	7.47518	0.20873	35.81	<.0001	0.00000
Bachelor's Degree	1	-0.03832	0.09611	-0.40	0.6903	-0.02008
Master's Degree	1	-0.29640	0.14721	-2.01	0.0445	-0.08520
Advanced Degree	1	0.51960	0.27242	1.91	0.0570	0.08113
Teaching 0-5 Years	1	0.10685	0.18300	0.58	0.5595	0.04482
Teaching 6-10 Years	1	0.20483	0.19949	1.03	0.3050	0.08526
Teaching 11-20 Years	1	0.09490	0.15994	0.59	0.5532	0.04167
Teaching 21+ Years	1	0.32509	0.17020	1.91	0.0566	0.11099
At School 0-5 Years	1	0.05716	0.11067	0.52	0.6057	0.02772
At School 6-10 Years	1	-0.04433	0.13033	-0.34	0.7339	-0.01660
At School 11-20 Years	1	0.15341	0.14402	1.07	0.2872	0.05416
At School 21+ Years	1	0.06149	0.25358	0.24	0.8085	0.01231
Certified LA/R	1	-0.27186	0.18796	-1.45	0.1486	-0.07196
Temporary Cert. LA/R	1	-0.25581	0.46074	-0.56	0.5790	-0.02322
Other Certification	1	-0.15595	0.16015	-0.97	0.3306	-0.04759
No Certification	1	-0.08922	0.53758	-0.17	0.8683	-0.00702
Teaching LA 0-5 Years	1	0.03533	0.18043	0.20	0.8448	0.01536
Teaching LA 6-10 Years	1	0.23688	0.19959	1.19	0.2358	0.09936
Teaching LA 11-20 Years	1	0.23699	0.17813	1.33	0.1839	0.10016
Teaching LA 21+ Years	1	0.37589	0.14311	2.63	0.0089	0.14937
K-12 Reading Endorsed	1	0.08213	0.14361	0.57	0.5676	0.02823
Pursuing K-12 Rdg. End.	1	0.04453	0.10300	0.43	0.6657	0.02206
Traditional Certification	1	0.12535	0.09747	1.29	0.1989	0.06267
Teaching English Courses	1	-0.25831	0.09610	-2.69	0.0074	-0.13554
Teaching English H Crs.	1	-0.09379	0.08934	-1.05	0.2943	-0.04766
Teaching Adv. English Crs.	1	-0.05069	0.12668	-0.40	0.6892	-0.01918
Teaching Remdial Eng. Crs.	1	0.21786	0.16306	1.34	0.1821	0.05691
Teaching Reading Crs.	1	-0.10084	0.10641	-0.95	0.3437	-0.05373
Gender	1	0.14367	0.09086	1.58	0.1144	0.06578

Classroom Management Efficacy

The multiple regression analysis for classroom management reports an R-square of 0.09 ($p < .05$). This suggests that the independent variables are predictors of the dependent variable (see Table 28).

Table 28 Classroom Management Efficacy Regression Model

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	28	56.58	2.02	1.89	0.004
Error	555	594.29	1.07		
Corrected Total	583	650.87			

The parameter estimates indicate teaching for 21 or more years ($b = 0.41$, $t = 2.06$), teachers teaching language arts/reading for 11-20 years ($b = 0.46$, $t = 2.23$), teaching language arts/reading for 21+ years ($b = 0.53$, $t = 3.20$), teaching English courses ($b = -0.27$, $t = -2.45$), and teaching honors English courses ($b = -0.24$, $t = -2.34$) are significant predictors ($p < .05$) of classroom management efficacy when controlling for the remaining variables (see Table 29). Teachers who have been teaching for 21 or more years are more likely to report mean classroom management efficacy scores $2/5$ of a point higher than teachers who have been teaching for fewer years. Teachers who have been teaching language arts and/or reading for 11-20 years are more likely to report a mean classroom management efficacy score nearly $1/2$ of a point higher than teachers who have been teaching for fewer or more years, while teachers teaching language arts and/or reading for 21 or more years are more likely to report a mean classroom management efficacy score over $1/2$ of a point higher than teachers who have been teaching for less than 21 years. However, teachers who are teaching regular or honors English courses are more likely to report mean classroom efficacy scores approximately $1/4$ of a point lower than teachers teaching other courses.

Table 29 Classroom Management Efficacy Parameter Estimates

Variable	Parameter		t			Standardized
	DF	Estimate	Error	Value	Pr > t	Estimate
Intercept	1	7.26979	0.24104	30.16	<.0001	0.00000
Bachelor's Degree	1	0.11155	0.11099	1.01	0.3153	0.05032
Master's Degree	1	-0.23817	0.16999	-1.40	0.1618	-0.05892
Advanced Degree	1	0.36629	0.31458	1.16	0.2448	0.04922
Teaching 0-5 Years	1	0.38941	0.21133	1.84	0.0659	0.14059
Teaching 6-10 Years	1	0.38637	0.23036	1.68	0.0941	0.13842
Teaching 11-20 Years	1	0.26653	0.18469	1.44	0.1496	0.10073
Teaching 21+ Years	1	0.40536	0.19654	2.06	0.0396	0.11912
At School 0-5 Years	1	0.08279	0.12779	0.65	0.5173	0.03456
At School 6-10 Years	1	-0.05153	0.15050	-0.34	0.7322	-0.01660
At School 11-20 Years	1	0.13049	0.16631	0.78	0.4330	0.03965
At School 21+ Years	1	0.26037	0.29283	0.89	0.3743	0.04485
Certified LA/R	1	-0.36221	0.21705	-1.67	0.0957	-0.08252
Temporary Cert. LA/R	1	0.13570	0.53204	0.26	0.7988	0.01060
Other Certification	1	0.04620	0.18493	0.25	0.8028	0.01213
No Certification	1	0.40511	0.62078	0.65	0.5143	0.02743
Teaching LA 0-5 Years	1	0.10826	0.20835	0.52	0.6035	0.04051
Teaching LA 6-10 Years	1	0.23102	0.23048	1.00	0.3166	0.08340
Teaching LA 11-20 Years	1	0.45886	0.20570	2.23	0.0261	0.16691
Teaching LA 21+ Years	1	0.52926	0.16526	3.20	0.0014	0.18101
K-12 Reading Endorsed	1	-0.06357	0.16584	-0.38	0.7016	-0.01881
Pursuing K-12 Rdg. End.	1	0.04779	0.11894	0.40	0.6880	0.02038
Traditional Certification	1	0.12619	0.11255	1.12	0.2627	0.05430
Teaching English Courses	1	-0.27147	0.11097	-2.45	0.0147	-0.12260
Teaching English H Crs.	1	-0.24181	0.10317	-2.34	0.0194	-0.10577
Teaching Adv. English Crs.	1	-0.10178	0.14629	-0.70	0.4869	-0.03315
Teaching Remedial Eng. Crs.	1	0.05077	0.18830	0.27	0.7875	0.01141
Teaching Reading Crs.	1	-0.03784	0.12288	-0.31	0.7582	-0.01735
Gender	1	0.02250	0.10492	0.21	0.8303	0.00887

Partial Regressions

The number of years teaching, number of years teaching language arts/reading, number of years at the current school, and courses taught are independent variables which were each divided into smaller categories for purposes of data collection. These categories are reported in the multiple regression statistics. In order to determine whether or not the each of the whole categorical variable is a predictor of teacher efficacy, partial

regression models were created to examine the predictability of the number of years teaching, number of years teaching at the current school, and number of years teaching language arts, and courses taught on each of the dependent variables (see Table 30). The results indicate the number of years teaching, teaching language arts, and years teaching at the current school are significant predictors of both instructional practices efficacy and classroom management efficacy. Additionally, the courses taught is a significant predictor of classroom management efficacy. None of these variables are significant predictors of student engagement efficacy ($p < .05$).

