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Leadership Practices that Promote Increased Student Achievement in Secondary Schools

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The University of Southern Mississippi

LEADERSHIP PRACTICES THAT PROMOTE INCREASED
STUDENT ACHIEVEMENT IN SECONDARY SCHOOLS

by

Billy Ray Jones, Jr.

Abstract of a Dissertation
Submitted to the Graduate School
of The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

December 2011

ABSTRACT

LEADERSHIP PRACTICES THAT PROMOTE INCREASED STUDENT ACHIEVEMENT IN SECONDARY SCHOOLS

by Billy Ray Jones, Jr.

December 2011

The purpose of the following study was to determine the degree to which the perceptions of teachers and school level administrators may differ, and the effects of these perceptions on student achievement as measured at the school level by the school's accountability score reported in the form of the Quality Distribution Index (QDI). This index ranges from 0 to 300 and is used in the state of Mississippi to assign schools to one of seven accountability labels. Schools may be classified as one of the following depending on their QDI score: star, high performing, successful, academic watch, at risk of failure, low performing, or failing. All secondary schools in the state of Mississippi were contacted for participation in this study. Participation in the study consisted of supervising principals and the teachers at the school completing online surveys regarding the principal's demonstration of various leadership responsibilities. Once these scores were recorded, the co-variable of socioeconomic status was controlled for as the perception of principals of their leadership responsibilities was regressed with the QDI score. This statistical analysis found a significant amount of variance between the leadership perception of the principal and that of the QDI score. This finding is supported by other research in that the efficacy of the principal can have a significant impact on student and school achievement. Teacher perceptions of the principal's leadership ability

was found to have less than a significant relationship when regressed with QDI while controlling for the co-variable of socioeconomic status. Finally, a difference score was calculated between the principal's perception and the teacher's perception, and this score was then placed in a regression with the QDI once again controlling for the co-variable of socioeconomic status. No significant relationship was found with this difference score and the QDI score for the school while controlling for the co-variable of socioeconomic status. The findings of this study would seem to support other research which has shown that the efficacy, or belief that one has an impact, of the school principal does have a significant impact on student achievement.

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December 2011

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I would like to thank my family for not giving up on me during this process. With the time requirements it would have been easy to do so many times. It goes without saying that I adore my wife and our three beautiful children. A special thank you I extend to my parents. They have always been my biggest fans.

To Dr. Rose McNeese, who began to kindle a fire in my heart for at-risk kids some time ago. I will be eternally grateful. All of the members of my committee, Dr. Wanda Maulding, Dr. David Lee, and Dr. Tammy Greer, I truly thank each of you for your guidance and time. In addition, I certainly want to thank Dr. J.T. Johnson and Dr. Jalynn Roberts for their time and service. These are two first class individuals. I sincerely thank all of you for the questions that you answered as I quested for knowledge. Each of you has helped make me a better person.

Now I hope that I can move on, with the knowledge that you have all shared with me, in hopes of increasing the chance of students reaching their potential and dreams by never giving up on them. By using the knowledge and skills that you have imparted, it is my intent to give back to my fellow man.

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CHAPTER I

INTRODUCTION

Because of Federal mandates to education such as the No Child Left Behind (NCLB) Act (2001), Individuals with Disabilities Educational Act (IDEA, 2004), and the legislative initiative Response to Intervention (RTI), current school leaders are being asked to do something that the systems in which they operate were never organized to do at the inception of the American public education system: educate all students to high levels of learning (Chenowith, 2009). This being the case, many school leaders find themselves looking for the next big “saving solution” in education. As Douglas Reeves (2006) states in his book *The Learning Leader*:

There is a new religion spreading like wildfire in the school systems and state departments of education. The religion of “Documentarianism” and, with missionary zeal, its adherents believe that with just the right school improvement plan, or the right format, or with the all the boxes completed in all the right places, the deity to whom they pray will grant educational miracles. (p. 61)

The researcher in this study sought to identify not a step-by-step school improvement model, but a group of leadership practices that are associated with improving student achievement through fostering and supporting effective school practices amongst members of a learning community at the school level. Principals are asked to fulfill many and diverse responsibilities that are extremely important in running a school. Not all of these tasks are essential to improving student achievement (Marzano, Waters, & McNulty, 2005; Waters & Cameron, 2003). This study sought to provide

insights to principals so that they might better understand how to balance their time and efforts in paying attention to important supervisory tasks versus those tasks that are essential for improving student achievement through supporting effective school practices in the schools in which they work.

Statement of Problem

According to Richard DuFour, in his latest book dealing with professional learning communities, *Revisiting Professional Learning Communities at Work* (2008), “Until recently, if formal charges were brought against a school alleging that learning was taking place, most schools in America could be confident the charges would ultimately be dropped for lack of evidence” (p. 59). This paradox of what is current reality in schools and is expected for schools to achieve by 2014 (NCLB, 2001) has been the focus of several studies on the effectiveness of school leadership on increasing student achievement in their schools. One of these studies, *School Leadership that Works* by Waters, Marzano, & McNulty (2005), developed a list of *21 Leadership Responsibilities* for school leaders as the result of an extensive meta-analysis that included 70 studies and more than 14,000 teacher ratings of administrative leadership for a pool of over 2,800 principals. Waters et al., (2005) showed that the relationship is very strong between leadership and student achievement. The research also revealed that the educational leader is responsible for many important tasks that can influence student achievement. Some of the researchers that have helped to establish a strong relationship for this connection between leadership and student achievement include: Goodlad (1984), Schmoker (1999, 2001, 2006), DuFour, DuFour, Eaker, and Karhanek (2004), Elmore

(2000), Childress, Elmore, & Grossman (2006), Marzano, Waters, McNulty (2005), and the Wallace Foundation (Leithwood, Louis, Anderson, & Walhstrom, 2004).

In *A Place Called School*, John Goodlad (1984) noted that teachers must take headship in the use of time, as it is the most valuable non-renewable commodity in the learning process that the teachers have at their disposal. Instructional decisions by the teacher that are made in relation to time can greatly affect the outcomes in student achievement for students (Goodlad, 1984). These time-related decisions made by the teacher can also greatly affect the educational equity that students receive. This equity can be related to a student's opportunity to learn (Chenowith, 2009). Also, Goodlad shared that teachers need support from leaders. According to Goodlad, teachers languish for a situation in which they feel that they are supported by someone that appreciates their work, is zealous about the teacher's work, and provides much needed assistance and support for teachers.

Mike Schmoker (2006) made the case in his book *Results Now* that leadership for schools which has proven to lead to improved results usually runs opposite of the culture that has persisted in schools since they were first organized in America. Schools have conventionally operated under the supposition that teachers are professionals, and so they should be left alone to go about their daily business without outside intrusion in their classrooms. Schmoker contended that it will take effective leadership practices to insure schools are able to adopt (a) a cogent curriculum, (b) an improved commitment to teaching literacy, (c) confirmation that most schooling contains the rudiments necessary for success, and (d) an intermittent classroom walk-through process to evaluate the strengths and obstacles of the instructional decisions being made in schools.

Richard Elmore (2000) raised the alarm for many years that the standards-based reform brought about by NCLB (2001) created problems of the sincerest and most elemental variety about how we visualize the hierarchy of schooling and the role of leaders in school districts and schools. Elmore asserted that the stakes are at a very important point for the outlook of public schooling and students who attend public schools. Schools were fundamentally designed to be static enterprises that are incapable of the shift that is required to initiate the significant changes that are required to meet the challenges of the future in relation to the requirements of NCLB (Elmore, 2000). It will require changes in the values and dispositions that form how teachers and principals think about the intention of their work. This dynamic structure will also require changes in how we think about who the key leaders in the schools are and what these new leaders do. In addition, changes in the conceptual knowledge and skill requirements of schools based on continual school improvement will need to be the norm. The core of the matter, according to Elmore, is that schools must be redesigned to the point to which they are institutions where both the students and the teachers both learn together. Learning for the student group will not be able to be sustained if occurring isolated from learning for the adults.

Many meta-analyses have identified leadership domains that may be helpful in the task of leading today's schools. The list of responsibilities identified by Marzano, Waters, and McNulty (2003, 2005) was mentioned again by Douglas Reeves in his book *The Learning Leader* (2006). Reeves used this list to emphasize the fact that for the maximum amount of effectiveness of leadership in schools to take place, leadership must be shared in the form of effective collaboration, which in turn, leads to the development of actual teacher leadership in the learning process. This idea was expanded in Reeves'

book *Reframing Teacher Leadership: To Improve Your School* (2008) as he emphasized the relationship between leadership, student achievement, and effective teacher collaboration.

Background

At no other time in history have schools been asked to complete the varied number and difficult tasks that they are being asked to complete today. One of the greatest shifts of the American Public Education paradigm brought about by NCLB (2001) was the idea of ensuring that all children learn at high levels. According to NCLB (2001), any school that does not have all students in every demographic group scoring proficient on its state mandated exams in the subjects of math, language arts, and science will be considered “failing” (U.S. Department of Education [USDE], 2002). According to DuFour, DuFour, Eaker, and Karhanek (2010) in their latest book, *Raising the Bar, Closing the Gap: Whatever It Takes*, even though American students have had the constitutional right to attend school historically; they have not had the constitutional right to learn. As a matter of fact, for the past two hundred years, it has been the status quo that only a select group of students were capable of high levels of learning while the others were more suited for pursuing vocational interests or possible apprenticeships in the industrial arts (DuFour et al., 2010).

When one compares this idea of public education to that of the requirements of NCLB (2001), the dilemma for school leaders is clear. How can a structure for schools be used that has not changed over the past two hundred years to meet this new federally mandated challenge? This reality has been a source of a high level of anxiety and fear for school leaders and teachers alike as many lack the training and the skills needed to meet

the challenge (Chenowith, 2009). Looking at the sanctions included in the NCLB (2001) legislation, it would appear that trepidation is what is needed to provide the necessary motivation to school leaders and teachers to insure that all students learn at high levels (DuFour et al., 2010).

Purpose of the Study

The purpose of this study was to examine the relationship between principals and teachers perceptions of the principal's demonstration of school Leadership Responsibilities as measured by a leadership score, on student achievement in the secondary school courses of Algebra I, Biology I, English II, and United States History as measured by the Mississippi Subject Area Tests reported in the form of the school QDI score. From the analysis of these Leadership Responsibilities, as reported by this leadership score, the intent was to provide school leaders a set of practices that may be positively associated with improvement in secondary student achievement as measured by the Mississippi state assessments reported by the QDI.

A meta-analysis conducted by Waters, Marzano, and McNulty (2003) found that the main responsibility of a school's instructional leader is to provide the support and the supervision of the instructional program to increase the probability of success in the learning process for all students in the school. This meta-analysis included seventy studies and 2,894 schools. The study also included 1.1 million students and 14,000 teachers. The study identified 21 Leadership Responsibilities that showed positive impact on student achievement. The data from this study demonstrated that there is a substantial relationship between leadership and student achievement.

This overall effect size of (.25) was found for the relationship of leadership domains and student achievement. This effect size would be equivalent to an increase in leadership ability of one standard deviation equating to a 10 percentile point increase in student achievement. If two schools, School X and School Y, were both achieving at the 50th percentile and the principal at School Y were able to increase their leadership ability by one standard deviation, then the student achievement would be expected to increase to the 60th percentile based on this effect size.

These Leadership Responsibilities were organized to form The Balanced Leadership Framework (Marzano, Waters, & McNulty, 2005; Waters, Marzano & McNulty, 2003). For the purpose of this quantitative study, this researcher sought to examine the relationship of the 21 Leadership Responsibilities identified by Waters, Marzano, & McNulty (2003) and Marzano, Waters, & McNulty (2005) to high school student achievement as measured on state assessments in Algebra I, Biology I, English II, and United States History on the Mississippi Subject Area Tests to determine the extent that each of these school principals and their staff perceive the Leadership Responsibilities lead to success on the Mississippi Subject Area Tests in the high school courses that comprise the QDI index for these schools. The researcher used a survey instrument and archival test data to conduct this research.

Research Questions

Leadership is complicated and dynamic. According to Douglas Reeves in *The Learning Leader* (2006), “Leadership is about change---how to justify it, implement it, and maintain it” (p. 158). The purpose of this study was to determine to what extent does the demonstration of any of the 21 Leadership Responsibilities identified in the previous

studies mentioned (Marzano, Waters, & McNulty, 2005; Waters, Marzano & McNulty, 2003), as measured by a leadership score, have a relationship or perceived relationship on student achievement in Algebra I, Biology I, English II, and United States History as measured by the Mississippi Subject Area Tests in Mississippi as reported in the form of the Quality Distribution Index (QDI) or the Mississippi Accountability Level which takes into account the QDI score and whether or not students showed growth from the middle school standardized tests. The researcher in this study sought to understand which of these identified and quantifiable Leadership Responsibilities show any relationship to improved student achievement marked by the performance of students on the Mississippi Subject Area Tests for Algebra I, Biology I, English II, and United States History as measured by QDI or accountability label.

This research did address the following research questions:

1. Is there a relationship between a school principals' and teachers' perceptions of the principals' demonstration of Leadership Responsibilities as measured by the leadership aggregate score on a survey instrument related to the 21 Leadership Responsibilities?
2. Is there a relationship between the school principals' leadership score on the survey instrument and school achievement on Algebra I, Biology I, English II, and United States History Area Tests as measured by the Mississippi Subject Area Tests as reported in the form of the QDI score for the school, controlling for the percent of free and reduced lunch students?

3. Is there a relationship between the school teachers' perceptions of the principals' demonstration of Leadership Responsibilities as measured by the leadership score computed from this survey instrument and school achievement based on the school QDI score as measured by the Mississippi Subject Area Tests, controlling for the percent of free and reduced lunch students?
4. Are there differences between school principals' and teachers' perceptions as measured by the leadership score computed from this survey instrument related to school achievement as measured by the QDI score, controlling for the percent of free lunch students?

The effectiveness of the principal was measured by examination of teacher and administrator perceptions of the principals' demonstration of the various 21 Leadership Responsibilities found in the Balanced Leadership Framework and computed into a single leadership score for the principal and one for the teachers' perception of the principal (Marzano, Waters, & McNulty, 2005; Waters, Marzano & McNulty, 2003). Student achievement scores for 2010 as measured by the Mississippi Subject Area Tests in Algebra I, Biology I, English II, and United States History as reported by the Mississippi Department of Education (MDE, 2010) served as an additional gauge of effectiveness of the school leader. These scores were compared with the schools Accountability Performance Accreditation Rating (MDE, 2010) to determine if any statistical significance exists between one and more of the 21 Leadership Responsibilities and student performance on the Mississippi Subject Area Tests in high school Algebra I, Biology I, English II, and United States History.

Definitions of Terms

School Administrator – A person legally appointed to conduct the affairs of a school (“School Administrator,” 2011).