Table 30 Partial Regression F Values

Removed Variables	R-Square	F Value
Student Engagement		
Teaching Experience	0.05	1.32
Teaching LA Experience	0.05	1.34
Years at School	0.05	1.29
Courses Taught	0.04	1.04
Instructional Practices		
Teaching Experience	0.07	1.76*
Teaching LA Experience	0.06	1.56*
Years at School	0.07	1.81*
Courses Taught	0.06	1.50
Classroom Management		
Teaching Experience	0.08	1.93*
Teaching LA Experience	0.06	1.68*
Years at School	0.08	2.09*
Courses Taught	0.07	1.77*

* $p < .05$

Generalizability of Results

In order to determine the generalizability of the results the data were randomly split using the RANUINI and Proc Rank functions in SAS. The purpose was to determine the ability of the model to predict the same results on an independent data sample (Stevens, 1999, p. 271). Multiple regression analysis was then computed for each of the

dependent variables: student engagement, instructional strategies, and classroom management.

The F-Value for the sample population for student engagement is 1.04 with an R-square of .0473 ($p = .4109$). The split sample reports an F-Value of 1.04 with an R-square of 0.0935 ($p = 0.4106$). Both sets of data indicate there is no significant relationship between the predictor variables and the dependent variable.

The F-Value for the sample population for instructional strategies is 1.58 with an R-square of 0.0703 ($p = .03$). The split data sample reports an F-Value of 1.18 with an R-square of 0.1043 ($p = 0.2518$). The sample data indicate a significant predictor relationship between the independent variables and the dependent variable; however, the split data indicate no significant relationship exists between the independent variables and the dependent variables.

The F-Value for the sample population for classroom management is 1.81 with an R-square of 0.0794 ($p < .01$). The split data sample reports an F-Value of 1.21 with an R-square of 0.1066 ($p = .2235$). The sample data indicate a significant predictor relationship between the independent variables and the dependent variable; however, the split data indicate no significant relationship exists between the independent variables and the dependent variables.

Chapter Summary

The data from this survey were analyzed using the SAS System. Both descriptive and multiple regression analysis data were reported.

The descriptive analyses indicate a higher percentage of teachers at Florida's "D" and "F" public high schools hold master's and advanced degree than the average for all teachers in Florida.

The majority of the sample (74%) holds a Florida professional teaching certificate in language arts/and/or reading. However, the percentage of teachers who teach reading classes and who also are either certified in K-12 reading or are endorsed in K-12 reading is only 31%. The majority of teachers in the sample earned traditional certifications (71%)

The percentage of teachers teaching more than one course is 45%. The percentage of teachers teaching English courses only is 25%, and the percentage of teachers teaching reading courses only is 21%.

The mean efficacy scores indicate that while all three efficacy means fall within the mean averages reported by Tschannen-Moran and Hoy (2001), there are variations in the means. The sample mean for student engagement efficacy is lower than the mean reported by Tschannen-Moran and Hoy (effect size = -.81), while the sample mean for instructional strategies is similar to Tschannen-Moran and Hoy (effect size = .09). The sample mean for classroom management is higher than the mean reported by Tschannen-Moran and Hoy (effect size = .64).

A correlation matrix was run using the SAS System. The data indicate significant correlations ($p < .05$) between all three dependent variables as well as significant correlations between the dependent variables and the independent variables resulting in multicollinearity.

The multiple regression analysis indicates no predictive relationship exists between the dependent variable student engagement efficacy and the 28 independent variables; however, predictive relationships exist between instructional strategies efficacy and classroom management efficacy and the independent variables.

The data indicate that while multicollinearity is a problem, some of the independent variables are significant predictors. This is true for teaching regular English courses for all three dependent variables.

Much can be learned from the data collected in this study. Further discussion of the implication and suggestions for further research are contained in Chapter Five.

Chapter Five

Discussion

Introduction

Helping students achieve their full potential and insuring they have the most qualified teachers to reach this goal are the underlying currents driving research into what determines teacher quality. The initiatives set forth in No Child Left Behind (NCLB) attempt to address the need for improving teacher quality by defining highly qualified teachers as those who hold at least a bachelor's degree from a four-year institution, have received full state certification, and demonstrate competence in their subject area. NCLB bases its definition of highly qualified teachers on research indicating a relationship exists between student achievement and teacher degree status and content area knowledge (Goldhaber & Anthony, 2003; Goldhaber & Brewer, 1996).

On the other hand, considerable research also suggests that identifying highly qualified teachers is an exceedingly complex task extending beyond the limitations defined in NCLB (Anderson, Greene, & Loewen, 1988; Berry, Hoke, & Hirsch, 2004; Darling-Hammond, 2000; Goldhaber & Anthony, 2003; Hess, 2001; Ingersoll, 1996; Lankford et al., 2002; Moore & Esselman, 1994; Raudenbush, Rowan, & Cheong, 1992). Student achievement is linked in educational research to a myriad of teacher characteristics including teaching experience, gender, pedagogical training, length of service at the specific school site, type of certification held, and courses taught.

In addition to specific teacher characteristics linked to student achievement, considerable research also indicates teachers' sense of efficacy is related to student achievement (Behar-Horenstein, Pajares, & George, 1996; Cabello & Burstein, 1995; Davis & Wilson, 1999; Fang, Z., 1996; Muijs & Reynolds, 2002; Olson & Singer, 1994; Pajares, 1992; Prawat, 1992; Stodolsky & Grossman, 2000; Stuart & Thurlow, 2000; Taylor & Sobel, 2001; Warren, 2002; Zohar, Dengani, & Vaaknin, 2001). Efficacy is defined as the extent to which teachers believe they have the ability to bring about changes in student achievement independent of the student's background, behaviors, or motivation level. Teachers with a strong sense of efficacy have a strong relationship to higher student achievement than teachers with a low sense of efficacy.

Most importantly, research indicates teacher effectiveness has a greater impact on student achievement than other factors such as socioeconomic status, gender, race, etc. (Sanders & Rivers, 1996). Determining which teacher characteristics are predictors of improved student achievement, recruiting teachers who demonstrate those predictive characteristics, and retaining them in the schools requiring the most help should be the priority of every district and school administrator.

This study was designed to identify specific characteristics of language arts and reading teachers at Florida's "D" and "F" public high schools to determine who is teaching the students (identified by Florida's accountability system) requiring the most academic help. The specific characteristics identified in this study are degree status, number of years teaching, number of years teaching at the current school, number of years teaching language arts/reading, certification status, reading endorsement status, certification route, language arts courses taught, and gender.

Additionally, the study was designed to determine whether or not a relationship exists between these specific characteristics and teacher efficacy. There is limited research examining the relationship between teacher characteristics and teacher efficacy. While we have research indicating that teachers with a high sense of efficacy are related to improved student achievement, few studies examine the factors that may predict high efficacy. Therefore, this study was designed to examine the relationship between teacher characteristics and teachers efficacy.

The study is guided by the following research questions:

1. What is the distribution of demographic, educational preparation, and professional experience factors (gender, level and type of degree, pedagogical training, type of certification, years of experience, and courses taught) among language arts teachers at low-performing Florida public high schools?
2. Based on the Teachers' Sense of Efficacy Scale (see Appendix F), what is unweighted mean of the items that load on each factor for language arts teachers teaching at low-performing Florida public high schools?
 - a. student engagement,
 - b. instructional strategies, and
 - c. classroom management
3. What is the direction and strength of the relationship between these specific teacher characteristics and teacher efficacy for language arts teachers teaching at low-performing Florida high schools?

Research Question One – Teacher Characteristics

This study collected data using a teacher questionnaire to determine the distribution of demographic, educational preparation, and professional experience factors (gender, level and type of degree, pedagogical training, type of certification, years of experience, and courses taught) among language arts teachers Florida's low-performing public high schools. These specific characteristics were chosen because of research indicating a link between each of these factors and student achievement.

The schools identified in this study are all low-performing schools based on Florida's accountability program. Fewer than 50% of all students in all schools participating in the study are meeting high standards in reading as defined by the state of Florida. Eighty-two percent of the schools report that more than 60% of their students are not achieving high standards in reading. Thirty-two percent of the schools report more than 50% of their students meet the federal guidelines for free and reduced lunches. Forty-five percent report more than 50% of their students are minority students.