School Leader – A person that directs a school or who has authority (“School Leader,” 2011).

School Principal – A person that is primarily in charge of a local education agency and has obligation to the performance of the institution (“School Principal,” 2011).

Leadership – The act or the behavior of leading (“Leadership,” 2011).

Responsibility – The act of being responsible with moral, legal, and mental accountability (“Responsibility,” 2011).

Delimitations

The study was limited to public high public schools serving grades 7 through 12. The sample was drawn from the eight districts of the state of Mississippi recognized by the Mississippi High School Activities Association. The schools chosen for this sampling may or may not have been representative of all areas of the state even though these districts did cover the entire geography of the state. The Leadership Responsibilities of the principals that were assessed by the teachers of the schools were limited to those responsibilities observed by the teachers. The Mississippi Subject Area Test Score variances amongst schools in Algebra I, Biology I, English II, and United States History could be attributable to multiple variables other than school leadership.

Assumptions

Assumptions in this study were limited by the researcher. In this study it was assumed that school principals and teachers did answer surveys honestly and completely. It was also assumed that principals and teachers were undeterred in answering honestly based on concerns over confidentiality. It was also accepted that teachers have had the opportunity to observe the school leader enough to be able to determine certain traits related to the 21 Leadership Responsibilities.

Professional Significance

With the number of responsibilities faced by today's educational leaders, it is important with all of the varied and wide array of educational initiative choices that there be a concerted effort to provide current practitioners with an identified group of practices that will give them some hope of meeting the challenges of the mandates by which they are held accountable. This study sought to shed light on the practices that school leaders might focus on as essential to supporting and developing effective school practices which research has shown can have the effect of increased student achievement. The idea was that these specific leadership practices could be the focus of collective inquiry by districts to provide the leaders of their schools with the necessary tools to focus school improvement while developing "learning leaders" (Reeves, 2006, p. vii). These groups of practices have been shown to help schools meet the challenges of teaching all students to high achievement levels as evidenced by the research of Douglas Reeves in the *90-90-90 Schools* (2004) research and the research of Richard DuFour in *Revisiting Professional Learning Communities at Work* (2008).

Summary

External efforts to improve schools most often focus on changing the structure of the school. Whether these changes are directed at policies, procedures, rules, and relationships, they fail to get at the foundation of the matter which is what really must take place is a change in the culture of the school. According to Richard Elmore (2003), “The pathology of American schools is that they know how to change...What schools do not know how to do is to improve, to engage in sustained and continuous progress toward a performance goal over time” (p. 11). Culture shift is very important in developing the effective collaboration needed for school leaders and teachers to work together to meet today’s demands that have been placed on schools. The central premise behind schools becoming professional learning communities is that they undergo a profound cultural shift (DuFour, 2008).

In the book by DuFour, DuFour, and Eaker, *Revisiting Professional Learning Communities at Work: New Insights for Improving Schools* (2008), the big ideas that drive professional learning communities correlate with the other research on the subject of meeting the challenges that are faced by today’s leaders in our nation’s schools. The big ideas expounded upon in this work are first, the fundamental purpose of any school is to ensure that all students learn at high levels, and second, the future success of students will depend on how effective leaders and teachers are in achieving this elemental purpose. These big ideas relate to the idea that all children can learn as stated in the requirements of NCLB (2001).

The second big idea is that there is no way that educators can achieve this fundamental purpose working in isolated classrooms as independent contractors that

simply share a common parking lot (Elmore, 2003). This points to the evidence provided by many researchers that only through collaboration can the challenges faced by today's schools hope to be met.

Lastly, the final big idea underpinning professional learning communities again lends itself to effective collaboration by teachers supported by school leaders in that it insists that schools will not know whether all students are learning if the leaders and teachers are not purposefully looking for evidence of learning through the data provided by effective formative assessments and monitoring by all educators (DuFour, 2008). All of these activities are supported by effective collaboration that in turn is supported by the leadership of the principal. Thus the leadership research that supports the importance of the relationship of leadership to student achievement, in turn suggests that the leadership practices used by the school leader in turn will affect the use of effective collaboration of teachers, which has also been proven to be very important in improving student achievement.

Other researchers have been quoted as corroborating the importance of collaboration in highly successful schools. Waters and Cameron (2003), supported this idea of the importance of the group feeling that they can have an impact through the term of "collective efficacy," which is defined by Goddard (2001) as a shared perception or belief held by a group that they can organize and execute a course of action that makes a difference. Douglas Reeves (2006) explained this phenomenon as "the wisdom of the group" in his book *The Learning Leader* (p. 25). Mike Schmoker (2006) argues that the professional learning community is "arguably the best, most agreed-upon means by which to continuously improve instruction and student performance" (p. 106).

The professional learning community is defined as educators committed to working collaboratively in ongoing processes of collective inquiry and action research to achieve better results for the students they serve (DuFour, DuFour, Eaker, & Many, 2006). The basic characteristics of professional learning communities are described in detail in DuFour et al.'s (2006) *Learning by Doing*: Shared mission, vision, values, and goals that are all focused on student learning, a collaborative culture with a focus on learning, collective inquiry into best practice and current reality, action orientation with a learning by doing spirit of practice, a commitment to continuous improvement, and a results orientation.

CHAPTER II

LITERATURE REVIEW

Introduction

This chapter provides an overview of the research literature related to the investigation of what leadership practices promote high student achievement of secondary students in mathematics and language arts as evidenced by higher student achievement on standardized measures of secondary subjects that account for the schools QDI index. The essential frameworks that have been reviewed for this study were related to: (a) Instructional Leadership Practices, (b) Effective Practices Related to Improved Student Achievement in Secondary Mathematics and Language Arts, (c) Teacher Collaboration, (d) Change Theory, (e) Professional Learning Communities, and (f) Leadership for Learning.

Because of Federal mandates to education such as the No Child Left Behind (NCLB) Act (2001), Individuals with Disabilities Educational Act (IDEA, 2004), and the legislative initiative Response to Intervention (RTI), current school leaders are being asked to do something that the systems in which they operate were never organized to do at the inception of the American public education system: educate all students to high levels of learning (Chenowith, 2009; Reeves, 2004). This being the case, many school leaders find themselves looking for the next big saving solution in education.

As Douglas Reeves stated in his book *The Learning Leader* (2006):

There is a new religion spreading like wildfire in the school systems and state departments of education. The religion of *Documenatrianism* and, with missionary zeal, its adherents believe that with just the right school improvement plan, or the right format, or with the all the boxes completed in all the right places, the deity to whom they pray will grant educational miracles. (p. 61)

The researcher in this study sought to identify not a step-by-step school improvement model, but a group of leadership practices that are associated with improving student achievement in secondary mathematics and language arts through fostering and supporting effective school practices amongst members of a learning community at the school level. Principals are asked to fulfill many and diverse responsibilities that are extremely important in operating schools. Not all of these tasks are essential to improving student achievement (Marzano, Waters, & McNulty, 2005; Waters & Cameron, 2003). This study sought to provide insights to principals, so they might better understand how to balance their time and efforts in paying attention to important managerial tasks opposed to those tasks that are essential for improving student achievement through focusing on those leadership practices that lead to more effective adult actions in schools such as effective collaboration.

The purpose of this study is to examine instructional leaders' perceived practices and cultures of their schools in relation to how these leadership practices have impacted and helped to foster improvement and high student achievement in secondary mathematics and language arts. Leadership practices that school leaders undertook to

positively influence student achievement in secondary mathematics and language arts as a result of teacher collaboration and other effective practices were analyzed in this study. From the analysis of these leadership practices, the intent of this study was to provide a set of practices that may be explored by school leaders that have been positively associated with improved student achievement in secondary mathematics and language arts as evidenced by improvements and/or high achievement on state and nationally standardized achievement tests.

The main responsibility of a school's instructional leader is to provide for the support and the supervision of the instructional program to increase the probability of success in the learning process for their students. This quantitative correlational study sought to examine the perceptions of school level administrators and teachers on the school leader's leadership practices in schools in the state of Mississippi in regards to their performance on the secondary Mississippi Subject Area Test in Algebra I, Biology I, English II, and United States History as reflected in school achievement in the form of the QDI score. This was done to study the extent that each of these educators perceives how leadership practices such those related to the 21 leadership practices identified by Marzano, Waters, & McNulty (2003, 2005) could be influential in the outcomes of high or improved student achievement as measured by state standardized tests reported by QDI. The researcher used a survey instrument and archival test data to conduct this research to gain the perceptions of the administrators and teachers. This survey did include objective items.

Theoretical Framework

External efforts to improve schools most often focus on changing the structure of the school. Whether these changes are directed at policies, procedures, rules, and relationships, they fail to get at the core of the matter which is what really must take place is a change in the culture of the school. According to Richard Elmore (2002), “The pathology of American schools is that they know how to change...What schools do not know how to do is to improve, to engage in sustained and continuous progress toward a performance goal over time” (p. 8). Culture shift is very important in developing the effective collaboration needed for school leaders and teachers to work together to meet today’s demands that have been placed on schools. The central premise behind schools becoming professional learning communities is that they undergo a profound cultural shift (DuFour, 2008).

In the book by DuFour, DuFour, and Eaker, *Revisiting Professional Learning Communities at Work: New Insights for Improving Schools* (2008), the big ideas that drive professional learning communities correlate with the other research on the subject of meeting the challenges that are faced by today’s leaders in our nation’s schools. The big ideas expounded upon in this work are first, that the fundamental purpose of any school is to ensure that all students learn at high levels, and the future success of students will depend on how effective leaders and teachers are in achieving this elemental purpose. This big idea relates to the idea of all children learning as stated in the requirements of NCLB (2001).

The second big idea is that there is no way that educators can achieve this fundamental purpose working in isolated classrooms as independently without focusing

together to formulate solutions to common problems. This points to the evidence provided by many researchers that only through collaboration can the challenges faced by today's schools hope to meet.

Lastly, the final big idea underpinning professional learning communities again lends itself to effective collaboration by teachers supported by school leaders in that it insists that schools will not know whether all students are learning if the leaders and teachers are not purposefully looking for evidence of learning through the data provided by effective formative assessments and the monitoring of learning by all educators (DuFour, 2008). All of these activities are supported by effective collaboration that in turn is supported by the leadership of the principal. The leadership research that supports the importance of the relationship of leadership to student achievement in turn suggests that the leadership practices used by the school leader in turn will affect the use of effective collaboration of teachers and other effective practices, which have been proven through research to be very important in improving student achievement.

Other researchers have been quoted as corroborating the importance of collaboration in highly successful schools. Waters and Cameron (2003), support this idea of the importance of the group feeling that they can have an impact through the term of "collective efficacy," defined by Goddard (2001) as a shared perception or belief held by a group that they can organize and execute a course of action that makes a difference. Reeves (2005) explained this phenomenon as "the wisdom of the group" in his book *The Learning Leader* (2006, p. 25). Mike Schmoker (2006) argued that the professional learning community is, "arguably the best, most agreed-upon means by which to continuously improve instruction and student performance" (p. 106).

The professional learning community is defined as educators committed to working collaboratively in ongoing processes of collective inquiry and action research to achieve better results for the students they serve (DuFour, DuFour, Eaker, & Many, 2006). The basic characteristics of professional learning communities are described in detail in DuFour et al.'s, *Learning by Doing* (2006) as a shared mission, vision, values, and goals that are all focused on student learning, a collaborative culture with a focus on learning, collective inquiry into best practice and current reality, action orientation with a learning by doing focus, a commitment to continuous improvement, and a results orientation are all considered essential components of a professional leaning community.

In John Hattie's book *Visible Learning* (2009), he compiles over 800 different meta-analyses together to form an extensive review of all of the information that we have in regards to the effects of leadership on student achievement. Professor Hattie's interest in the book was simply the effect that principals have on the achievement of their students. In the eleven meta-analyses that were studied by the researcher, there were 491 studies included.

One of the conclusions drawn by John Hattie from this research was that in all 491 studies there were two major forms of principal leadership that predominated. These forms of leadership were instructional leadership and transformational leadership. Instructional leadership, according to Professor Hattie, was marked by principals that were focused on clear objectives for teaching and learning, clear ideals and beliefs about learning, and high expectations for teachers and learners. Transformational leadership was marked by principals that felt it was more their responsibility to inspire teachers to commitment and moral purpose, thus leadership was more distributed.

The end findings of Professor Hattie's work were such that it was the more directive instructional leadership style that showed a higher effect on positive student outcomes. Professor Hattie concludes that principals that focus on student's achievement, supporting and fostering effective instructional strategies, and focusing more on student achievement domains have the greatest positive effect on student learning.

There were many specific strategies that John Hattie found that supported his conclusions. The specific area that was found in the research to have the highest positive effect on student learning was the principal actively engaging in teacher professional learning and staff development. In this case the effect was $d = 0.91$, where $d > 0.40$ is considered significant (Hattie, 2009, p. 83). The second highest effect area was the principal "planning, coordinating, and evaluating the curriculum" (Hattie, 2009, p. 83). In contrast the highest effect noted for a transformational type trait which was $d = 0.009$.

Professor Hattie also found other factors that correlated with improved student achievement. One of the factors that had a strong correlation ($r = 0.66$) in the study was the awareness of the school leader of the goals that needed to be addressed for student achievement to improve. Whether the principal was willing to challenge the status quo of current reality was correlated strongly ($r = .60$) with improved student achievement. And, finally, a moderate correlation was found between the principals commitment to monitor school practice effectiveness ($r = .56$) (Hattie, 2009, pp. 84-85).

The literature review in this chapter defines a need for a cultural change in schools to be able to foster a culture of collaboration as this collaborative culture is counter to the way schools have operated since their inception. This research sought to present how school leaders can combat this resistance to change and overcome what

Collins and Porras (1997) called the “Tyranny of Or,” which would lead us to believe that a school must consist of either strong leadership or teachers empowered through collaboration, but that it would be impossible for the school to possess both (DuFour, 2008).

History of Leadership

Research shows that the definition of leadership has changed over the past one hundred years. In fact, Short and Greer, in *Leadership in Empowered Schools* (2002), assert that “no other facet of organizational behavior has received more attention from researchers” (p. 23) than that of leadership. In the early part of the 19th century, much attention was paid to the early entrepreneurs that led the building of large companies that would eventually evolve into the Industrial Revolution. These earliest studies could be called “The Great Man Studies” (Short & Greer, 2002, p. 23). Mainly these studies focused on attributes and personal qualities of these individuals. The primary idea was that if one could study these attributes, possibly a framework could be devised to identify specific traits that could be replicated to correlate to success.

John Hattie, in his landmark book *Visible Learning* (2009), which compiles over 800 different meta-analyses, draws together all of the information that we have in regards to the effects of leadership on student achievement. Professor Hattie’s interest in the book was purely the effect that principals have on the achievement of their students. In the eleven meta-analyses that were studied by the researcher, there were 491 studies included.

One of the conclusions drawn by John Hattie from this extensive research was that in all 491 studies there were two major forms of principal leadership that

predominated. These forms of leadership were instructional leadership and transformational leadership. Instructional leadership, according to Professor Hattie, was marked by principals that were focused on clear objectives for teaching and learning, clear ideals and beliefs about learning, and high expectations for teachers and learners. Transformational leadership was marked by principals that felt it was more their responsibility to inspire teachers to commitment and moral purpose, thus leadership was more dispersed.

The end findings of John Hattie's work were such that it was the more directive instructional leadership style that showed a higher effect on positive student outcomes. Professor Hattie concludes that principals that focus on student's achievement, supporting and fostering effective instructional strategies, and focusing more on student achievement domains have the greatest positive effect on student learning.

There were many specific strategies that Hattie (2009) found that supported his conclusions. The specific area that was found in the research to have the highest positive effect on student learning was that of the principal being actively engaged in teacher professional learning and staff development. In this case the effect was $d = 0.91$, where $d > 0.40$ is considered significant (Hattie, 2009, p. 83). The second highest effect area was the principal engaging in "planning, coordinating, and evaluating the curriculum" (Hattie, 2009, p. 83). In contrast the highest effect noted for a transformational type trait was $d = 0.009$.

Hattie (2009) also found other factors that correlated with improved student achievement. One of the factors that had a strong correlation ($r = 0.66$) in the study was the awareness of the school leader of the goals that needed to be addressed for student

achievement to improve. Willingness of the principal to challenge the status quo of current reality was correlated strongly ($r = .60$) with improved student achievement. And finally, a moderate correlation was found between the principals loyalty to monitoring school practice effectiveness ($r = .56$) (Hattie, 2009, pp. 84-85).

Many of the 21 Leadership Responsibilities are related to relational trust and what some researchers would call integrity. Warren Bennis, in his book *On Becoming a Leader* (2009), devotes an entire chapter to what he describes as the ingredients of leadership. Warren Bennis describes the essential ingredients that his research has found are present in all successful leaders. The ingredients are a guiding vision, passion, integrity, trust, curiosity, and daring. An important point that Bennis makes is that these ingredients are not necessarily things that these leaders are born with. Many of these traits must be learned. The basic supposition being that this means that any leader can improve their abilities to be more successful by paying attention to these specific traits.

John Maxwell, in his book *Developing the Leader Within You* (1993), discusses the importance of leadership in successful organizations. Maxwell simply defines leadership as “influence” (p. 1). He goes on to make sure to emphasize that the way that leaders influence others most powerfully is by the leaders actions. This has important implications for school leaders as well. Many of the behaviors that describe the 21 Leadership Responsibilities are related to influence. Even more importantly, like Bennis, John Maxwell is sure to emphasize the fact that we can increase and improve our influence. This in turn provides the impetus through which a leader can increase the leader’s leadership potential (Maxwell, 1993).

Instructional Leadership

According to the National Association of Elementary School Principals (2008), the roles that a principal should address in fulfilling the role of instructional leader include the following:

1. Leading in a way that places adult and student learning at the center of what the school does daily.
2. Setting high expectations and standards for academic, social, emotional and physical development of all students.
3. Demanding content and instruction that ensures student achievement of agreed-upon standards.
4. Creating a culture of continuous learning for adults tied to student learning and other school goals.
5. Managing data and knowledge to inform decisions and measure progress of student, adult, and school performance.
6. Actively engaging the community to create shared responsibility for student performance and development.

Instructional leadership requires more than just simply managing people according to the six domains listed by the NAESP (2008). According to Richard Elmore (2000), instructional leadership is the guidance and direction of instructional improvement. In addition, Elmore (2000) concludes that for leadership for instructional improvement to be effectual, the leader must use distributed leadership. In knowledge intensive forms of work like teaching and learning, it would be impossible for a single individual to perform the numberless tasks required to complete the process of

instructional leadership (Elmore, 2000). Because of the challenges that standards based reform has brought to the site based arena of schools, instructional leaders must be able to lean on the expertise of others to accomplish the tasks involved in improving student achievement. Early studies into instructional leadership assumed it entirely the responsibility of the principal for the guidance of instruction (Robinson, Lloyd, & Rowe, 2008). As more research is done, it has appeared that to successfully address the domains that fall under the auspices of instructional leadership, the leadership responsibility must be distributed.

Contrary to this notion, the end findings of John Hattie's work recorded in the book *Visible Learning* (2009) were such that it was the more directive instructional leadership style that showed a higher effect on positive student outcomes. Hattie concluded those principals who are focusing on student achievement, supporting and fostering effective instructional strategies, and focusing more on student achievement domains have the greatest positive effect on student learning.

There were many specific strategies that Hattie (2009) found that supported his conclusions. The specific area that was found in the research to have the highest positive effect on student learning was the principal actively engaging in teacher professional learning and staff development. In this case the effect was $d = 0.91$, where $d > 0.40$ is considered significant (Hattie, 2009, p. 83). The second highest effect area was the principal "planning, coordinating, and evaluating the curriculum" (Hattie, 2009, p. 83). In contrast the highest effect noted for a transformational type trait was $d = 0.009$.

Hattie (2009) also found other factors that correlated with improved student achievement. One of the factors that had a strong correlation ($r = 0.66$) in the study was

the awareness of the school leader of the goals that needed to be addressed for student achievement to improve. Whether the principal was willing to challenge the status quo of current reality was correlated strongly ($r = 0.60$) with improved student achievement. And, finally, a moderate correlation was found between the principals commitment to monitor school practice effectiveness ($r = .56$) and improved student achievement (Hattie 2009, pp. 84-85).

ISLLC Standards for Principals

In addition to the standards based reform that has come to define the learning of students in schools, many organizations have defined standards designed to govern the role of the principal in schools. Two such groups are the Council of Chief State School Officers and the National Policy Board for Educational Administration. These organizations originally defined a set of standards to guide the practice of principals in 1996, and most recently updated these standards in 2008. These standards, known as the Interstate School Leaders Licensure Consortium (ISLLC) Standards, help to define the standards of practice for schools leaders. The ISLLC standards are used by colleges and university training programs to train leaders with the knowledge and skills needed to fulfill the varied roles of the principalship. The ISLLC standards are listed below.

Standard 1. An education leader promotes the success of every student by facilitating the development, articulation, implementation, and stewardship of a vision of learning that is shared and supported by all stakeholders.

Standard 2. An education leader promotes the success of every student by advocating, nurturing, and sustaining a school culture and instructional program conducive to student learning and staff professional growth.

Standard 3. An education leader promotes the success of every student by ensuring management of the organization, operation, and resources for a safe, efficient, and effective learning environment.

Standard 4. An education leader promotes the success of every student by collaborating with faculty and community members, responding to diverse community interests and needs, and mobilizing community resources.

Standard 5. An education leader promotes the success of every student by acting with integrity, fairness, and in an ethical manner.

Standard 6. An education leader promotes the success of every student by understanding, responding to, and influencing the political, social, economic, legal, and cultural context. (Council of Chief State School Officers 2008, pp. 14-15)

These standards provide an administrator with a framework for school Leadership Responsibilities and form the blueprint for many of the licensure examinations that aspiring administrators must complete for leadership licensure in many states in the United States.

In 2003, researchers Robert Marzano, Tim Waters, and Greg Cameron conducted a meta-analysis of school leadership including sixty-nine different studies that consisted of more than 14,000 teacher ratings of school leadership for 2,802 principals. These ratings were then correlated with more than 1.4 million student achievement scores on various measures. The findings of the meta-analysis were published in the work entitled *School Leadership that Works: From Research to Results* (Marzano, Waters, & McNulty, 2005). In this work, the researchers identified 21 Leadership Responsibilities with

statistically significant correlations to student achievement, and a list of sixty-six leadership practices for carrying out these particular responsibilities. This work provided a conceptual framework for the leadership of instruction (Marzano, Waters, & McNulty, 2005; Waters & Cameron, 2003). School level leadership practices were shown to have a significant correlation with student achievement of ($r = 0.25$), which according to the researchers corresponds to a ten-percentile point difference in student achievement on a norm referenced test (Marzano, Waters, & McNulty, 2005).

The list of the 21 responsibilities and each responsibilities correlation to student academic achievement are summarized in the following table:

Table 1

Twenty-One Leadership Responsibilities and Their Correlations (r) with Student Achievement

Responsibility	Average Correlation to Student Achievement (r)
1. Affirmation	0.19
2. Change Agent	0.25
3. Contingent Rewards	0.24
4. Communication	0.23
5. Culture	0.25
6. Discipline	0.27
7. Flexibility	0.28
8. Focus	0.24
9. Ideals/Beliefs	0.22
10. Input	0.25
11. Intellectual Stimulation	0.24
12. Involvement in Curriculum, Instruction, and Assessment	0.20
13. Knowledge of Curriculum, Instruction, and Assessment	0.25
14. Monitoring/Evaluating	0.27
15. Optimizer	0.20
16. Order	0.25
17. Outreach	0.27
18. Relationships	0.18
19. Resources	0.25
20. Situational Awareness	0.33
21. Visibility	0.20

Note. From “School Leadership That Works” by R. Marzano, T. Waters, and B. McNulty, 2005, pp. 42-43. Copyright by Association of Supervision and Curriculum Development. Reprinted with permission of the authors.

These various responsibilities all show a moderate correlation with student achievement. This research reflects some similar findings in a meta-analysis conducted

by John Hattie (2009) in his work *Visible Learning* (2009). Both the *School Leadership That Works* (Marzano, Waters, & McNulty, 2005) research and John Hattie's (2009) provide documentation that focus, involvement and/or knowledge of curriculum, instruction, and assessment, and monitoring/evaluating are all important practices or responsibilities of the instructional leader of a school (Hattie, 2009; Marzano, Waters, & McNulty, 2005).

Focusing Leadership

Expanding on the meta-analyses of the past decade, Douglas Reeves, in conjunction with The Teachers College at Columbia University, conducted a research study on developing a leadership focus for schools which relates to the previously mentioned 21 Leadership Responsibilities. The results of this study are recorded in the book *Finding Your Leadership Focus: What Matters Most for Student Results* (Reeves, 2011). According to the researcher, it was found that the three responsibilities most highly correlated with improved student achievement were focus, efficacy, and monitoring (Reeves, 2011).

By "focus" the study refers to the school leader's ability to prioritize and monitor no more than six instructional priorities, within a given point in time, that have a high leverage capacity on student achievement (Reeves, 2011). The researcher has defined "monitoring" as the methodical evaluation of the actions of the adults in the school building and the affect of these actions on student achievement. The research found that monitoring needed to be timely, and at a minimum of once per quarter. The final area of importance found to be most closely related to improved student achievement was "efficacy." Efficacy was defined in the study as the collective belief of the teachers,

administrators, and other staff in the building that their actions were the major influences on the academic accomplishment of the students in their school.

This latest research provides a narrowing of the needed focus of school leaders to help combat the overwhelming assault on the finite amount of emotional and physical energy of educators. This is provided in an attempt to combat a serious issue that the researcher called “initiative fatigue.” According to Douglas Reeves (2011):

Initiative fatigue is the tendency of educational leaders and policymakers to mandate policies, procedures, practices that must be implemented by teachers and school administrators, often with insufficient consideration of the time, resources, and emotional energy required to begin and sustain the initiatives. (p. 1)

This research reaffirms many of the findings from previous studies like the one of Marzano, Waters and McNulty (2005) on the affect of certain leadership responsibilities and their affect on student achievement. It further asserts that school leadership does have a quantifiable impact on student achievement.

Resistive Forces to School Leadership

One of the major forces of resistance to differing school leadership is that for the past thirty years schools have ultimately been halls of isolation for teachers (DuFour, DuFour, & Eaker, 2008). These researchers would argue that this common practice itself can be a source of resistance as teachers begin to experience something that is foreign in the form of the expectation of sharing practices, strategies, and data with colleagues. Mike Schmoker (2006) goes so far as to imply that teachers have been insulated from outside inspection or interference because of this “culture of privacy and non-interference

that is the best friend of the status quo” (Schmoker, 2006, p.14). Another study by Fulton, Yoon, and Lee (2005) concluded similar findings in that the most troublesome resistive force to schools improving to more effectively offer students opportunity to master twenty first century knowledge and skills is the isolation of individual teachers in their classrooms. In addition, the sheer number of educational initiatives themselves may be enough to cause resistance (Reeves, 2010). Douglas Reeves in his newest work, *Transforming Professional Development into Student Results* (2010), calls this phenomenon “initiative fatigue” (p. 27). The researcher holds that with each new initiative the participants must expend a finite amount of emotional energy up to the point they may have no more to expend. This can be a source resistance to leadership efforts.

Practices of Schools that Foster High Achievement

Douglas Reeves did a report on common characteristics of high performing schools entitled *High Performance in High Poverty Schools: 90/90/90 and Beyond* (2004). The results of this study showed that regardless of race or socioeconomic status, there are certain practices that can be replicated to increase student achievement in the areas of mathematics and language arts (Reeves, 2004). The characteristics that led to statistically significant higher achievement in the areas of math and language arts are:

1. A clear focus on academic achievement,
2. Clear curriculum choices,
3. Frequent assessment of student progress and multiple opportunities for improvement for the student,
4. An emphasis on nonfiction writing, and
5. Collaborative scoring of student work. (Reeves 2004, p. 3)

Reeve's (2004) research has been replicated and was also corroborated by the research of Robert Marzano in his book *What Works in Schools: Translating Research into Action* (2003). Marzano terms clear curriculum choices as being a "guaranteed and viable" curriculum that is offered to students in high achieving schools (p. 22). The curriculum being "guaranteed" relates to the idea that it is an aligned common curriculum focused on the standards that students need to master in order to gain the knowledge, skill, and dispositions necessary for them to be successful. Marzano also states that there is a need for collaboration during the development of this curriculum to ensure that all students in the school have an opportunity to learn these important skills. This process is too important to be left up to individual teachers working in isolation which can lead to gaps in students learning (Marzano, 2003).

In addition, according to Marzano, the curriculum must be "viable." That is the curriculum must be developed in such a way as to ensure that students can master the curriculum in the allotted time that students have to interact with or learn the curriculum (Marzano, 2003). In Marzano's research, he found that for a student to cover all of the standards in the documents found at the national level and on the average state level standards documents, that schooling would have to be extended from kindergarten through grade twelve to kindergarten through grade 22 (Marzano, 2003).