Past research indicates low-performing schools tend to hire under-qualified teachers. Subsequently, one might expect to find fewer teachers with advanced degrees, fewer teachers with teaching experience, and more out-of-field teachers at the schools participating in this study. Therefore, the first step of the research was to determine whether or not this is the case for Florida's "D" and "F" public high schools.

Degree Status

Based on the requirements of NCLB and the data collected through the teacher surveys, it appears low-performing public high schools in Florida are staffed with highly

qualified language arts teachers for the English classes. However, for teachers assigned to teach reading classes, the percentages are quite dismal.

After collecting data indicating that 40% of the responding language arts and reading teachers at Florida's "D" and "F" high schools have earned master's degrees and an additional 6.5% have earned advanced degrees, the data was compared to the 2005-2006 SPARS reports (NCLB School Public Accountability Reports 2005-2006). The percentage of teachers in the study with master's and advanced degrees is higher than the percentage of all teachers with masters or advanced degrees at all public schools in Florida. It is important to remember that the SPARS provides data relating to all teachers in Florida, not just language arts and reading teachers and not just secondary teachers. The SPARS data is not disaggregated to allow a true comparison of the results of this study to either public high school teachers or secondary language arts teachers. However, when compared to all schools and all teachers in Florida, Florida's "D" and "F" public high schools appear to be meeting and exceeding the minimum expectations for degree status.

Based on the research linking student achievement to teacher degree level, one would expect to find higher student achievement in these schools. Instead, the study suggests staffing low-performing schools with high percentages of teachers with bachelor's, master's, and advanced degrees may be insufficient to ensure improved student achievement.

More importantly, the study suggests more attention needs to be placed on type of degree rather than simply examining the level of degree. Nearly 23% of low-performing students enrolled in English classes in Florida are taught by teachers who do not hold

degrees in either English or English education. Sixty-three percent of responding teachers do not hold degrees in English education. For reading classes, the percentage of teachers who do not hold degrees in reading is even higher (85%).

Only 37% of the teachers in this study hold degrees in English education. This number becomes more significant when we examine student achievement. Over 50% of the students enrolled in the participating schools are not meeting state standards in reading. With 82% of the schools reporting that 60% or more of their students are not meeting high standards in reading, it becomes imperative that we provide these students with teachers who have been trained in how to teach students rather than simply relying on teachers who demonstrate English content area knowledge but who do not have the necessary pedagogical training required to help these students learn. Seventy-three percent of their teachers do not have training in language arts pedagogy, suggesting these teachers may be ill-prepared to serve the needs of these struggling students. The study clearly implies the need to readdress what constitutes a highly qualified teacher, moving beyond identifying degree level and focusing more on the degree type.

For reading, the numbers are increasingly dismal. Only 15% of teachers teaching reading courses have any training in reading. Florida now requires all students identified as Level 1 and Level 2 on the reading portion of the FCAT to be enrolled in some type of a reading course. For schools identified in this study, the need for reading teachers who are highly qualified, who understand not only the reading process but who also understand how to help students who have experienced years of low achievement is significant. When 60% of the students at a school require reading remediation and only 15% of the teachers at the school have degrees in reading, the expectation that placing

students in a reading class will result in increased reading achievement seems impossible to achieve. Simply placing students in reading classes will not ensure improved student reading achievement. Instead, the teachers assigned to reading classes must be highly qualified, highly effective teachers who are prepared to meet the diverse and serious needs of these particular students.

Number of Years Teaching

Current research concludes that low-performing schools tend to employ fewer experienced teachers than high-performing schools (Ingersoll, 2002). The majority of teachers in this study report having taught for more than 5 years (68%) with over 50% reporting they have taught for more than 10 years, yet 63% of the teachers have been teaching at the current school for 5 years or less. The percentage of teachers who have been at the school for 2 or less years is 36%. The SPARS reports indicate the state percentage for “newly hired” teachers is 21%.

Once again, the data indicate a need to examine further the relationship between teacher experience and student achievement, but instead of focusing on longevity of teaching experiences, studies should examine the characteristics of teachers who choose to stay at or move to low-performing schools and compare these characteristics to teachers who choose to leave these schools. What are the characteristics that are different about the teachers who teach at low-performing schools compared to the teachers at high-performing schools? Perhaps longevity is not as important as teaching methods and teacher attitudes towards students when it comes to impacting student achievement for low-performing students. These data suggest a need to examine teacher performance in the classroom rather than rely on years of teaching experience as a reliable predictor of

improved student achievement. It is the quality of teaching that matters more than the length of service.

Certification and Endorsement Status

The data from this study conclude that 91% of the responding language arts teachers at Florida's "D" and "F" public high schools who are teaching English courses hold a professional or temporary teaching certificate in language arts 6-12. For teachers teaching reading, only 16% of the responding teachers hold a professional or temporary teaching certificate in K-12 reading. An additional 24% hold the K-12 Reading Endorsement.

The 2005-2006 SPARS report indicates 93% of all Florida teachers are teaching "in-field," defined by SPARS as holding a certificate in their area of responsibility. Compared to the state percentages for in-field teachers in all public school classrooms, the percentage of in-field language arts teachers in this study is nearly equal. The same cannot be said for the percentage of reading teachers, which is considerably lower than the state percentage of all teachers.

Once again, it appears Florida's "D" and "F" public high schools are staffing their English classrooms with highly qualified teachers who are, for the most part, certified in their content area. However, with all of the schools in the study reporting that fewer than 50% of their students are meeting state reading achievement standards, the need to examine the link between certification status and student achievement becomes more apparent. While the percentage of teachers certified in 6-12 language arts is quite high, the percentage of these same teachers who hold any type of degree in English education is considerably lower, indicating once again a need to examine the relationship between

the type of degree compared to certification status. Does certification indicate an understanding of how to motivate and engage students, or is certification simply a reflection of the teachers' content area knowledge? Is content area knowledge enough to ensure improved student achievement?

For the reading classroom, the numbers are less encouraging. The total percentage of reading teachers who are either K-12 reading certified or endorsed is thirty-one percent. Of that 31%, only 16% have actual degrees in reading or reading education. This raises into question the K-12 Reading Endorsement process. It is too early and the percentage of teachers who have obtained this endorsement is too few to determine the fidelity of the endorsement process. With an additional 47% of the respondents reporting they are seeking the K-12 Reading Endorsement, it is imperative that future studies examine the effects of requiring students who demonstrate low reading achievement to be placed in reading classrooms staffed by teachers who have gone through the K-12 Endorsement in order to determine the effectiveness of this endorsement process and its impact on student reading achievement

Qu and Becker (2003) report that traditionally certified teachers tend to outperform alternatively certified teachers in some states. This study does not compare student achievement outcomes for teachers; however, it does conclude that 71% of the teachers in this survey received their certification through traditional means while 29% earned certification through alternative means.

Highly Qualified Teachers

NCLB defines highly qualified teachers as those who hold at least a bachelor's degree from a four-year institution, have received full state certification, and demonstrate

competence in their subject area. Of the teachers participating in this study, 92% of English teachers meet the minimum requirements defined in NCLB. The percentage of highly qualified teachers at Florida's "D" and "F" public high schools exceeds the state percentage of all teachers at all public high schools reported in the 2005-2006 SPARS (90%). For reading teachers, the results are not as promising. Only 31% are qualified under NCLB guidelines to receive status as highly qualified teachers.

The results from the data analysis suggest that Florida's "D" and "F" public high schools are staffed by highly qualified English teachers based on NCLB's policy. However, based on this same policy, these schools are staffed by under-qualified reading teachers. Future studies focusing on the relationship between highly qualified teachers and student achievement gains might provide better insight on the impact of highly qualified teachers on improved student achievement.

Courses Taught

The study concludes that 46% of teachers at Florida's "D" and "F" public high schools are teaching multiple language arts courses. Only 25% are teaching regular English only, and 20% are teacher reading only.