High Quality Instruction for All

In schools where isolation is the norm, students are not very likely to receive the same opportunity to learn the same curriculum even in the same grade and the same course. Robert Eaker (2002) put it this way, “The traditional school often functions as a collection of independent contractors united by a common parking lot” (p. 9). Marzano (2003) also warns of the dangers of teachers not being on the same page when there is no consensus over what should be taught. This is apparent in many situations today when students are considered to be at the mercy of the luck of the draw when it comes to the teachers that they receive and the quality of instruction that they can expect. McLaughlin and Talbert (2001) referred to this phenomenon as being like an instructional game of chance in which a student’s opportunities to learn will depend mainly on the teachers that they are assigned to from year to year.

This fact again makes the case for effective collaboration of teachers even more important. DuFour (2010) states in *Raising the Bar, Closing the Gap* that only when teachers work together in the form of “co-laboring” (p. 181) will they be sure to have the right focus for selecting and putting together what Marzano (2003) called a “guaranteed and viable curriculum” (p. 22). Researcher John Hattie (2009) asserts the importance of teachers knowing the learning goals of the content they are teaching. Larry Ainsworth borrows the term “Power Standards,” from Douglas Reeves, in his book *Power Standards: Identifying the Standards that Matter the Most* (2003) for those segments of the content that all teachers in the school collaboratively agree on that must be taught to mastery by all students. This collaboration and teaming on agreed upon outcomes lends

itself to equal opportunity in all classrooms in the school for students to have the opportunity to learn the valuable knowledge, skills, and dispositions that they will need.

As previously noted with the citation of John Hattie's work in *Visible Learning* (2009), the principal must have a focused role in instructional leadership. Of the 491 studies that were included in the meta-analyses that John Hattie synthesized, overwhelmingly, a more directive approach to leadership was found to be more effective (Hattie, 2009). Once again, Professor Hattie concluded that principals that focus on student's achievement, supporting and fostering effective instructional strategies, and focusing more on student achievement domains have the greatest positive effect on student learning.

Focusing on the Right Work

As schools strive to improve through the collaboration of staff it is important that they focus on the right work. The collaborative identification of the power standards is a first step in this process (Ainsworth, 2003). Once these standards have been defined, it is important that teachers collectively decide on the pacing and sequencing of content. In looking at the research on professional learning communities, this is most effectively done in collaborative teams by teachers teaching similar content or grade levels. Next, the teachers develop common formative assessments to determine if students are learning the content. The formative assessments are used as assessments for learning not simply to assign grades (Stiggins, 2007). Again, collaboration is central to this process.

Finally, once the common formative assessments have been developed and proficiency has been defined, the assessments are then given by all teachers to all of the students in that particular course. Data is collected and the results are analyzed.

Collectively, teachers go item by item and competency by competency and note proficiency and the lack thereof (Ainsworth, 2008). Based on these results adjustments are made to instruction. Mike Schmoker (2006) as well as Robert DuFour (2008) makes the case that this process of collaboration and collective inquiry holds the keys to effective schooling and increased student achievement.

Professional Learning Communities

A professional learning community is a conceptual framework for schools that focuses on the following basic big ideas (DuFour, DuFour, & Eaker, 2008):

1. The true purpose of schools is to ensure that all students learn at high levels.
2. Collaboration is a must if educators are to accomplish the goal of educating all students.
3. Schools must use data to determine if students are learning and then make sure to follow-up with intervention and prevention measures when the data indicates that the students are not learning.

Researchers DuFour, DuFour, Eaker, and Many (2006) define a professional learning community as educators with a commitment to work in collaboration with one another in continuous processes of investigation and action research to achieve improved results for students. Professional learning communities assume that the most effective way to insure that learning is improved for students is to mirror that with effective learning for educators.

Data-Driven Decisions

Research tells us that to make informed decisions; educators have to look at measurable outcomes objectively. In Jim Collin’s book *Good to Great* (2001), he called this aspect of making data driven decisions the “Stockdale Paradox” (p. 83). Collin’s asserted that it is not enough to just look at data in and of itself, but one must be willing to “confront the most brutal facts about the current reality, whatever they might be” (p. 86). In addition to this paradigm, Douglas Reeves in his book, *Accountability for Learning* (2004), shared that in making data driven decisions we must be just as concerned with cause data, which are the actions of the teacher, curriculum, leadership decisions, and many other variables that can have overwhelming impact data gathered from test scores. Reeves (2004) contended if we do not consider these data effects on student outcomes then we are truly not learning or leading effective practices.

Achievement of Results	Lucky High Results, Low Understanding of Antecedents	Leading High Results, High Understanding of Antecedents
	Losing Low Results, Low Understanding of Antecedents	Learning Low Results, High Understanding of Antecedents
Antecedents of Excellence		

Figure 1. Leadership and Learning Framework
From “The Learning Leader: How to focus school improvement on better results” by Douglas Reeves, 2006, p. 24. Copyright 2006 by Association of Supervision and Curriculum Development, Reston, Virginia. Reprinted with permission of the author.

According to the research, the essence of making data-driven decisions is based on looking not only at the student achievement results (i.e., standardized test scores), but also to look at the cause data (i.e., leadership decisions) for these effect outcomes. Using

the matrix allows one to track and understand how specific adult actions influence student achievement.

Formative Assessment

In conjunction with the research base of data driven decision making, formative assessment has also been a concept that has helped schools make drastic improvements in the achievement of students. According to Stiggins (2002), this form of assessment is considered “assessment for learning,” and not just simply “assessment of learning” (p. 83). This strategy has been seen as having so much possibility through research that after reviewing 250 studies from around the globe that were published between 1987 and 1998, Black and Wiliam found that assessment for learning produced a statistically significant increase in student achievement when used appropriately. Additionally, John Hattie (2009) found that providing students formative evaluation had an extremely positive effect size ($d = 0.90$, where $d > 0.40$ is considered a strong effect) on student achievement.

The concept of common formative assessment is central to the collaboratively formed assessments so present in DuFour’s (2008) “Professional Learning Community” concept. These types of assessments require ongoing collaboration opportunities for grade level, course, and department teachers within schools. Results on these assessments provide predictive value as to how students are likely to achieve on each succeeding assessment in real time so that teachers can make instructional modifications during instruction (Ainsworth & Viegut, 2006). John Hattie (2009) and Marzano, Waters, and McNulty (2005) also noted that knowledge and involvement of the principal in matters of

curriculum, instruction, and assessment has a positive effect ($r = .48$) on student achievement.

System-Wide Intervention

Another important characteristic of high performing schools is how these schools react to students when the students do not learn. Richard DuFour (2010) in his book, *Raising the Bar: Closing the Gap*, spends a great deal of time discussing the concept of system-wide intervention for students that are experiencing difficulty in achievement and behavior. One type program of system-wide intervention that has become popular over last nine years is called Response to Intervention (RtI). According to the National Center on Response to Intervention (2006), RtI is steeped in history and empirical research that supports many of the elements that are embedded in the process. It is based on a national understanding that the No Child Left Behind Act (NCLB, 2001) and the Individuals with Disabilities Education Act (IDEA, 2004) are companion laws dictating the use of scientifically-based research (SBR) curricula/instructional practices and setting high expectations for improvement for all students, including those with disabilities. Each element of RtI is part of an interrelated process, which must be applied to every student. According to DuFour (2010), this provides another opportunity to ensure the greatest possible outcomes for students through the application of a system-wide program of intervention based on solving student problems collectively and utilizing all available resources. This is the intention of the RtI process.

Challenge of the Cultural Change

Educational improvements that do not result in the changes becoming part of the culture of the organization have been found by researchers to be futile at best. As Roland Barth (2001) wrote, “The culture is the historical transmitted pattern of meaning that wields astonishing power in shaping how people think and act” (p. 8). Every school has a culture, and historically, most schools have exhibited cultures of isolation (Chenowith, 2009). Those that wish to cultivate a collaborative culture must be intentional in processes they take to impact practice. In the article “What Being a Successful Principal Really Means” (2008), author Christopher Day, with an analysis of the international literature states seven research-based axioms in regards to the importance of principal leadership and the culture of a school.

The research results shared by Day (2008) are listed below.

1. School leadership ranks only second to classroom instruction as a major influence on student learning in schools.
2. Nearly all school leaders in one form or another have to do some work towards re-culturing their organization in some way.
3. Leaders tailor the leadership practices they employ to the present reality.
4. Principals affect improvements on teaching and learning in an indirect fashion, thus they must have a strong affect on the culture of the organization.
5. To have the most influence, school leadership is distributed.
6. Some forms of distributed leadership are more closely aligned with positive outcomes for student achievement.

7. Most successful school leaders are ready to learn, open-minded, persistent, flexible, and optimistic.

Each one of these findings is closely related to the culture of the school (Day, 2008). Cultures are not easily changed because they are forged based on strong beliefs and actions that have characterized the everyday workings of schools. The change that must accompany a change in culture is a change that requires a break with many of the known customs and mores of the current reality within a school.

Transitioning from Isolation to Collaboration

On the subject of “relational trust,” researcher Roland Barth (2001) wrote, “The relationship among the adults in the schoolhouse has more impact on the quality and the character of the schoolhouse – and on the accomplishments of youngsters – than any other factor” (p. 105). According to Alan Blankstein in his book *Failure is Not an Option* (2004), it takes effective leadership to transition from a culture of isolated practice within schools to one that values the positive benefits of collaboration. This is not a process that will take place unintentionally, and therefore, requires insightful leadership from the school leader. In the book *Reframing Teacher Leadership* (2008), Douglas Reeves asserts that to change attitudes and beliefs, one must first change behaviors. The researcher states that in many ways we are what we do, and the only thing that we can influence at the outset in other people is their behavior. Therefore by focusing on getting the persons to change their behaviors first, then we can begin to change attitudes as they experience the personal benefits brought about by the change. Other researchers (Bossidy & Charan, 2002; Kotter & Cohen, 2002) agree that the process of changing any organizations culture begins by the changing of the behaviors of the people in that

organization. According to Reeves' research, this process is extremely important in the area of transitioning from teachers working in isolation to collaboration. The problem with this transition is that collaboration is not natural or common in the traditional school culture. According to one principal that researcher Alan Blankstein quoted in his work *Failure is Not an Option* (2004), "one of my teachers went into the classroom and didn't come out for 38 years" (p. 137). This type of isolation is not uncommon. The key is that teachers are able to see the possible personal benefits and positive outcomes to effective collaboration (Blankstein, 2004).

Magnitude of Change

This process is also known as a second order change because it causes those involved to think in new ways and to look at things differently. Marzano, Waters, and McNulty (2005) speak of second order change when they speak of the magnitude of change. In a first order change, the change is seen as an extension of the past, within existing paradigms, consistent with prevailing norms, and able to be implemented with existing knowledge and skills.

This stands in stark contrast to the magnitude of second order change. A second order change would then consist of a break with the practices of the past, exist outside existing paradigms, even conflict with prevailing norms, and most definitely require the attainment of new knowledge and skills (Marzano, Waters, & McNulty, 2005; Waters & Cameron, 2003). Doug Reeves (2006) has called this resistance to the paradigm shift in re-culturing the schools in contemporary America as the "fear of incompetence" (p. xxi). In that when we ask persons to gain new knowledge and skills with which they are unfamiliar, they fear the unknown and even fear appearing to be incompetent. Marzano,

Waters, and McNulty (2005) have deemed it second order change. Even though there is a sense of urgency for schools to improve or face the unpleasant sanctions guaranteed with failure in the NCLB Act (2001), many schools, many teachers, and many school leaders are reluctant to change based on this “fear of incompetence” (Reeves, 2006).

Many educational reforms have failed to deliver the expected results. This has been caused in part by the unrealistic expectations placed upon it by society (DuFour, 2008). No Child Left Behind (2001) now demands one hundred percent proficiency for every student in the United States by 2014. This of course is a goal that no state or country in the history of the world has ever achieved. This being the case, a system has been put in place that will ultimately lead to every public school in America being labeled a failure (DuFour, 2010). The task of changing an organization as large as the public education system in America is a very complex undertaking. In the fifty states of America, there are more than 14,300 school districts that operate over 95,000 schools that teach approximately 48 million students (National Center for Education Statistics, 2005). According to the research, the majority of these teachers and schools in many ways are completely autonomous in the way they go about the business of educating these students (DuFour, 2008).

Creating a Shared Mission and Vision

Another characteristic of highly successful schools are that they have a culture of a common focus. Most researchers describe this phenomenon as these schools having developed a common mission and vision (Blankstein, 2004). In effective schools the mission statement is more than just an artful statement hanging on the wall, it is a statement of why the school exists that all stakeholders have agreed upon (DuFour,

2008). The mission serves as a filter or a guiding principle that shapes all the work of the school. Every decision is looked at through the scope of the mission. For this to be an effective part of a school's culture, all in the school must have had a hand in the development process. The key component is the leadership provided by the school leader to facilitate the success of this endeavor. The school leader must exhibit the Leadership Responsibilities of focus and commitment to ensure the fidelity of this process (Marzano, Waters, & McNulty, 2005).

In addition to the maintenance of a viable mission statement, successful learning organizations also have a vision for the future. This relates to the commitment of continuous improvement. According to Blankstein (2004), without a workable and collaboratively formulated vision, decisions are often made randomly with no moral or organizational compass. According to Reeves (2006), this can lead to inconsistency in practices, and can lead to a scatter shot approach to school improvement. School leader must be an integral part in the formulation of the vision just as in the process of formulating the mission for the school (Reeves, 2006).

Learning Leadership

With the increased knowledge gained through research about the practices of effective schools, it has become all too clear that a break with many of the practices of the past is needed for schools to meet the new demands brought about by increased accountability (Reeves, 2006).

When changes require a break from past practices they are referred to as a second-order change. According to the work of Marzano, Waters, and McNulty (2005) and

Hattie (2009), the Leadership Responsibilities' most related to the success of a second-order change are the following:

1. Knowledge of Curriculum, Instruction, and Assessment
2. Optimizer
3. Intellectual Stimulation
4. Change Agent
5. Monitoring/Evaluating
6. Flexibility
7. Ideals/Beliefs.

In this research, the studies showed that it is critical that the school leader have an in-depth “knowledge about curriculum, instruction, and assessment” (Marzano, Waters, & McNulty, 2005, p. 84). The leaders’ ability to provide conceptual modeling and understanding to these areas are critical to the success of these important aspects of schooling. In addition to knowledge, the leader must also help be the driving force behind improvement. This encompasses the role of “optimizer.” The leader also must accept the responsibility of leading discussion and study of the concepts of effective schooling amongst all stakeholders. Providing this “intellectual stimulation” for faculty and staff is a great duty of the school leader. Being willing to challenge the status quo is related to the role of “change agent.” Monitoring/evaluating all aspects of the school, being directive and non-directive as the situation dictates, and operating in a manner consistent with the school leaders ideals and beliefs are all critical responsibilities in leading for learning (Marzano, Waters, & McNulty, 2005).