A comparison of the number of years teaching and the courses taught reveals that each course is taught by a wide range of teachers with different levels of experience. For instance, for teachers teaching English, 10.24% have 0-2 years experience, 11.87% have 3-5 years experience, 10.89% have 6-10 years experience, 12.20% have 11-20 years experience, 12.03% have 21-30 years experience and 7.48% have 30 or more years of experience. Based on this data, it appears that for the participating schools, assigning courses to teachers has not been determined by teacher experience.

Gender

The study concludes that the majority of language arts teachers at Florida's low-performing public high schools are female (77.40%). Although some research indicates differences in efficacy scores based on gender, the data in this study indicate little differences in efficacy scores exist between males and females.

Conclusions

The demographic data from this study indicate that the most significant areas of concern for Florida's low-performing public high schools rests in the areas of degree status and years teaching at the current school. This is especially true for secondary reading teachers.

While some might argue that content area knowledge is the primary goal of the language arts curriculum, the data suggest schools might benefit from increasing the percentages of teachers trained in improving student reading ability both in the English as well as the reading classrooms. A closer look at the course descriptions for 9-12 language arts classrooms, both the regular and the honors courses, indicates the purpose of the curriculum is to help students develop reading strategies, acquire an extensive vocabulary, use speaking, listening, and viewing strategies, understand and respond to a variety of literary forms, and understand and utilize language effectively. As the students progress through the four required courses, literature analysis becomes part of the coursework, but is never the primary goal of the coursework. It is essential to note that at no place in the course descriptions is there a listing of specific literature that must be addressed in the language arts classroom. The focus is clearly on the reading and writing processes, with an emphasis on vocabulary acquisition and the development of an ability

to analyze more and more complicated text of all genres at increasingly complex levels as students progress through their studies. (Florida Department of Education, Senior High and Adult Grades 9-12. Language Arts). Based on the course descriptions, those teachers who have not received pre-service training on how to teach reading and writing skills might find themselves ill-prepared to meet the demands of the language arts classroom.

It is clear from the data that staffing schools with teachers who possess a minimum of a bachelor's degree and who are certified in their area of responsibility does not guarantee improved student achievement. The schools in the study appear to be staffed by teachers who exceed the minimum requirements of NCLB and who exceed the state percentages for teacher degree level; however, over 50% of students at these schools are not meeting the reading achievement standards measured on the FCAT. These data suggest a need to provide these students with teachers who have received appropriate pedagogical training designed to teach students how to read and write rather than relying on teachers whose pre-service training was primarily focused on literature or other content areas.

The data also suggest a need to examine why fewer than 40% of the teachers have been at the school for more than 5 years. Only 15% of the responding teachers are beginning teachers who have taught for 1 or 2 years. The remaining teachers have been teaching for 3 or more years with 68% teaching for 5 or more years. It appears these schools are staffed with a significant number of experienced teachers, but with teachers who have not remained at the school for more than 5 years. These data raise some interesting questions such as: why is there such a large attrition rate for teachers at these schools. Since the majority of teachers are not beginning teachers, what factors

contributed to the experienced teachers' decisions to come to these schools? What factors resulted in the decision by experienced teachers to stay at the school for more than 5 years? How do these teachers compare to teachers at high-performing schools with equal experience?

Further research in both the area of degree status, specifically examining the impact of education degrees versus content area degrees on student reading achievement in secondary schools, and in the area of teacher retention, specifically identifying the teacher characteristics of experienced teachers at low-performing schools, is necessary in order to provide more accurate conclusions as to the impact of these two factors on student achievement.

Research Question Two – Unweighted Means for Efficacy

Efficacy is defined as the extent to which teachers' believe they have the ability to bring about changes in student achievement independent of the student's background, behaviors, or motivation level. Using the Teacher Sense of Efficacy Scale Long (Tschannen-Moran and Hoy, 2001), teachers were asked to respond to 24 questions on a 9 point Likert Scale. The directions ask them to "indicate [their] opinion about each of the statements." The TSES yields efficacy means for three efficacy categories: student engagement efficacy, instructional practices efficacy, and classroom management efficacy. The results of the questionnaire suggest the respondents in this study are more comfortable with their ability to control the classroom and provide adequate instruction than they are with their ability to engage students in learning.

The factors loading on to classroom management efficacy ask the teachers to report how they feel about their ability to manage student behavior. Over 50% report

average classroom management efficacy with an additional 41% report high classroom management efficacy. Clearly 91% of the responding teachers are comfortable with their ability to control the classroom. They can get students to follow the classroom rules, and they know how to calm the disruptive student. They are comfortable managing the classroom environment when it comes to routines and behaviors.

The statistics for instructional strategies are even higher. Seventy-nine percent of the respondents report average means for instructional strategies efficacy with an additional 13% reporting high efficacy means. Teachers in the study overwhelmingly believe they can implement instructional strategies in their classroom (92%). These teachers believe they can use a variety of assessment strategies and provide alternative explanations or examples when students are confused. They are comfortable crafting good questions and responding to difficult student questions. They feel capable of implementing alternative strategies for different students and are able to adjust the lesson for differences in student levels. They are comfortable gauging student comprehension and providing challenging curriculum for capable students.

The challenge for the respondents rests within student engagement efficacy. Over 43% are uncomfortable when it comes to helping students believe they can do well in school. They don't believe they can help students value learning or motivate student interest in school. They don't believe they have the ability to help students think critically or foster student creativity. They are at a loss as to how to motivate the most difficult students.

It would seem that responding language arts teachers at Florida's "D" and "F" public high schools are confident in their own knowledge and skills when it comes to

managing student behavior and providing instruction but do not believe they have the knowledge or skills necessary to motivate students to achieve success. These teachers seem to believe that student achievement is dependent upon the learner rather than on the teacher.

Efficacy research indicates teachers with a high sense of efficacy tend to take on more responsibility for student achievement than teachers with low sense of efficacy (Hall, Hines, Bacon, & Koulianos, 1992; Martin, Crossland, & Johnson, 2001; Tournaki & Podell, 2005). The results of this study indicate 43% of the responding teachers are blaming students' lack of motivation to learn as a reason for low achievement. The respondents do not believe they can motivate students who show low interest in schoolwork. Nor do they believe they can improve the understanding of a student who is failing. This, then, changes the classroom culture from one of inquiry to one of crowd control. The successful teacher is the one who is able to maintain control and continue to provide instruction not dependent upon engaging students in the learning process. The teachers may feel they do not have the ability or power to engage students, thus, it no longer remains an objective.

All of the teachers in this study are working in schools reporting that more than 50% of their students are not able to meet the state reading achievement standards. Teachers' sense of efficacy is influenced by past student performance (Denham & Michael, 1981). If teachers are confident they have the knowledge and skills necessary to teach the students and manage the classroom, but do not feel they have the ability to engage the students in learning, then it seems reasonable to examine further the type of learning experiences the teachers are providing the students. If teachers' emphasis

remains on classroom management, and if teachers are providing independent seat work designed to keep the students busy and, therefore, not disruptive, then the purpose of classroom instruction remains on student control rather than student learning. Engaging activities that allow students to discuss higher level concepts require that teachers relinquish control of the classroom with the expectation that students can learn through this process. Teachers who have no confidence in their students' ability to learn and who feel a need to manage the classroom do not provide interesting, student centered, highly engaging activities for the students. The data represented in this study might suggest teachers are not creating classrooms supportive of high achievement and are instead creating classrooms focusing on classroom management.

An examination of the relationship between teachers' sense of student engagement efficacy and the low percentage of teachers with English education background may suggest a need to provide teachers with specific training designed to help them engage students in learning. Teachers who have not received pedagogical training provided through education coursework may not have the prerequisite skills necessary to understand how to engage students in meaningful learning experiences. Wenglinsky (2000) reports that classroom activities and professional development designed to enhance classroom activities have a greater impact on student achievement than does teacher degree. Providing teachers with professional development supporting engaging students in learning as well as providing teachers with age and interest-level appropriate materials might serve to help teachers feel more effective in engaging students.

The data also raise questions relating to the construct of teacher efficacy. If, as research suggests, higher efficacy scores are predictors of higher student achievement (Denham & Michael, 1981), and, if efficacy is delineated into three categories, then which of these three efficacy categories is a better predictor of student achievement? In this study, low student engagement efficacy seems to be the predominant efficacy factor preventing the responding teachers from feeling successful with their students.

Further studies examining the link between student achievement and student engagement efficacy may provide more insight into these results. Studies specifically examining the type of activities afforded students in low-performing schools may afford insight and direction for the future. Questions to consider include:

- How do teachers' beliefs that they can control the student population but that they cannot impact student engagement affect the classroom environment?
- If the classroom becomes focused on behavior control and not on engaging students, does student learning suffer?
- How comfortable are teachers in providing opportunities for students to participate in student-led discussion?
- How comfortable are teachers in teaching students how to read text and then allowing students to discuss their learning with other students?
- How comfortable are teachers in limiting the amount of lecture and allowing students learning to be more self-directed?
- What are the elements that one would expect to observe in a classroom promoting student engagement in learning?

Research Question Three – The Direction and Strength of the Relationship between Teacher Characteristics and Teacher Efficacy

Multiple Regression analysis was conducted on the data using the SAS System. The dependent variables were teachers' sense of efficacy for student engagement, instructional practices, and classroom management. The independent variables were characteristics of teachers participating in the study (bachelor's degree, master's degree, advanced degree, number of years teaching, number of years teaching at the current school, number of years teaching English/language arts/reading, type of certificate held, status of K-12 reading endorsement, certification route, courses taught, and gender).

The correlation matrix indicates all of the independent variables are correlated to some degree. Multicollinearity increases the difficulty in determining the importance of specific predictors on the dependent variables and limits the size of R. Such is the case in this study. However, a closer look at the predictor variables indicates some of the independent variables are significant predictors of teacher efficacy when controlling for all independent variables ($p < .05$).

Student Engagement Efficacy

Teachers who hold advanced degrees (specialist and doctorate degrees) tend to report higher efficacy means for student engagement than teachers who do not. Unfortunately, only 6% of the teachers in this study hold advanced degrees. Their scores tend to be 3/4 of a point higher than teachers without advanced degrees. This data is interesting in light of the efficacy mean data indicating 43% of respondents do not feel they have the ability to improve student engagement. It might be worthwhile to examine

the differences in classrooms taught by teachers with advanced degrees compared to other classrooms.

Unfortunately, teachers who are teaching English courses tend to report lower student engagement efficacy means than teachers teaching other courses. This is important because 70% of the teachers in the study are teaching English courses. What is different about the regular English class from other courses that results in lower student engagement efficacy for teachers? One would expect teachers teaching reading and remedial classes to have low efficacy scores; however, there does not appear to be a significant link between low student engagement efficacy scores and reading or remedial courses. Keeping in mind that all of these teachers are assigned to schools with 50% or more of their students reporting low-achievement in reading, further research seems necessary to determine the factors affecting teachers' sense of student engagement efficacy in the English classroom.

Instructional Strategies Efficacy

Teachers with master's degrees and who are teaching English courses tend to report lower efficacy means for instructional strategies than other teachers. This data is interesting because overall, teachers in the study report feeling comfortable about their ability to employ effective instructional strategies in the classroom.

Teachers with a high sense of instructional strategies efficacy tend to believe they are skilled at implementing alternative strategies to help students learn, they are capable of gauging student comprehension of what has been taught, and they can provide alternative explanations or examples when student are confused. They also believe they

are able to provide appropriate challenges for very capable students. This leads to some interesting questions for future research:

- What is different about teaching students assigned to regular English courses in low-performing schools than teaching regular English courses in high-performing schools?
- What is different about teaching regular English courses in low-performing schools compared to other language arts courses in low-performing schools?
- What factors result in teachers with master's degrees feeling less confident about their ability to employ appropriate instructional strategies than other teachers?
- To what degree does student past performance affect teachers' beliefs that they can, in fact, impact student learning using the instructional strategies skills they have developed?

Teachers with master's degrees have spent additional time fine-tuning their craft as language arts teachers. Of the 481 teachers teaching English courses, only 169 (39%) have master's degrees. Only 55 (11%) of the teachers teaching English courses have earned master's degrees in education. Examining the type of master's degree as well as the academic focus of the degree might provide us with some insight.

It is not surprising that teachers who have been teaching language arts for 21 or more years are comfortable with their ability to effectively utilize instructional strategies. However, the percentage of teachers with 21 or more years teaching language arts is only 20%. While they may be more comfortable with their content area knowledge and their ability to teach that knowledge, 43% still remain uncomfortable with their ability to motivate and engage students. Once again, the need to examine the classrooms of

experienced teachers compared to inexperienced teachers at both high-performing and low-performing schools is needed to better determine the significance of this data.

As with previous results, the data indicate a need to examine the classroom both to discover the instructional practices implemented and to determine why teachers are feeling less successful in the English classroom environment. It is also imperative that future studies measure the impact of degree type on student achievement rather than simply measuring the level of degree.

Classroom Management Efficacy

Finally, teachers who have taught language arts for 11 or more years tend to report higher mean efficacy scores for classroom management. Conversely, teachers who teach English and honors English courses tend to report lower efficacy mean scores for classroom management.

It seems appropriate that teachers with more experience in the language arts classroom are more comfortable managing the classroom than teachers with less experience. However, the lower scores reported by teachers teaching English and English honors is more puzzling, especially as it relates to classroom management. For the most part, teachers reported medium to high classroom management efficacy scores. One might expect lower classroom management scores in remedial or reading courses, but that is not the case. More observational data needs to be collected in order to better define the differences in efficacy means.

Collective Efficacy

Goddard and Goddard (2000) suggest teacher efficacy is related to school context. The teachers at these schools are all employed at schools which have been identified

through Florida's school accountability system as low-performing schools. Fifty percent or more of their students have been identified as low-performing students in the area of reading achievement. All of the teachers in this study have been assigned to improve the reading achievement of their students.

Ross, Hogaboam-Gray, and Gray (2003) suggest student academic history affects collective efficacy. Rosenthal and Jacobson's research (1968) indicates teachers' attitudes towards students' past achievement influences future student achievement. This seems to be the case for teachers who are teaching English courses in this study. These teachers report lower efficacy means in all three categories than teachers teaching other courses. Additionally, teachers teaching English honors courses report lower efficacy means for classroom management which seems somewhat paradoxical in light of the concept that these should be the most motivated and successful students. Perhaps these statistics are a result of collective efficacy which implies that teachers' perceptions are influenced by the context within which they are teaching.

Another area of concern for future research rests with the percentage of teachers teaching multiple courses (46%). If, as suggested by Ross, Cousins, and Gadalla (1996), efficacy is affected by the proportion of classes taught within which the teacher believes he/she is able to engage students, the low student engagement efficacy means reported by 43% of sample population may reflect a generalized school culture perception (collective efficacy) rather than a course context perception. Teachers' beliefs that they can impact student engagement may be diminished due to the number of low-performing students placed in their classes. Future studies that allow for teachers to report efficacy relevant to the different classes they teach may yield more conclusive results.

Conclusions

It is interesting to note that teaching English courses is a significant negative predictor for all three efficacy factors. The data raise questions relating to the nature of teaching English courses compared to teaching other courses. One might expect teachers who are teaching remedial and/or reading classes to have lower sense of efficacy than teachers teaching regular or honors classes (Ashton, Webb, & Doda, 1983; Moore & Esselman, 1994); however, the results indicate that teaching regular English classes is correlated to lower sense of efficacy while teaching remedial and/or reading classes is not significantly related to efficacy at all.

Examining the factors affecting the English classroom might yield more conclusive results. For instance, the teachers in this study indicate a low percentage have received pedagogical training. The study also indicates a large percentage of teachers report low student engagement efficacy. Teachers who have received little or no pedagogical training may not possess the necessary skills to engage students in learning. They may have the academic knowledge they need to “teach” the required course; they may have the classroom management techniques necessary to manage student conduct, but they do not have the teaching knowledge to enable them to provide classroom instruction that meets the needs of their learners. Providing school-based instructional support to help teachers learn how to modify their lessons to include more activities designed to engage students in learning may prove beneficial.