Collective Learning and Data Teams

Allowing time for effective teacher collaboration is an essential ingredient for increased levels of effective learning (Reeves, 2006). Even more important, is effective collaboration in which teachers actually have the opportunity to focus on the collective scoring of actual student work. This process provides teachers an opportunity to develop a common definition of proficiency, identify strengths and obstacles to learning, and collectively decide upon strategies to highlight and build upon strengths and develop action plans aligned to addressing and overcoming obstacles to learning (Reeves, 2006). DuFour (2008) calls these teams of teachers working together within a school to collectively inquire into best practices about teaching and learning, clarify their current practices, and honestly assess their students' current levels of learning, "Professional Learning Community" teams. Douglas Reeves (2006) calls these groups of teachers "Data" teams (p. 103). The common thread is a group of educators with a focused commitment to continuous improvement.

Support for an Action Oriented Culture

One of the world's leading organizational theorists, Peter Block (2003), contends that many organizations are frozen by the question, "But how do we do this?" (p. 35). Block (2003) makes the assertion that this question can be used as a defense for not acting. This type of response is contrary to what researchers call an "action oriented" culture. The researchers Pfeffer and Sutton (2000) also made the assertion that many organizations often substitute training for doing when it comes to improving their organization. These researchers found that the most successful companies had an "action oriented" culture, whereby they "learned by doing" (Pfeffer & Sutton, 2000, p. 243).

According to DuFour (2008), this provides great support for an “action oriented” culture in schools supported by the instructional leader of the school. The action orientation is brought about in schools by articulating specific collective commitments that help people shift from ideas to actions. This is one of the underlying assumptions of the “Professional Learning Community” (DuFour, 2010).

The collaborative development of effective goals also contributes to the advance of an action-oriented culture in schools. These goals should be *SMART*, according to Conzemius and O’Neill (2005). This means that the goals should be Specific, Measurable, Attainable, Results-Oriented, and Time-bound if they are to be used to guide action.

Commitment to Continuous Improvement

A culture focused on continuous improvement in an organization is a concept based on the Japanese term *kaizen*, which loosely means incremental improvement (“Kaizen,” 2010). According to Deming (1986), any leader of an organization should make sure that the goals of that organization guide the workings of that company by a continuous focus and revisiting of these goals. Research shows that schools that are positively impacting student achievement have a continued commitment to improvement (DuFour, 2008). According to the research of successful schools by DuFour in *Raising the Bar and Closing the Gap* (2010), “The perpetual disquiet and constant search for a better way that characterizes these schools results from the continuous improvement processes that are embedded in the routine practices of the school” (p. 83).

Effective School Improvement

We have discovered a great deal of information over the last forty years in regards to effective schooling. With the work of John Hattie (2009), Robert Marzano (2003), and Douglas Reeves (2006) the research supports the following conclusions:

1. The actions of the adults in the school matter. This includes the leadership and teaching that takes place in schools.
2. Some leadership actions show significant links to improvements in student achievement and equity in education across varied demographics.
3. Leadership in schools is more than a unitary skill set; it is a dynamic activity in schools. (Reeves, 2006, pp. xxiii-xxiv)

Robert Marzano (2003) completed a meta-analysis covering the last 35 years of education research, in which he identified eleven factors that school leaders could use as a guide to improve schools effectiveness. The research showed that by addressing the school-level factors of developing “A Guaranteed and Viable Curriculum,” setting and providing “Challenging Goals and Effective Feedback,” fostering “Parental and Community Involvement,” insuring a “Safe and Orderly Environment” and maintaining “Collegiality and Professionalism” that a school leader could positively impact student achievement (p. 15).

In addition to the five school-level factors, Marzano (2003) also found that at the teacher-level the factors of using effective “Instructional Strategies,” effective “Classroom Management,” and the proper “Classroom Curriculum Design” could all have positive impacts on student achievement (p. 71). These are three additional areas a school could look to improve and begin total school improvement.

Finally, Marzano (2003) addressed three student-level factors that were found in his meta-analysis that had the least impact of the eleven on student achievement. The three student-level factors are conducive “Home Atmosphere,” the student’s “Learned Intelligence and Background Knowledge,” and the level of the student’s “Motivation” (p. 123). These are all areas that school leaders can explore that have shown positive correlation to improved student achievement.

This list of eleven factors can form the basis for an effective school improvement strategy. Marzano asserts in his book about the research, *What Works in Schools* (2003), that the one factor that was separated from the list of factors because of the strength of that one factor on all the others is “Leadership.” Like Marzano (2003), other researchers (Scheerens & Bosker, 1997; Teddlie & Reynolds, 2000) contend that leadership can be considered the solitary most significant factor in effective school reform. It affects all aspect of schooling at all levels.

Summary

As documented in this literature review, when comes to the school leaders’ impacts on student achievements and the initiatives that may be undertaken in schools to improve student achievements, the research clearly supports the fact that the leadership provided by the administrator has a significant impact (Marzano, 2003). As schools have faced the challenges brought about by the increased requirements in the No Child Left Behind (2001) legislation, never before has the school leader’s role been more critical.

Supporting the improvement of schools requires the administrator to accept the duty of performing the 21 identified Leadership Responsibilities developed by Marzano, Waters, and McNulty (2005). This dissertation study aimed to ascertain if leadership of

the principal displayed in the form of actions similar to the 21 Leadership Responsibilities, identified by other researchers, may be correlated with high student achievement as measured by state standardized tests. Also, this study will seek to explore if any of these Leadership Responsibilities may be associated with improved scores on these same assessments.

CHAPTER III

METHODOLOGY

Introduction

The purpose of this chapter is to overview the research design the researcher used for this research project. Research questions in conjunction with the research hypotheses are communicated with the methodology in which they were tested. The research procedures, instrument, and participants are projected in this chapter.

Research Questions

Leadership is complicated and dynamic. According to Douglas Reeves in *The Learning Leader* (2006), “Leadership is about change---how to justify it, implement it, and maintain it” (p. 158). The researcher sought to understand in this study which of these identified and quantifiable Leadership Responsibilities is related to success in developing effective practices in schools which in turn lead to improved student achievement. This research did address the following research questions:

1. Is there a relationship between a school principals’ and teachers’ perceptions of the principals’ demonstration of Leadership Responsibilities as measured by the leadership aggregate score on a survey instrument related to the 21 Leadership Responsibilities?
2. Is there a relationship between the school principals’ leadership score on the survey instrument and school achievement on Algebra I, Biology I, English II, and United States History Area Tests as measured by the Mississippi Subject Area Tests as reported in the form of the QDI score

for the school, controlling for the percent of free and reduced lunch students?

3. Is there a relationship between the school teachers' perceptions of the principals' demonstration of Leadership Responsibilities as measured by the leadership score computed from this survey instrument and school achievement based on the school QDI score as measured by the Mississippi Subject Area Tests, controlling for the percent of free and reduced lunch students?
4. Are there differences between school principals' and teachers' perceptions as measured by the leadership score computed from this survey instrument related to school achievement as measured by the QDI score, controlling for the percent of free lunch students?

Research Design

The proposed methodology for this study is a regression analysis that did include a survey instrument and a look at the archival test data, including the assigned *MDE* accountability achievement level, for the school years 2009-2010. The building level principals and the teachers of 245 identified schools in the Southeast were given a survey related to the 21 Leadership Responsibilities identified by Marzano, Waters, and McNulty (2005) in the *School Leadership that Works* study. Variables considered in this research study include principal adherence to the 21 Leadership Responsibilities as self-reported by the principals and reported by teachers, school demographics, and school principal characteristics. Principal ratings of effectiveness and demonstration of the 21 Leadership Responsibilities from the work of Marzano, Waters, and McNulty (2005) in

McREL's Balanced Leadership Framework were measured by self-reported survey by the principals' themselves in the form of an aggregate leadership score. In addition, teachers were surveyed to determine their evaluation of the school leaders' demonstration of the 21 Leadership Responsibilities. The scores on assessments in Algebra I, Biology I, English II, and United States History as reported by the MDE through QDI and the overall school accountability level rating for 2009-2010 was analyzed after permission had been granted by the IRB from The University of Southern Mississippi and the prospective superintendents.

The principal demographic characteristics that were studied were gender, ethnicity, years at current school, and years of administrative experience. School level demographics that were considered in this study were location, school enrollment, grade levels, and socioeconomic status as defined by the percentage of students that eat free or reduced lunch.

Participants

Building level supervising principals and the teachers of 245 identified high schools in the Southeast were offered opportunity to participate in the survey related to the 21 Leadership Responsibilities identified by Marzano, Waters, and McNulty (2005) in the *School Leadership that Works* study. This represented all of the schools in the state of Mississippi that are held accountable for the state mandated graduation exams of Algebra I, Biology I, English II, and United States History reported in the form of the Quality Distribution Index (QDI) and the Mississippi accountability label (MDE, 2010).

Permission was obtained from the district superintendents of the districts selected for the study. Superintendents had to acknowledge their willingness for the identified

schools in their prospective districts to participate in this study. Once this permission was obtained, the letters containing the link for the survey for this research project were provided to the schools. The results of all the surveys were collectively analyzed.

Additionally, schools were sought that were representative of the seven accountability levels according to the MDE to help control for the co-variable of percent of free lunch students. Research such as Douglas Reeves work with *90-90-90 Schools* (2004) corroborates that poverty certainly has a negative impact on student achievement. It was the goal of the researcher to control for that variable in this study.

The seven accountability levels include the following: Star School, High Performing School, Successful School, Academic Watch School, At Risk of Failing School, Low Performing School, and Failing School.

Table 2

School Accountability Types

Level of School	N	Mean QDI
Star	20	216.7
High Performing	45	193.3
Successful	80	166.1
Academic Watch	55	141.2
At Risk of Failing	32	116.0
Low Performing	2	94.0
Failing	11	87.7

Note. Source: MDE, 2011

Instrumentation

The survey instrument proposed to be used in this study was created by the researcher. It contains 47 items, which includes six demographic items. The remaining 41 items are related to behaviors consistent with the demonstration of the 21 Leadership Responsibilities described by Marzano, Waters, and McNulty (2005) in the book *School Leadership that Works* and the McREL Balanced Leadership Framework by Waters and Cameron (2003). A pilot study was conducted in which this instrument was reviewed by a panel of experts to help evaluate the reliability and face validity of the instrument.

The credentials of the experts used for the pilot study included the holding of a Ph.D. either in the field of Educational Leadership or in field of Research and Statistics. In addition, the majority of these experts had held positions of leadership in schools ranging from supervising principal to superintendent. Lastly, these experts were familiar with research of this type and instruments that would be used for this type of study as all of them were practicing faculty on the university level.

Preliminary review of the survey instrument was conducted by a panel of experts for face validity. These experts agreed that on the face, the instrument appeared to be valid. The experts did concur that the survey needed be shortened in the number of items. Also, the experts stated that in their opinion, there needed to be some negative statements included in the survey. Initially, there was one negative statement per 21 leadership responsibilities. After receiving the feedback from the panel of experts, this number was reduced to five on the recommendation of the panel of experts.

Pilot study participants included teachers and secondary administrators. In the course of this pilot study, participants were asked if the items on the survey were clear to

them as they were written. Eight out of 10 agreed that the items were clear. Also, pilot study participants were asked if they perceived the items in the survey as relevant to the stated purpose of the research study. In addition, participants were asked if they were able to glean from the questions on the survey, “What do you believe this survey is measuring?” Upon completion of the pilot study, 100% of the participants in the pilot study related the items to the study of school leadership.

In addition, seven out of ten respondents believed that the survey needed to be shortened from 66 items on the behavioral portion. This was done by reducing the number of items from the original number of 66 items to 41 items. For all but one of the domains, “Monitoring and Evaluating,” this new format included two behavioral descriptions per the remaining 20 leadership behaviors.

When presented to the pilot study participants once again as a panel of experts, the participants felt that the new format was very user friendly. They also stated that the shorter format would, in their opinion, provide for a higher response rate from participants in the study being that the survey would now take less time to answer. The pilot study participants also stated they believed that this reduction in items removed many redundant items that had been present in the original survey.

To test for the internal consistency reliability of the survey, a Cronbach’s alpha (or α) test was conducted on the survey instrument. Data from the pilot study was entered into the statistical program SPSS for analysis. According to Neil Salkind (2010), when the Cronbach’s alpha is computed, the results “correlate the score of each item with the total score for each individual” (Salkind, 2010, p. 147). In addition, the test compares that total score for each individual to the variability for all of the individual item scores. The

score for the Cronbach's alpha measured an $\alpha = .930$. According to Salkind (2010), the ideal is that the coefficient be positive, and that it be as close to +1.00 as possible. This score received on this test would indicate a high level of internal consistency reliability.

Procedures

The survey was delivered to participants via the online survey creation site of Survey Monkey. Participants, including supervising principals and teachers, were provided the link to the survey by the superintendent's of their school district. This link was sent to the superintendent's of each individual school district on a letter that was included with all of the directions for the survey use. Different schools received varying survey links corresponding to their accountability levels. For example, "Star Schools," the highest rated schools in the MDE accountability rating system, were provided a distinct link to the survey from the other six accountability levels. In so doing, the responses are able to be observed for the different levels of schools. At the same time, responses within these groups are able to be filtered by their response to question number six on the survey in such a way that teachers and principals of specific schools were able to be analyzed separately for comparison.

Analysis of Results

Descriptive Statistics for the following variables were tabled: 21 Leadership Responsibilities, principal self-reports, teacher evaluations of principal, MDE accountability level, percent of students eating free lunch in the school, differences between teacher and principal perceptions, mean, standard deviation, range, skew, tenure of the principal, number of students, number of teachers, and grade levels. Where applicable, Data was entered into the statistical program SPSS for analyses in order to

determine whether there was a relationship between leadership practices and the incidence of higher student achievement on the state assessments. In addition, the following analyses were performed as a part of this research study project:

1. In order to determine whether there was a relationship between teacher ratings of principals, and principals' self-ratings on the leadership score, and whether similarity of ratings differs by domain, a Pearson Correlation was conducted.
2. In order to determine whether principal perception of their demonstration of the 21 Leadership Responsibilities as measured by the leadership score computed from this survey instrument is related to school performance, a regression of school performance (MDE Accountability Level) onto the leadership scores, controlling for percent of free lunch, was conducted.
3. In order to determine whether teacher perception of the principals' demonstration of the 21 Leadership Responsibilities as measured by the survey leadership score is related to school performance, a regression of school performance (MDE Accountability Level) onto the 21 leadership domains, controlling for percent of free lunch, was conducted.
4. In order to determine whether differences between teachers' and principals' on ratings of leadership are related to school performance, school performance was regressed onto differences on each domain between principal and teacher ratings, controlling for percent of free lunch.

Following regression analyses, leadership profiles for schools in the different school accountability levels may be graphed if there is a statistically significant difference amongst the ratings of certain domains between the principals and the teachers for a

school. These graphs were intended to provide a visual representation of leadership differences between schools as it relates to performance of these schools.

Accountability levels assigned to the school assigned to the schools in the form of the overall accountability level rating reported by MDE was also considered in this analysis. It was the goal of this analysis to determine if there was a relationship of any of the particular leadership domains and higher student achievement which would correspond to a higher overall school accountability level rating by MDE.

Through regression analyses the researcher did attempt to control for the co-variable of the percent of students in the school receiving free or reduced lunch in the various selected schools. Schools from each of the various accountability levels were used in the sample to help ensure good representation of high, mid, and low performing schools.

Summary

The purpose of this study was to help determine if instructional leaders perceived practices and actual leadership practices, as reported by teachers, have helped to foster an improvement in student academic achievement in secondary schools as measured by state assessments. Schools from across the state were requested to participate in this study. It was the hope of the researcher that this would then lead to a narrowed set of practices that may be explored by school leaders that have been positively associated with improvement in student academic achievement of secondary schools as measured by the Mississippi Subject Area Tests and indicated by schools higher QDI and or overall school accountability performance levels as reported by MDE.

In order to determine whether there was a relationship between teachers' ratings of principals and principal self-ratings on the 21 domains survey and whether similarity of ratings differs by domain, a difference score was calculated between the teachers' perception aggregate score and the principals' aggregate score. Once this difference score was obtained, a regression was performed with these different scores controlling for the co-variable of free and reduced lunch. QDI was the dependent variable in these analyses.

CHAPTER IV

RESULTS

Introduction

The purpose of this quantitative study was to compare the perceptions of principals' self-reported leadership scores on a leadership survey designed around the 21 Leadership Responsibilities identified by McREL with the perception of teachers' perceived leadership scores of the principal from the same school on the same survey. Researchers Marzano, Waters and McNulty (2005) found a mean significant correlation ($r = .25$) on the 21 Leadership Responsibilities when correlated to student achievement. This work is recorded in the book *School Leadership that Works: From Research to Results* (Marzano, Waters, & McNulty, 2005). In addition, these perceptions were compared with the Quality Distribution Index (QDI) which a part of the new accountability system for the state of Mississippi that became Mississippi's way of labeling schools in regards to student performance (MDE, 2007).

The QDI score which ranges from 0 to 300 is used in conjunction with the growth composite component to assign schools in Mississippi one of the following seven accountability labels: Star, high performing, successful, academic watch, at risk of failing, low performing, and failing. The "Star" school designation is the highest level of achievement a school can attain within this system, while the lowest ranking school is labeled with the "Failing" label.

All 152 school districts were contacted by email and the United States Postal Service mail in the form of a letter to the superintendent of education for participation in this study. Since this study was limited to those schools that taught the secondary courses

of Algebra I, Biology I, English II, and United States History, the total number of possible schools that could have participated in this study was 245 schools (MDE, 2010). These schools were targeted for the fact that this study focused on how leadership perceptions of the principals and teachers affected secondary student achievement which was measured by using both the QDI calculation and the accountability label assigned to the secondary school.

Of the 152 districts contacted, 25 districts responded that they would give permission to participate in this research study. Another 10 districts declined participation in the study. The consent was given in writing and these letters were received by the researcher from the superintendent of each participating district. The number of high schools in these 25 districts equaled to 40 schools housing the secondary subjects that were a part of the secondary QDI and accountability label calculations. Of the 40 schools in this group of 25 districts, 39 of the 40 high schools responded.

Initially, the number of high schools participating in the study after the initial letter to the superintendent taking part in the online survey consisting of 47 items was 25 schools. A second email sent to the individual principals of each high school with the survey link on the Survey Monkey Online Survey site accompanied by phone calls to many of these principals increased the response rate by 14 more schools to get to 39 schools total participating.

Of the 39 schools participating, four of the schools were labeled with the “Star” designation, seven were labeled as “High Performing,” 11 were labeled “Successful,” nine were labeled “Academic Watch,” five were labeled “At Risk of Failing,” zero were labeled “Low Performing,” and two were labeled as “Failing” schools.

Descriptive Statistics

There were a total of 39 principals that completed the seven demographic items of the survey instrument which were items 1 through 5. Demographics are reported by the researcher as reported by the principals. Even though the teachers were asked the same questions in regards to the principals' demographics, the demographics as self-reported by the principals were felt to be more reliable.

Table 3

Principal Demographics

Variable		N	Percent
Gender	Male	34	87.2
	Female	5	12.8
Ethnicity	African American	11	28.2
	White/Caucasian	28	71.8
Years at Current School	1-2	2	5.1
	3-5	6	15.4
	6-10	10	25.6
	11-15	7	17.9
	16-20	9	23.1
	21+	5	12.8
Years as Principal	3-5	19	48.7
	6-10	10	25.6
	11-15	5	12.8
	21+	5	12.8

Table 3 (continued).

Variable		N	Percent
Grade Levels of School	9-12	25	64.1
	7-12	5	12.8
	K-12	9	23.1

The number of teachers responding to the survey ranged from a minimum of two for one school to a maximum of 19. Again the teachers scored the principal on the same instrument as was provided to the principals for this study.

The scores used for analysis was an aggregate score obtained by adding all responses to obtain one score for each teacher from each school. This was done only after survey items number 15, 19, 26, 34, and 42 were reversed as these items had been included as items to be answered in reverse order on the Likert four-point scale as compared to the other 36 items on the leadership score section of the survey instrument. The same process was repeated to obtain an aggregate score for the principals of each school as well.

Descriptive statistics for school QDI were recorded with a minimum score of 80 and a maximum score of 213 ($n = 39$, $M = 159.41$, $sd = 33.105$). The following table summarizes the descriptive findings for the seven accountability labels.

Table 4

Descriptive Statistics for Different Accountability Labels

Accountability Label	n	M	sd	Minimum	Maximum
1 Failing School	2	87.50	10.607	80	95
2 Low Performing School	0				

Table 4 (continued).

Accountability Label	n	M	sd	Minimum	Maximum
4 Academic Watch School	9	143.56	9.449	130	159
5 Successful School	11	163.91	15.764	138	187
6 High Performing School	8	190.88	9.702	176	208
7 Star School	4	205.75	5.252	201	213
Total	39	159.41	33.105	80	213

Statistical Analysis

In regards to research question 1: Is there a relationship between school principals' and teachers' perceptions of the principals' demonstration of Leadership Responsibilities?

The analyses for this question consisted of a Pearson Correlation comparing the leadership aggregate score of the principal's self-report with that of the leadership aggregate score as scored by the teacher on the same survey instrument. This analysis yielded a significant correlation with an $r(39) = .484, p = .002$. The mean score for the principals leadership perception score was ($M = 3.53, sd = .4566$), while the mean for the teachers leadership perception score for the principal was ($M = 2.59, sd = .5541$). The results of this test show that on the average, the principal's score was nearly one whole point higher than the score the principal was given as indicated by the teachers' leadership perception aggregate score mean.

In addition to the Pearson Correlation a Paired Samples t-test analysis using the principals leadership aggregate score mean was compared with the teachers leadership aggregate score mean to yield a significant difference ($t(38) = 11.125, p \leq .000$) in the perceptions of the principals leadership aggregate score in comparison to that of the teachers' leadership aggregate score for the principal.

Table 5

Comparison of Mean Leadership Aggregate Score of Principals with That of Teachers

Leadership Score	n	M	sd	t	df	p
Principal Perception	39	3.5253	.4566	11.125	38	.000
Teacher Perception	39	2.5988	.5541			

These results in regards to the research question as to whether there is a relationship between principals and teachers perceptions of the principals' leadership ability as measured by this survey instrument would appear to indicate that a moderate positive correlation exists. That is that the principals' score tends to be slightly higher than the teachers' score of them on the principals' leadership as measured by this instrument with this sample.

In regards to research question 2: Is there a relationship between the school principals' leadership score on the survey instrument and school achievement on Algebra I, Biology I, English II, and United States History Area Tests as measured by the Mississippi Subject Area Tests as reported in the form of the QDI score for the school, controlling for the percent of free and reduced lunch students?

A regression analysis was used to test for any significant explanation of variance of the school's QDI score while controlling for the covariate of school socio-economic

status as reported by the percentage of students eating free and reduced lunches. The analysis resulted in a significant amount of the variance being able to be explained by the leadership perception of the principals as reported in the form of the leadership score. For the variable of socio-economic status (SES), reported as the percentage of students eating free or reduced lunch in the school, nearly 62% of the variance was described by the variable of the SES of the school with $F(1, 37) = 62.11, p < .001$. In regards to the amount of variance explained by the principals leadership score, there was a significant amount of the variance explained by the perception of the principals' leadership ability as reported in the form of the principals' leadership score with the statistical analysis yielding the result of $F_{cha}(1, 36) = 6.974, p = .012$, which is significant. The adjusted R^2 value increased from the value with SES, Adjusted $R^2 = .617, p \leq .000$, to the value with the principal's perception equaling a significant impact on explaining part of the variance in the dependent variable of the QDI with Adjusted $R^2 = .670, p = .012$ for an R^2 change of .061.

These results suggest that the principal's perception as measured by the leadership score on this survey instrument does have an impact on explaining as much as 5.3% of the variance in the QDI score while controlling for the SES of the school. For these results, it would appear that the leadership perception of the principal explains a significant amount of the variance of the schools QDI score in the schools used for this sample.

Other researchers have used quantifiable means to describe such impacts of leadership on student achievement. In his work *Visible Learning* (2009), John Hattie looked at the effect size of various educational variables in relation to student

achievement. According to Hattie (2009), the concept of effect size can be described in the following manner, “effect size provides a common expression of the magnitude of study outcomes for many types of outcome variables” (p. 7). In looking at variables related to the field of education, Hattie concluded from the research that an effect size of ($d = 0.40$) should be considered to be significant. In relation to the findings of research question number two, the synthesis of the 800+ meta-analyses in Hattie’s research found the overall effect size of principal leadership to be significant, ($d = 0.36$).

In regards to research question 3: Is there a relationship between the school teachers’ perceptions of the principals’ demonstration of Leadership Responsibilities as measured by the leadership score computed from this survey instrument and school achievement based on the school QDI score as measured by the Mississippi Subject Area Tests, controlling for the percent of free and reduced lunch students?

A regression analysis was used to test for any significant differences in the explanation of variance of the school’s QDI score while controlling for the covariate of school socio-economic status as reported by the percentage of students eating free and reduced lunches. The analysis resulted in a less than significant amount of the variance being able to be explained by the leadership perception of the teachers’ of the principal as reported in the form of the leadership score computed by the teacher scores on the survey instrument. For the variable of socio-economic status (SES), reported as the percentage of students eating free or reduced lunch in the school, again nearly 62% of the variance was described by the variable of the SES of the school with $F(1, 37) = 62.11$, $p < .001$. In regards to the amount of variance explained by the teachers’ leadership score of the principal, there was a non-significant amount of the variance explained by the

perception of the principal's leadership ability by the teacher's score of the principal as reported in the form of the teachers' leadership score with the statistical analysis yielding the result of $F_{cha}(1, 36) = 2.853, p = .100$, which is not statistically significant. The adjusted R^2 value increased from the value with SES, Adjusted $R^2 = .617, p = .000$, to the value with the teachers' perceptions of the principals' abilities equaling a less than significant impact on explaining part of the variance in the dependent variable of the QDI with Adjusted $R^2 = .635, p = .100$.

These results suggest that the teachers' perception of the principals' leadership ability as measured by the leadership score on this survey instrument does not have as much of an impact on explaining of the variance, only 1.8%, in the QDI score while controlling for the SES of the school. For these results, it would appear that the leadership perception of the teachers explains a less than a significant amount of the variance of the schools QDI score in the schools used for this sample.

Finally, in regards to research question 4: Are there differences between school principals' and teachers' perceptions as measured by the leadership score computed from this survey instrument related to school achievement as measured by the QDI score, controlling for the percent of free lunch students?

For this analysis, first a difference score was calculated by subtracting each teacher mean aggregate score from each school from the principal mean aggregate score for the school. This yielded a score that was positive if the principal had rated him or herself higher than the rating of the teacher as measured by the aggregate score from the survey instrument. Most of the principals had rated themselves at least slightly higher than their corresponding teachers had rated them.

Once this difference score was computed a regression analysis was used to test for any significant differences in the explanation of variance of the school's QDI score while controlling for the covariate of school socio-economic status as reported by the percentage of students eating free and reduced lunches. The analysis resulted in a non-significant amount of the variance being able to be explained by the difference score in leadership perception of the principals' score and the teachers' of the principal as reported in the form of the leadership score computed by the teacher scores on the survey instrument. For the variable of socio-economic status (SES), reported as the percentage of students eating free or reduced lunch in the school, again nearly 62% of the variance was described by the variable of the SES of the school with $F(1, 37) = 62.11$, $p < .001$. In regards to the amount of variance explained by the difference in the teachers' leadership score of the principal and the actual principals' self-report leadership score, there was found to be a less than significant amount of the variance explained by the perception of the difference score of the principals leadership ability by the teachers score of the principal as reported in the form of the teachers' leadership score and the principals' self-reported score with the statistical analysis yielding the result of $F_{cha}(1, 36) = .158$, $p = .693$, which is not statistically significant. The adjusted R^2 value decreased from the value with SES, $Adjusted R^2 = .617$, $p = .000$, to the value with the difference score of the teachers' perception of the principals' ability and the principals leadership score equaling a less than significant impact on explaining part of the variance in the dependent variable of the QDI with $Adjusted R^2 = .608$, $p = .693$.

These results suggest that the difference between the teachers' perception of the principals' leadership ability and the leadership score of the principal as measured by the

leadership score on this survey instrument does not have as much of an impact on explaining of the variance, only 0.9%, in the QDI score while controlling for the SES of the school. For these results, it would appear that the difference score of the leadership perception of the teachers and that of the leadership score of the principals explains a less than a significant amount of the variance of the schools QDI score in the schools used for this sample.

Ancillary Findings

After the statistical analyses of the data for this study were completed, an ancillary finding was noticed when the schools were divided into two different categories. The category labeled high performing school group consists of the star, high performing, and the successful school labels. The other category is entitled the low performing schools group which consists of the schools in the academic watch, at risk of failing, low performing, and failing labels. The data shows that both the high performing group principals' and teachers' have higher perceptions of leadership than the low performing group principals' and teachers'. The high performing group principals ($n = 23$) had a higher perception of leadership ($M = 3.75$, $sd = 0.39$). The low performing group principals ($n = 16$) had a lower perception of leadership ($M = 3.20$, $sd = 0.35$). In addition, the higher group teachers ($n = 23$) had a higher perception of leadership ($M = 2.89$, $sd = 0.41$), and lower group teachers ($n = 16$) had a lower perception of leadership ($M = 2.18$, $sd = 0.47$).