Also of interest are the data indicating that teaching honors English classes is a significant negative indicator for classroom management. Previous research indicates that teacher efficacy is positively related to previous student performance (Moore &

Esselman, 1994; Raudenbush, Rowan, Cheong, 1992). Teachers' sense of efficacy increases when they are teaching students who demonstrate prior positive achievement; yet the data from this study suggest the opposite. Questions for future studies include:

- What is different in low-performing schools that might yield these results?
- Are students enrolled in honors courses at "D" and "F" public high schools perceived differently than students enrolled in honors courses at high-performing schools?

Further research to determine why teaching honors courses is a significant negative predictor of classroom management efficacy may provide some answers.

Previous research indicates teaching experience is not a predictor of teacher efficacy (Hoy, 2000; Pigge & Marso, 1993). However, the data indicate teaching language arts/reading for 11 or more years is a significant positive predictor of classroom management efficacy while teaching language arts/reading for 21 or more years is a significant predictor of instructional strategies efficacy. Additionally, teaching in general for 21 or more years is a significant positive predictor for classroom management.

Questions for future studies might include:

- Why is the number of years teaching language arts positively correlated to instructional strategies and classroom management efficacy when the number of years teaching at the same school is not correlated to instructional strategies and classroom management?
- Does teachers' sense of efficacy change over time when they are teaching low-performing students?

- Do teachers who are teaching low performing students tend to measure their teaching success based on student behavior rather than on student learning outcomes?
- To what degree does teacher efficacy change when experienced teachers who feel successful at high-performing schools are moved to low-performing schools?

The results of the data collected in this study raise more questions than answers. It becomes clear to the researcher that the answers are not readily available, yet finding the answers is necessary if there is truly to be significant changes in the academic achievement of our most needy students.

Conclusions

After examining all of the data, it becomes clear to the researcher that recruiting and retaining highly qualified, highly effective teachers combined with a concerted effort to raise the expectations of achievement for all students at Florida's "D" and "F" public high schools are the prerequisites for success. The follow suggestions may provide guidance in achieving this goal.

Highly Qualified versus Highly Effective Teachers

Currently the designation of "highly qualified" teacher is determined by academic credentials and state-mandated testing and certification. The results of this study clearly indicate credentials alone are insufficient to provide the classroom environment necessary to raise student achievement. Teachers must also have the skills and pedagogical knowledge necessary to engage students in learning activities that support achievement. The designation of highly qualified teacher needs to be modified to include documentation of highly effective teaching.

Recruiting and Retaining Highly Qualified, Highly Effective Teachers

According to Kaplan and Owings (2002), teacher quality is the academic knowledge a teacher holds and teaching quality is the skills and strategies a teacher possesses that improve instruction. If we are to truly address the needs of our lowest performing students in Florida's "D" and "F" public high schools, we need to address both *teacher* quality and *teaching* quality.

The majority of teachers at these schools have been at the sites for 5 or fewer years. The reasons for this statistic are unclear, but it becomes apparent there is a need to examine who is staying at the schools and who is leaving the schools. Incentives need to be implemented to recruit and retain highly qualified, highly effective teachers who are committed to improving student achievement for these particular students. Policy changes may be needed to ensure ineffective teachers are removed from these schools and replaced with teachers who are effective.

The results of this study indicate that fewer than 40% of the responding teachers have received pedagogical training, and over 43% do not believe they have ability to engage students in learning. Instituting hiring practices that give priority to teachers with previous pedagogical training, who express a desire to work with low-achieving students, and who believe they have the ability to impact student achievement may help overcome this trend.

In order to achieve the goal of providing our students with highly qualified, highly effective teachers, serious attention must be given to pre-service education programs for language arts teachers to ensure pre-service teachers now how to incorporate secondary literacy strategies in the classroom that improve student reading achievement. The focus

on teaching needs to shift from content to process. Highly effective language arts teachers not only understand the literature content, they understand how to help students read the content. Teachers need to be prepared to utilize a wide variety of text genres in combination with reading strategy instruction intended to help students comprehend more and more complex text.

Additionally, schools and districts must incorporate site-based teacher professional development and support designed to provide pedagogical training to help existing teachers learn how to teach and engage the students in their classrooms. This can be accomplished by utilizing the literacy coaches assigned to the schools more effectively and by incorporating professional development at the school site that is embedded in the school day and which provides classroom strategies to improve student learning.

Emphasis on Reading Instruction

All of the schools identified in this study report low student reading achievement scores on Florida's FCAT. The data clearly demonstrate a significant need to provide well-trained language arts teachers for both the English classroom and the reading classroom. Included in this provision is the need to ensure these teachers understand not only the reading process but how to engage students who have been unsuccessful for many years.

The K-12 Reading Endorsement process is a step in the right direction. However, the implementation of this process is dependent upon individual counties to provide the endorsement instruction and to ensure the fidelity of the endorsement instruction. The increased pressure to staff the growing number of intensive reading classrooms with highly qualified teachers could lead some districts to lower the standards of the

endorsement process in order to recruit and train large numbers of teachers. Procedures must be in place to determine the effectiveness of the district plans and the implementation of the endorsement training to ensure quality teaching occurs in the classroom.

Schools and districts need to review the language arts curriculum to determine whether or not teachers are providing reading and writing instruction as opposed to literature analysis instruction. The Florida Department of Education course descriptions for English courses clearly states the expectation for 9-12 English classrooms is that students are engaged in activities designed to improve reading, writing, listening, and speaking skills. Students need to be exposed to and instructed in strategies designed to help them comprehend increasingly complex. For this to occur, teachers must be provided with engaging texts, including young adult literature, to encourage student engagement. Classroom instruction should be driven by student progress monitoring data rather than by text lists. Assessments should address reading achievement gains rather than content area knowledge.

Creating a Culture of Literacy and High Expectations

Infusing our language arts classrooms with highly qualified, highly effective teachers will go a long way towards improving the reading achievement for all students. However, creating pockets of highly effective teaching within a school culture of low student expectations is not sufficient to meet the challenges faced by our most struggling schools. Improving teacher efficacy and raising teacher expectations of student achievement is also essential in raising student achievement. High schools must begin to work towards a goal of creating a school-wide literacy culture that supports all students

and is firmly grounded in the belief that all students are capable of learning growth.

Suggestions for achieving this goal include:

- Placing administrative emphasis on the classroom instruction. Administrators need training to help them identify and support effective teaching. They must be given authority to remove ineffective teachers and replace them with effective teachers.
- Providing professional development designed to help teachers implement effective classroom instruction that engages students in the learning. Schools and districts need to restructure the school day to allow more time for teachers to engage in on-going professional development reflecting the needs of the school, its teachers, and its students.
- Effectively utilizing literacy coaches. The K-12 Comprehensive Research-based Reading Plan supports the inclusion of reading coaches at all schools; however, reading coaches are not required to be either certified or endorsed in K-12 reading. Reading coaches need to demonstrate a clear understanding of the reading process and how to improve adolescent literacy prior to serving as the reading coach for the school. In addition, reading coaches need to spend more time in the classroom supporting the teachers and providing professional development to improve reading instruction in all classrooms.
- Examining school culture and providing professional development to improve the culture are necessary to create positive learning environments for all students. Florida's K-12 Comprehensive Research-based Reading Plan requires all schools to implement reading leadership teams, develop action plans determined by

school-based student data, and create a literacy culture within the school that raises teacher expectations for improved student achievement. More time must be devoted by schools, administrators, reading coaches, and teachers to develop these teams in order to impact the whole school.