Table E1 contains the descriptive statistics for individual items on the survey instrument for principals in the high performing schools group and the low performing schools group. The high performing school principals and the low performing school

principals means for the domains of Involvement in Curriculum, Instruction, and Assessment (Prin. High M = 3.83, Prin. Low M = 3.25), Knowledge of Curriculum, Instruction, and Assessment (Prin. High M = 3.87, Prin. Low M = 3.69), and Communication (Prin. High M = 3.78, Prin. Low M = 3.56) were similar. Domains that saw larger areas of difference between the two principal groups were the areas of Focus (Prin. High M = 3.83, Prin. Low M = 3.19) and Optimizer (Prin. High M = 3.7, Prin. Low M = 3.06).

Table F1 contains the descriptive statistics for individual items on the survey instrument for teachers in the high performing schools group and the low performing schools group. The high performing school teachers and the low performing school teachers means for the domains of Communication (Teach. High M = 3.64, Teach. Low M = 2.95) and Ideals/Beliefs (Teach. High M = 3.65, Teach. Low M = 2.96) were similar. Domains that saw larger areas of difference between the two teacher groups were the areas of Focus (Teach. High M = 3.07, Teach. Low M = 2.22) and Culture (Teach. High M = 3.08, Prin. Low M = 2.2).

Summary

In reviewing the results of the information from the following statistical tests the following conclusions have been drawn. The first conclusion is that in regards to research question one, there does appear to be a significant difference in the leadership perception score of the self-reported score and that of the score reported for the teachers for that same principal. Secondly, in regards to research question two, there does indeed appear to be a significant relationship between the principals' leadership score and the QDI score for the schools in this sample.

The next conclusion surrounds research question three. The conclusion drawn from this statistical analysis suggests that there is no significant relationship between the leadership score recorded by the teachers' of the school in regards to the leadership of the principal in regards to the QDI score. Lastly, the conclusions drawn from the data on the testing of research question four would suggest that there is a non-significant difference in the amount of variance explained by free and reduced lunch and that of the difference score between the perceptions of the principal and the teachers perceptions of the principals leadership as measured by the leadership score on this survey instrument.

CHAPTER V

DISCUSSION

Introduction

This study sought to determine if there was a quantifiable relationship between the leadership of the principal of a school and student achievement. The following contains a discussion of the results of this study as it pertains to the research questions that guided the analysis of the data. Limitations will be discussed as they pertain to the conducting of this research project. This will be followed by recommendations for policy or practice for secondary schools. In conclusion, recommendations for further research will be expanded upon.

Discussion

In regards to the first research question which dealt with whether there is a relationship between school principals' and teachers' perceptions of the principals' demonstration of Leadership Responsibilities and student achievement, the following results were found. From the analyses there was found to be a significant relationship between the principal's score and the teacher's score of that principal. In nearly all cases the principal rated themselves higher than the teachers for that school by nearly one whole point.

This leads one to believe that the teachers do not have access to the knowledge and skills needed to rate the principal effectively. This finding could also be explained by the fact that teachers may not have had sufficient time or opportunity to observe the principal to be able to rate the principal effectively on items included in the survey. In the

final analysis of research question 1, it seems clear that teachers rated principals clearly lower than the principals rated themselves.

It is my belief that this rating was brought about by the fact that many principals continue using an authoritarian style of leadership. This style of leadership is explained by the focus on rules, policy, and procedures and is very reminiscent of what Bolman and Deal (2008) called the Structural Frame of leadership in their book *Reframing Organizations: Artistry, Choice, and Leadership*. Used ineffectively, this model can digress into a situation where the school leader can be seen as a tyrant that micro-manages every aspect of the school or organization. This in turn can lead to low morale.

According to John Kotter in his book *A Sense of Urgency* (2008), this type of behavior can help to facilitate one of the worst ills that can grab hold of an organization. That dreadful situation is one of having a “false sense of urgency” (Kotter, 2008, pp.10-11). This frantic search for a magic bullet can be brought on by the tyrannical activities of leadership gone wrong. This could cause skepticism on the part of teachers asked to rate the leadership ability of their principal.

In looking at research question two, this study sought to discover as to whether there was a relationship between the school principals’ leadership score on the survey instrument and school achievement on Algebra I, Biology I, English II, and United States History Area Tests as measured by the Mississippi Subject Area Tests as reported in the form of the QDI score for the school, controlling for the percent of free and reduced lunch students, the following results were noted. There was found to be a significant amount of the difference in the principal’s perception of the job the principal was doing as measured by their self-report and the QDI for the school. This was found while

controlling for the variable of free and reduced lunch. So, when taking the socio-economic status out of the equation, the principal's perception of his or her leadership ability was found to have an impact on student achievement as measured by the QDI score.

Other researchers have used quantifiable means to describe such impacts of leadership on student achievement. In his work *Visible Learning*, John Hattie (2009) looked at the effect size of various educational variables in relation to student achievement. According to Hattie (2009), the concept of effect size can be described in the following manner, "effect size provides a common expression of the magnitude of study outcomes for many types of outcome variables" (p. 7). In looking at variables related to the field of education, Hattie concluded from the research that an effect size of ($d = 0.40$) should be considered to be significant. According to Hattie, "The effect size of 0.40 sets a level where the effects of innovation enhance achievement in such a way that we can notice a real-world differences, and this should be a benchmark of real-world change" (p. 17).

In relation to the findings of research question number two, the synthesis of the 800+ meta-analyses in Dr. Hattie's research found the overall effect size of principal leadership to be significant, ($d = 0.36$). This data is based on the synthesis of 11 meta-analyses that contain a total of 491 studies with over 1.13 million participants (Hattie, 2009). In addition, effect sizes were much larger when principals focused on those tasks more closely associated with instructional leadership, ($d = 0.66$). In contrast, according to the research, the effect size of principals that focused on other domains of leadership were much lower, ($d = 0.09$).

Those dimensions of leadership that had the highest effect size on student achievement were the principal being directly involved with professional development ($d = 0.91$), monitoring and evaluating teaching and the curriculum ($d = 0.74$), and maintaining focus on goals and expectations ($d = 0.54$). In looking at the research on involvement in professional development, the researchers found that it was important that the principal be actively involved in championing the innovation. In regards to monitoring and evaluating, the research suggests that this should include the principal engaging in multiple classroom visits and provide both formative and summative feedback for teachers. This feedback should be given in the spirit of providing the opportunity for professional growth (Reeves, 2009). Lastly, the focusing on goals and expectations, according to the research by Douglas Reeves in *The Learning Leader* (2006), allows teachers and principals to use their finite amount of energy on the most important tasks.

In Douglas Reeves' latest book *Finding Your Leadership Focus* (2011), this researcher believes that Reeves explains a rationale for this finding. The research in this book was based on an analysis of more than 2,000 schools in the United States and Canada surrounding leadership or school initiatives, many of which dealt with improving student achievement. This study found that the three most important behaviors of the many identified for school leaders to attend to over the past several studies could be narrowed down to just three specific behaviors. According to Reeves, the three behaviors most correlated with student achievement are "focus," "monitoring," and "efficacy" (Reeves, p. 26).

It is the third of these behaviors that I believe help explain the research finding associated with research question two. The idea of efficacy deals with the belief that adult action in the school has the most significant impact on student achievement. Robert Marzano, in his book *What Works in Schools: Translating Research into Action* (2003), made this point very well in the negative sense when he recounts that his research suggested that if a child has a poor teacher three consecutive years in school that the child cannot recover.

Douglas Reeves relates this phenomenon to the Rosenthal and Jacobson study of 2003 entitled “Pygmalion in the Classroom.” This study concluded that the perceptions of student ability by teachers of their students impacted student success. Reeves (2011) goes on to assert that, “four decades of research and practice on the power of efficacy leads to the inescapable conclusion that the beliefs of teachers and school leaders have a significant effect, for better or worse, on the performance of students” (p. 31). The results obtained from these studies support the finding of this study in regards to research question two.

In discussing research question three, which sought to determine if there was a relationship between the school teachers’ perceptions of the principals’ demonstration of Leadership Responsibilities as measured by the leadership score computed from this survey instrument and school achievement based on the school QDI score as measured by the Mississippi Subject Area Tests, controlling for the percent of free and reduced lunch students.

The conclusion drawn from this statistical analysis suggests that there is no significant relationship between the leadership score recorded by the teachers’ of the

school in regards to the leadership of the principal in regards to the QDI score. The results of the analysis of the data for this portion of the study failed to find a significant amount of the variance being able to be explained by the leadership perception of the teachers' of the principal as reported in the form of the leadership score computed by the teacher scores on the survey instrument. For these results, it would appear that the leadership perception of the teachers explains a non-significant amount of the variance of the schools QDI score in the schools used for this sample.

Looking back at some of the research previously mentioned in this chapter, I would assert that the reasons for the non-significant impact of the teacher's scores related to the principals leadership on the QDI score is that teachers are not in a position to accurately assess all of the leadership behaviors exhibited by the principal. In addition, the efficacy of the principal is essential in the feeling of the principal that he or she can make a difference in student achievement. As mentioned earlier, this efficacy has been proven by other researchers to have a significant impact on the learning outcomes of students. These outcomes would directly affect student scores on the Mississippi subject area tests. These results would certainly affect the school QDI score which in turn affects the school accountability level.

In reference to research question four, this study sought to discover as to whether or not there were differences between school principals' and teachers' perceptions as measured by the leadership score computed from this survey instrument related to school achievement as measured by the QDI score, controlling for the percent of free and reduced lunch students. In looking at the results of the analysis for this question, it was found that most of the principals had rated themselves at least slightly higher than their

corresponding teachers had rated them. The analysis resulted in a non-significant amount of the variance being able to be explained by the difference score in leadership perception of the principals' score and the teachers' of the principal as reported in the form of the leadership score computed by the teacher scores on the survey instrument.

Lastly, the conclusions drawn from the data on the testing of research question four would suggest that there is a non-significant difference in the amount of variance explained by free and reduced lunch and that of the difference score between the perceptions of the principal and the teachers perceptions of the principal's leadership as measured by the leadership score on this survey instrument. Again, this could be explained by teachers dealing with principals that been trained in the structural frame of leadership in a classical sense (Bolman & Deal, 2008).

Another plausible explanation is what Mike Schmoker in his book *Results Now* (2006) calls the "buffer" (Schmoker, p. 13). The idea of the buffer, explains Schmoker, are the unwritten mores that persist inside and outside our schools that regardless of how dismal things may be, schools seem to have been given a pass when it comes to criticisms of success or the lack thereof. This persistent issue may cause a disconnect between teachers and the school leaders that are responsible for providing their evaluations and feedback.

Schmoker goes on to propose another explanation that could be plausible in explaining why there is disconnect in the perception of teachers and principals. In chapter two of the book *Results Now*, Schmoker (2006) asserts that schools have traditionally been halls of isolation. He goes so far as to say that we as educators may actually be guilty of "institutionalizing mediocrity" (Schmoker, p. 27). This being the case, as

accountability pressures mount for teachers; they could be becoming disenfranchised with the leadership structure that has persisted in schools from the beginning of the American public education system.

This very structured framework in which the principal was possibly, in the eyes of the teachers, supposed to be able to shield teachers from the negativity of failing accountability could explain some of these causes of angst. As teachers are starting to reevaluate this historical structure of schools, they could be expecting more from their school principal than what the principal may be equipped to deliver. This could help to explain the disconnect in the scores between the leadership perceptions of the principals and the teachers' perceptions of the principals.

Limitations

In the previous sections of this chapter, the groundwork for the discussion of limitations that occurred with this study has been laid. The first would be that the teachers may not have been fit with the skills that they needed to accurately assess the principal's leadership ability. Teachers could have also lacked the time needed or opportunity to observe some of the behaviors questioned in the questionnaire.

Additionally, it could have been that the only teachers that responded were those that were biased toward the principal. These persons could have really liked the principal and therefore would have rated the principal artificially high. On the other end of the spectrum, it could be that some of the teachers used this opportunity to really rate their principal very low in an attempt to exact some type of revenge.

Lastly, for this sample to be more applicable to other regions, the sample would need to contain schools from other parts of the country. Sample size would certainly

prevent this study from being able to be generalized to other regions. The fact that at this point, the different parts of the country are all on unique accountability systems designed by the prospective states would again limit the generalizability or applicability of this study's results. Not until a common system of accountability is in place for the United States would this issue be solved.

Implications for Policy and Practice

Current research supports the finding of this study that leadership does have a significant impact on student achievement. When other factors are controlled for, such as socioeconomic status, leadership has been shown to have a significant effect on the achievement level of students. This has implications for the importance of training, hiring, and retention policies for schools.

If a significant amount of the variance in achievement can be explained by leadership, it would make intuitive sense that district would want to focus training and other resources into this area. As researchers Douglas Reeves and others have stated, leadership is essential for student achievement. One of the areas Reeves mentions in his latest book *Finding Your Leadership Focus* (2011) relates to "monitoring and evaluating" (Reeves, p. 28). The frequency and the fidelity of the monitoring and evaluating can have a significant impact on achievement. In addition, providing feedback to teachers in this process is also critical.

In addition to monitoring and evaluating, providing focus is a very important factor in principals fostering effectiveness in schools. Douglas Reeves (2011) suggests that it is in the purveyance of the school leader to help the school and teachers maintain focus on "six or fewer priorities" (p. 27). Any more than six priorities strain the ability of

the staff to focus on what is important and limits the ability of the initiatives to be implemented effectively. The implementation is only accomplished through proper monitoring, evaluating, and the use of formative feedback with the mission of providing for professional growth (Reeves, 2011).

Finally, the last area that research suggests could help improve schools and should be considered with implications of policy and practice is the idea of efficacy. The key, according to Reeves, is to focus not only on the effect data which is student learning results, but also the cause data which is defined as the actions of the adults in the school building. To do this, schools must celebrate the successes they have and bring attention to the fact that adult action has a profound effect on student achievement. This can be done by what Reeves (2006) calls “Data Walls” which could be considered a science fair for adults (p. 196). In this process teachers actually create presentation boards that outline the successful strategies they have enacted with the coinciding student effects shown as well. This gives a visual of how adults impact the achievement in a positive way and help lead to discussion of effective practice amongst colleagues.

All of these areas mentioned, speak to the importance of leadership as it relates to student achievement. As Marzano, Waters, and McNulty (2005) stated in their conclusions following their *School Leadership that Works* study, everything rises and falls on leadership. Whether one is talking about curriculum, instruction, or safety, school leadership must be in place to maintain a high probability of success.

Recommendations for Future Research

The following are some of the inquiry questions that could seek to guide the possibility of further research. Recommendations for future research would surround the

question of what were some of the root causes for the disconnect between the perceptions of the teachers and the principals perceptions of the principals leadership? Next, could more effective communication between the school principals and teachers foster a yielding of similar results of further evaluations of leadership? Lastly, could this sharing of perceptions yield to even greater improvements in student achievement scores? These are all questions that could help guide further study into the findings of this study.