Recommendations for Future Research

Identifying the specific characteristics of teachers that ensure improved student achievement is a difficult task. Despite considerable research indicating the complexity of the task, public debate continues in hopes of discovering the right formula for success. The data collected in this study raises more questions than it provides answers. However, the need to determine effective teaching for our most struggling students remains clear. Some questions for future research that addresses this need includes the following:

- What is the strength and direction of the relationship between holding a master's degree in English education from an accredited institution and student achievement?
- What factors contribute to teacher attrition at Florida's "D" and "F" public high schools?
- What factors contribute to the percentage of reading teachers who are not certified or endorsed in K-12 reading?
- What changes at the school site must be made in order to recruit and retain highly qualified, effective language arts and reading teachers?
- How do teachers' beliefs that they can control the student population but that they cannot impact student engagement affect the classroom environment?
- To what degree does classroom management impact student engagement?

- What is the strength and direction of the relationships between classroom management and student engagement with student achievement?
- Why do language arts teachers at Florida “D” and “F” public high schools report a negative correlation between teachers’ sense of efficacy teaching English and honors English courses?
- What is the strength and relationship between teachers’ perceived sense of student engagement efficacy and student achievement?

Chapter Summary

Identifying the characteristics of teachers in Florida’s “D” and “F” public high schools is the first step in determining which teachers are most effective for our most needy students. It now becomes necessary to recruit and retain highly qualified, highly effective teachers along with a concerted effort to address the school culture and raise expectations for student achievement. The solutions are not simple, nor are the clearly defined; however, this study supports the need to continue the dialogue and the research in order to better serve all students. The combination of employing highly qualified, highly effective teachers and creating a school-wide literacy culture focused on improving the reading achievement for all students along with a belief that all students are capable of learning will go a long way towards improving student achievement for all students.

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Appendices

Appendix A: Letter to Principals

September 12, 2005

«AddressBlock»

«GreetingLine»

I am a doctoral candidate at the University of South Florida conducting research for my dissertation. I am seeking your help in collecting data concerning language arts teachers at low-performing Florida high schools. Your response, along with the responses of the members of your English department, will form the basis for my study.

The purpose of this research is to determine whether or not a relationship exists between teacher characteristics and teacher efficacy. The surveys are being distributed to all language arts teachers at all “D” and “F” Florida high schools. Responses will be kept confidential and no teachers, schools, or districts will be identified. The data will be used to provide knowledge to principals to help them identify highly qualified, effective teachers needed for students at low-performing schools. You may request a copy of the results of this research by sending a stamped, self-addressed envelope to Pam Craig, *return address*.

Your school’s participation is essential in order to report the best results for this study. As such, I am offering an incentive. Every school that returns the surveys will have its name placed in a drawing for a \$20.00 gift certificate to Barnes and Noble. Five schools will be selected to receive the gift certificates.

In order to begin my research, I need a response from you indicating that you give me permission to contact your English Department Chairperson and arrange a time for me or a representative to come by your school and deliver the surveys. It should take approximately 30 minutes to meet with the English Department and facilitate the completion of the surveys. Participation is completely voluntary. No teachers will be coerced into participating in the survey. If you would prefer, I can mail the surveys to you to be distributed to your English Department and returned to me via mail. I am enclosing a copy of the survey for your review. I am also enclosing a post card for you to return which indicates that you give your permission for me to conduct this research at your school.

Please sign the attached stamped addressed post card and return it to me. Your willingness to participate in this research will ensure a more accurate reporting of the relationship between teacher characteristics and teacher efficacy and aid in the continuing discussion concerning highly qualified teachers for our most needy students.

Thank you for your time and consideration. If you have any questions or concerns, feel free to contact me at *e-mail address*. I appreciate your participation in this study.

Sincerely,

Pamela S. Craig
Ph.D. Candidate
University of South Florida
Department of Secondary Education

Appendix B: Principal's Return Post Card

Dear Ms. Craig:

I hereby give you permission to contact my English Department Chairperson to conduct the survey research focusing on relationship between teacher characteristics and teacher efficacy. I understand that participation is voluntary and that no names of teachers, schools, or districts will be used in the publication of the study results.

Sincerely,

«AddressBlock»

Appendix C: Letter to Department Chairs

October 15, 2005

Dear Language Arts Department Chair:

I am a doctoral candidate at the University of South Florida, conducting research for my dissertation. I am seeking your help in collecting data pertaining to language arts teachers at schools identified as “D” and “F” public high schools based on Florida’s Accountability program. Your principal and/or your district have given me permission to contact your pertaining to this study.

The purpose of my research is to examine the relationship between teacher characteristics and teachers’ sense of efficacy to provide additional knowledge to districts and administrators in order to guide decisions related to teachers at low-performing schools. Your departments’ response, along with the responses of language arts teachers from across the state, will form the basis for my study. Responses will be kept confidential and no teachers, schools, or districts will be identified. The data will be used to further discussion concerning identifying highly qualified, effective teachers needed for students at low-performing schools. You may request a copy of the results of this research by sending a stamped, self-addressed envelope to Pam Craig, *return address*.

Participation in this study is completely voluntary. No one will have access to your responses except me, and no personal identification information is being requested on the surveys. Your department’s participation is essential in order to report the best results for this study. As such, I am offering an incentive. Every school that returns the surveys will have its name placed in a drawing for a \$20.00 gift certificate to Barnes and Noble. Five schools will be selected to receive the gift certificates. I am enclosing a post card for you to return which will be used in the drawing. Please complete and return the post card along with the surveys indicating that your school has returned the completed surveys. Please indicate whether or not you would like a copy of the executive summary of the results of this study.

Please distribute these surveys to ALL teachers who are teaching language arts classes as listed in Florida’s Course Code Directory, even if the teacher is not a member of your department. Ask the teachers to complete the surveys and place them in the attached envelopes, seal them, and return them to you. Once you have received the surveys, please place them in the enclosed stamped, return envelope to be mailed to me

Your participation in this research is sincerely appreciated. If you have any questions, please feel free to contact me at *e-mail address*.

Sincerely,

Pamela S. Craig
Ph.D. Candidate
University of South Florida
Department of Secondary Education

Appendix D: Letter to Teachers

Dear Language Arts Teacher:

I am a doctoral candidate at the University of South Florida, conducting research for my dissertation. I am seeking your help in collecting data pertaining to language arts teachers at schools identified as “D” and “F” public high schools based on Florida’s Accountability program.

The purpose of my research is to examine the relationship between teacher characteristics and teachers’ sense of efficacy to provide additional knowledge to districts and administrators to guide decisions related to teachers at low-performing schools. Your response, along with the responses of language arts teachers from across the state, will form the basis for my study.

The surveys are being distributed to language arts teachers at all “D” and “F” Florida public high schools. Responses will be kept confidential and no teachers, schools, or districts will be identified. The data will be used to further discussion concerning identifying highly qualified, effective teachers needed for students at low-performing schools. You may request a copy of the results of this research by sending a stamped, self-addressed envelope to Pam Craig, *return address*.

Participation in this study is completely voluntary. No one will have access to your responses except me, and no personal identification information is being requested on the surveys. Place your completed survey in the attached envelope, seal it, and place it in the return envelope. Completion and return of the survey will serve as your informed consent to participate in the study.

Your participation in this research is sincerely appreciated. If you have any questions, please feel free to contact me at [*e-mail address*](#).

Sincerely,

Pamela S. Craig
Ph.D. Candidate
University of South Florida
Department of Secondary Education

Appendix E: English/Language Arts/Reading Teacher Questionnaire

Circle the letter of *all responses that apply* to you for each of the following statements.

1. **Indicate the type of bachelor's degree obtained:**
 - a. B.A. or B.S. in English
 - b. B.A. or B.S. in English Education
 - c. B.A. or B.S. in Reading
 - d. B.A. or B.S. in Reading Education
 - e. B.A. or B.S. in another content area
Please state your content area here _____

2. **If applicable, indicate the type of master's degree obtained:**
 - a. M.A. in English
 - b. M.Ed. or M.A. in English Education
Please state your degree here _____
 - c. M.Ed. or M.A. in Reading Education
Please state your degree here _____
 - d. M.A.T. in English Education
 - e. M.A. in another content area
Please state your content area here _____
 - f. M.Ed. in another content area

3. **If applicable, indicate the type of advanced degree(s) obtained and list the degree where indicated:**
 - a. Ed.S. _____
 - b. Ed.D. _____
 - c. Ph.D. Curriculum and Instruction
 - d. Ph.D. in another area _____

4. **Indicate how many years you have been teaching:**

a. 0-2 years	b. 3-5 years	c. 6-10 years
d. 11-20 years	e. 21-30 years	f. 30 + years

5. **Indicate how many years you have been teaching at this school:**

a. 0-2 years	b. 3-5 years	c. 6-10 years
d. 11-20 years	e. 21-30 years	f. 30 + years

6. **Indicate how many years you have been teaching English/Language Arts/Reading:**

a. 0-2 years	b. 3-5 years	c. 6-10 years
d. 11-20 years	e. 21-30 years	f. 30 + years

Appendix E: (Continued)

- 7. Indicate the type of certificate you currently hold:**
- a. Florida Professional Certificate in Language Arts 6-12 certification
 - b. Florida Professional Certificate in Reading K-12
 - c. Florida Temporary Certificate in Language Arts 6-12 certification
 - d. Florida Temporary Certificate in Reading K-12
 - e. Florida Professional Certificate in another content area
 - f. Florida Temporary Certificate in another area
 - g. no certification
- 8. Indicate whether or not you currently hold a K-12 reading endorsement:**
- a. Yes, I have a K-12 Reading Endorsement
 - b. No, I do not have a K-12 Reading Endorsement
 - c. No, but I am pursuing my K-12 Reading Endorsement
- 9. Indicate the route you took to earn your teaching certification:**
- a. Traditional route: indicated by completing bachelor's or master's degree in a university based teacher preparation program.
 - b. Non-traditional route: indicated by any other process other than a university based teacher preparation program that led to state certification
- 10. Indicate the courses you are currently teaching. If you are teaching more than one course, circle all that apply:**
- | | |
|--|-----------------------------|
| a. English I | b. English II |
| c. English III | c. English IV |
| d. English Honors I | e. English Honors II |
| f. English Honors III | g. English Honors IV |
| h. AP Language & Composition | i. AP Language & Literature |
| j. International Baccalaureate Language Arts | k. Remedial Intensive LA |
| l. Intensive Reading | m. Intensive Basic Skills |
| n. Reading I | o. Reading II |
| p. Reading III | q. Advanced Reading |
- 11. Indicate your gender:**
- a. female
 - b. male

Appendix F: Teachers' Sense of Efficacy Scale

Teachers' Sense of Efficacy Scale¹ (long form)

Teacher Beliefs	How much can you do?								
Directions: 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 opinion about each of the statements below. Your answers are confidential.	Nothing		Very Little		Some Influence		Quite A Bit		A Great Deal
1. How much can you do to get through to the most difficult students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
2. How much can you do to help your students think critically?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
3. How much can you do to control disruptive behavior in the classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
4. How much can you do to motivate students who show low interest in school work?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
5. To what extent can you make your expectations clear about student behavior?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
6. How much can you do to get students to believe they can do well in school work?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
7. How well can you respond to difficult questions from your students ?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
8. How well can you establish routines to keep activities running smoothly?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
9. How much can you do to help your students value learning?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
10. How much can you gauge student comprehension of what you have taught?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
11. To what extent can you craft good questions for your students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
12. How much can you do to foster student creativity?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
13. How much can you do to get children to follow classroom rules?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
14. How much can you do to improve the understanding of a student who is failing?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
15. How much can you do to calm a student who is disruptive or noisy?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
16. How well can you establish a classroom management system with each group of students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
17. How much can you do to adjust your lessons to the proper level for individual students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
18. How much can you use a variety of assessment strategies?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
19. How well can you keep a few problem students from ruining an entire lesson?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
20. To what extent can you provide an alternative explanation or example when students are confused?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
21. How well can you respond to defiant students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
22. How much can you assist families in helping their children do well in school?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
23. How well can you implement alternative strategies in your classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
24. How well can you provide appropriate challenges for very capable students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

Appendix G: School Site Survey Return Post Card

FRONT

Pamela S. Craig

Address

BACK

School: _____

Number of Surveys and Questionnaires Returned: _____

Number of teachers teaching language arts classes at your school: _____

I would like a copy of the executive summary of the results of this study

_____ yes _____ no

Appendix H: Instructions for Facilitating Surveys

Dear Volunteer:

Thank you for agreeing to participate as a volunteer to help me collect data for my dissertation. The following instructions are intended to guide you as you contact schools that have agreed to participate in my study. Please follow the instructions as closely as possible to ensure fidelity in the study.

Prior to you being assigned to a school, the principal and/or the district have given permission to conduct the study at the school site. The English/Language Arts Department Chair is expecting you to contact him/her. Please read the following script when you contact the department chair:

Hello. My name is:

Your principal has given me permission to contact you to set up a time for me to come by and deliver surveys related to a doctoral dissertation being conducted by Pam Craig, a doctoral candidate at the University of South Florida. I am helping collect the surveys for Pam.

I would like to attend one of your department meetings to have your teachers complete a short questionnaire relating to their professional characteristics and their sense of efficacy. The questionnaires only take about 15 minutes to complete. The information will be used in a study to examine the relationship between teacher beliefs and teacher characteristics. No names of teachers or schools will be reported. The results will be entirely confidential and participation in the study is completely voluntary.

All teachers at your school who teach any language arts classes are encouraged to attend and participate in the study.

Additionally, as a small incentive for your time, your school will have its name placed in a drawing to receive a \$20.00 gift certificate to Barnes and Noble.

When might be a good time for me to drop by your school? ---

Set up a time: If the department chair does not allow you time to come by and visit, ask him/her if you can drop by the school and drop off the surveys at the school. The surveys can then be mailed directly to Pam Craig.

- When the department chair asks you to drop off the surveys instead of meeting with the department, make sure you set up a time to drop them off at the school. After dropping them off, allow approximately one week before calling the department chair

to find out if the surveys have been returned or if he/she needs additional information or materials. Follow-up conversation for surveys that have been dropped off:

Hello. My name is:

Last week I dropped off a set of surveys to be completed by your teachers. I was wondering if you were able to collect them and return them. I want to make sure that your name is included in the drawing for a gift certificate to Barnes and Noble?

If they answer yes – ask them if they have any questions and remind them they can contact Pam Craig for additional information or agree to send their suggestions and concerns to Pam Craig for them.

If they answer no – ask them if there is anything you can do to help them collect the surveys. Remind them that you will be happy to come by and facilitate the survey collection during one of their regularly scheduled department meetings.

- Department Meetings: When you have been given permission to attend a department meeting, set up the time and be sure to arrive on time. Read the following script as you facilitate the collection of the surveys.

Hello. My name is _____

I am here today to ask you to take part in a survey that is part of a doctoral dissertation. The researcher, Pam Craig, is a doctoral candidate at the University of South Florida. She is conducting research to determine whether or not a relationship exists between specific teacher characteristics and teacher efficacy. The survey will not take long to complete, perhaps 15 minutes.

Participation in this survey is entirely voluntary. No participant name or schools names will be included in the research report. Your participation in this survey will help further the discussion pertaining to what it really means to be a highly qualified teacher.

Pass out the survey packets and allow approximately 15 minutes to complete them. Thank the participants and remind them if they have any questions, they should feel free to contact Pam Craig.

Return the surveys in the envelope to Pam Craig.

Thank you for volunteering to help in this study.

About the Author

Pamela S Craig is a doctoral candidate at the University of South Florida. She began her career as a high school language arts teacher. She has taught reading, English, English honors, Advanced Placement, and International Baccalaureate courses.

She obtained her National Board Certification in Adolescence and Young Adulthood English Language Arts in 1999 and was named the Florida Council English Teacher of the Year in 2001.

Pamela is currently employed by the Florida Literacy and Reading Excellence Center located at the University of Central Florida. She works with K-12 Florida public schools providing professional development in literacy and coaching.