Summary

This research study sought at the core to seek a link between principal or school leadership and student achievement. A review of the findings of this study shows that there was a statistically significant impact of leadership on the QDI scores for schools, which can be related directly to student achievement. These findings are certainly consistent with the findings of many other researchers that have correlated principal leadership to student achievement.

This sincere hope of this researcher is that these findings will have an impact on future policy or research. The impact seen in the literature review and other studies is too strong to ignore. Implications exist in this study for policy and current practitioners. Current principals should be assured that they, as much any other factors, have a significant impact on student achievement. This study also sought to control for socioeconomic status, thus making even clearer the picture that the leadership of our schools is very important, and certainly warrants further research.

APPENDIX A
PERMISSION LETTER

THE UNIVERSITY OF SOUTHERN MISSISSIPPI
AUTHORIZATION TO PARTICIPATE IN RESEARCH PROJECT

Consent is hereby given to participate in the study titled:

Leadership Practices that Promote Increased Student Achievement in Secondary Students

1. **Purpose:** The purpose of this study is to examine instructional leader's perceived practices and cultures of their schools in relation to how these leadership practices have impacted effective school practices that have helped to foster an improvement in student achievement as measured by state assessments.
2. **Description of Study:** The proposed methodology for this study is a quantitative research model that would include a survey instrument and a look at the archival accountability level for the school year 2009-2010. Once the data has been analyzed, the building level principals and the teachers of these schools will be given a survey, once approved by IRB related to the twenty-one leadership responsibilities identified by Marzano, Waters, and McNulty (2005) in the *School Leadership that Works* study. The purpose of the survey is to provide multiple perspectives on the principal's fulfillment of the 21 leadership responsibilities identified in McREL's leadership research and possible correlation to student achievement.
3. **Benefits:** As a benefit of participating, schools can request detailed information with the findings of the study as they relate to the possible correlations of certain leadership responsibilities and high achievement in secondary students on the Mississippi Subject Area Tests.
4. **Risks:** Participants in the study may have discomfort in the time of going online to take the survey.
5. **Confidentiality:** Individual responders to teacher surveys will not be identified. Schools will not be identified in the study by name or any other distinguishing factor.
6. **Participant's Assurance:** Whereas no assurance can be made concerning results that may be obtained (since results from investigational studies cannot be predicted) the researcher will take every precaution consistent with the best scientific practice. Participation in this project is completely voluntary, and participants may withdraw from this study at any time without penalty, prejudice, or loss of benefits. Questions concerning the research should be directed to researcher(s) B.R. Jones at 601-410-3448. This project and this consent form have been reviewed by the Institutional Review Board, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research participant should be directed to the Chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS 39406-0001, (601) 266-6820.

In conformance with the federal guidelines, the signature of the participant must appear on all written consent documents.



Signature of the Research Participant

4/25/11

Date



Signature of the Researcher

4-25-2011

Date

Participant's Initials _____

APPENDIX B
LEADERSHIP QUESTIONNAIRE

Demographic Information

Instructions: Please answer each question honestly by choosing only one answer per question. Responses are anonymous and this research is being used to help improve school effectiveness. This research in no way will be used in an evaluative manner for teachers or administrators. Participation in this project is completely voluntary, and participants may withdraw from this study at any time without penalty, prejudice, or loss of benefits. Participants completion of this survey represents their individual consent to participate. Teachers will be responding to the statements in regards to their "Lead" or "Supervising" Principal. Thank you for participating.

Gender of Supervising Principal

- Male
 Female

Ethnicity of Supervising Principal

- African American
 Asian/Pacific Islander
 Hispanic
 White/Caucasian
 Native American
 Other

Supervising Principal's Years at Current School

- 1-2
 3-5
 6-10
 11-15
 16-20
 21 or more
 Unsure

Supervising Principal's Years of Experience As Administrator

- 1-2
- 3-5
- 6-10
- 11-15
- 16-20
- 21 or more
- Unsure

Grade Levels at Your School

- K-4
- 5-8
- 9-12
- 7-12
- K-12

Next to Your Position select Your School from the Drop-down Menu

	School Code/Name
Supervising Principal	<input type="text"/>
Teacher	<input type="text"/>

Questionnaire

To what extent would you say that the leader of your school does each of the following. Use the following Rating Scale (1 = Never) (2 = Sometimes) (3 = Often) (4 = Always) (5 = I Don't Know)

	Never	Sometimes	Often	Always	I don't Know
1. Seeks to promote cohesion amongst staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Provides and enforces clear structures, rules, and procedures for students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Promotes cooperation amongst staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Provides and enforces clear structures, rules, and procedures for staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Protects and shelters teachers from distractions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Ensures that teachers have necessary materials and equipment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Protects instructional time from interruptions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Ensures that teachers have necessary staff development opportunities that directly enhance their teaching	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Is not involved with teachers to address instructional issues in their classrooms	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Establishes high, concrete goals and expectations that all students meet them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Ensures that teachers have necessary curriculum, instruction, and assessment materials and equipment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Establishes concrete goals for all curriculum, instruction, and assessment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Does not provide conceptual guidance for teachers regarding effective classroom practice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

To what extent would you say that the leader of your school does each of the following. Use the following Rating Scale (1 = Never) (2 = Sometimes) (3 = Often) (4 = Always) (5 = I Don't Know)

	Never	Sometimes	Often	Always	I don't know
14. Makes systematic and frequent visits to classrooms	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Is knowledgeable about instructional and assessment practices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Maintains high visibility around the school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Uses performance rather than seniority as the primary criterion for reward and advancement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Is easily accessible to teachers and maintains open and effective lines of communication with staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Recognizes individuals who excel and uses hard work as the basis for reward	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Fails to develop effective means for teachers to communicate with one another	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Advocates on behalf of the school in the community	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. Provides opportunity for input on all important decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. Advocates on behalf of the school with parents of the students and ensures central office is aware of school's accomplishments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. Provides opportunity for staff to be involved in developing school policies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. Systematically and fairly recognizes and celebrates accomplishments of teachers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. Remains aware of the personal needs of teachers and is informed about significant issues in the lives of staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. Systematically and fairly recognizes and celebrates accomplishments of students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. Fails to maintain a personal relationship with teachers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

To what extent would you say that the leader of your school does each of the following. Use the following Rating Scale (1 = Never) (2 = Sometimes) (3 = Often) (4 = Always) (5 = I Don't Know)

	Never	Sometimes	Often	Always	I don't know
29. Consciously challenges the "status quo" and considers new and better ways of doing things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
30. Inspires teachers to accomplish things that might seem beyond their grasp	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
31. Is comfortable leading change initiatives with uncertain outcomes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
32. Portrays a positive attitude about the ability of the staff to accomplish substantial things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
33. Holds strong professional beliefs about schools, teaching, and learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
34. Monitors and evaluates the effectiveness of curriculum, instruction, and assessment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35. Systematically engage staff in discussions about current research and theory	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
36. Fails to share beliefs about schooling, teaching, and learning with staff and parents	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
37. Encourages people to express opinions contrary to those of authority	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
38. Is aware of issues in the school that have not surfaced but could create discord	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
39. Adapts leadership style to the needs of the specific situation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
40. Can predict what could go wrong from day to day	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
41. Keeps informed about current research and theory regarding effective schooling and involves staff in reading articles and books about effective practices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Adapted from the work:

Waters, T. & Cameron, G. (2003). *The balanced leadership framework: connecting vision with action*. Denver, CO: McREL.

Marzano, R., Waters, T. & McNulty, B. (2005) *School leadership that works: from research to results*. Alexandria, VA: ASCD.

APPENDIX C

IRB APPROVAL FORM



THE UNIVERSITY OF SOUTHERN MISSISSIPPI

Institutional Review Board

118 College Drive 05147
 Hattiesburg, MS 39405-0001
 Tel: 601.266.6820
 Fax: 601.266.7800
 www.usm.edu/irb

**HUMAN SUBJECTS PROTECTION REVIEW COMMITTEE
 NOTICE OF COMMITTEE ACTION**

The project has been reviewed by The University of Southern Mississippi Human Subjects Protection Review Committee in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months. Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 11011801

PROJECT TITLE: **Study of Leadership Practices that Promote Increased Student Achievement in Secondary Mathematics and Language Arts**

PROPOSED PROJECT DATES: 02/01/2011 to 07/31/2011

PROJECT TYPE: **New Project**

PRINCIPAL INVESTIGATORS: **Billy Ray Jones, Jr.**

COLLEGE/DIVISION: **College of Education & Psychology**

DEPARTMENT: **Educational Leadership**

FUNDING AGENCY: **N/A**

HSPRC COMMITTEE ACTION: **Expedited Review Approval**

PERIOD OF APPROVAL: **04/05/2011 to 04/04/2012**

Lawrence A. Hosman

 Lawrence A. Hosman, Ph.D.
 HSPRC Chair

4-6-2011

 Date

APPENDIX D

COVER LETTER

Billy Ray Jones, Jr.
4410 Hwy 84
Waynesboro, Mississippi

Dr. Lynn Weathersby
P.O. Box 1359
Brandon, MS 39043

Dear Superintendent:

My name is B.R. Jones, and I am a supervising principal of a high school in the state of Mississippi. In addition, I am also a doctoral student at the University of Southern Mississippi. This research concerns the focus on specific leadership responsibilities of building level administrators and the achievement of their students on the Mississippi Subject Area Test. I would appreciate your permission in allowing high school administrators and teachers in your district the opportunity to take part in this study by taking an online survey which should take approximately 20 minutes.

Due to the nature of the study, I have coded the questionnaires to identify the school from which the response came, but not the individual teacher from which each response came. Confidentiality will further be maintained by the fact that the survey will be online and therefore teacher responses will not be seen by the principal of the participating schools. All personal information will be kept confidential, and names, personal information, and names of schools or districts will not be disclosed or stated in the dissertation. Teachers will not be asked to sign a consent form since their identity will not be made known. When the study is complete, the data will be erased by the researcher.

There are little to no risks and little to no immediate benefits. A long term benefit would be the sharing of the research findings, at your request, in regards to any relationship between specific leadership responsibilities of building level administrators and the achievement of their students as measured by archival Mississippi Subject Area Testing data. Participation in this study is completely voluntary, and the district may withdraw at any time without penalty or prejudice.

Please complete and return the attached consent form granting permission for your district to participate in this study and forward the enclosed survey instructions to the high school(s) in your district. If you have any questions, you may contact me at 601-410-3448 or JonesBR@Wayne.K12.ms.us. This research will be submitted as a part of a dissertation study and will be published as a dissertation at the University of Southern Mississippi if you would like to see the results. The project has been reviewed and approved by the Human Subjects Protection and Review Committee which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research participant should be directed to the Chair of the Institutional Review Board (IRB) of the University of Southern Mississippi at 118 College Drive #5147, Hattiesburg, Mississippi 39406-0001 or 601-266-6820.

Again, thank you for participating in the research project.

Sincerely,



B.R. Jones
Supervising Principal WCHS
Doctoral Student, USM

APPENDIX E

DESCRIPTIVE STATISTICS FOR INDIVIDUAL PRINCIPAL SURVEY ITEMS

Table E1

Descriptive Statistics for Individual Principal Survey Items

Survey Item	Prin. High (M)	Prin. High (sd)	Prin. Low (M)	Prin. Low (sd)
1 Culture	3.83	.49	3.38	.50
2 Order	3.83	.39	3.19	.54
3 Culture	3.74	.45	3.13	.50
4 Order	3.7	.47	3.19	.54
5 Discipline	3.78	.42	3.19	.54
6 Resources	3.74	.45	3.31	.48
7 Discipline	3.7	.56	3.19	.54
8 Resources	3.7	.47	3.31	.48
9 Curr., Inst., As.	3.87	.34	3.69	.48
10 Focus	3.83	.39	3.19	.40
11 Curr., Inst., As.	3.83	.39	3.25	.45
12 Focus	3.74	.54	3.25	.45
13 Knowledge of C,I, A	3.87	.34	3.69	.48
14 Visibility	3.78	.42	3.06	.57
15 Knowledge of C, I, A	3.83	.39	3.13	.50
16 Visibility	3.87	.34	3.13	.50
17 Contingent Rewards	3.7	.47	3.13	.50
18 Communication	3.78	.52	3.13	.50
19 Contingent Rewards	3.74	.54	3.19	.40
20 Communication	3.78	.52	3.56	.89
21 Outreach	3.7	.56	3.19	.40
22 Input	3.7	.56	3	.51
23 Outreach	3.78	.52	3.19	.40
24 Input	3.7	.64	3.06	.57
25 Affirmation	3.7	.64	3.06	.44
26 Relationship	3.7	.56	3.06	.44
27 Affirmation	3.65	.65	3.13	.50
28 Relationship	3.87	.34	3.81	.40
29 Change Agent	3.83	.39	3.13	.50
30 Optimizer	3.7	.56	3.06	.44
31 Change Agent	3.74	.54	2.94	.44
32 Optimizer	3.78	.52	3.13	.50
33 Ideals/Beliefs	3.78	.42	3.25	.45
34 Monitors/Evaluates	3.78	.42	3.06	.44
35 Intellectual Stimulation	3.7	.56	3.06	.44
36 Ideals/Beliefs	3.96	.21	3.81	.40

Table E1 (continued).

Survey Item	Prin. High (M)	Prin. High (sd)	Prin. Low (M)	Prin. Low (sd)
37 Flexibility	3.61	.66	3.06	.44
38 Situational Awareness	3.61	.58	3	.63
39 Flexibility	3.61	.58	3.06	.44
40 Situation Awareness	3.61	.66	3	.51
41 Intellectual Stimulation	3.7	.56	2.94	.57

Note. For the high performing school principals n = 23, for the low performing school principals n = 16.

APPENDIX F

DESCRIPTIVE STATISTICS FOR INDIVIDUAL TEACHER SURVEY ITEMS

Table F1

Descriptive Statistics for Individual Teacher Survey Items

Survey Item	Teach. High (M)	Teach. High (sd)	Teach. Low (M)	Teach. Low (sd)
1 Culture	3.08	.48	2.2	.54
2 Order	3.12	.61	2.21	.49
3 Culture	3.12	.54	2.28	.57
4 Order	3.11	.45	2.28	.59
5 Discipline	3.11	.51	2.14	.49
6 Resources	3.11	.59	2.3	.75
7 Discipline	3.11	.61	2.19	.45
8 Resources	3.16	.51	2.28	.64
9 Curr., Inst., As.	3.48	.56	2.79	.40
10 Focus	3.07	.54	2.22	.58
11 Curr., Inst., As.	3.14	.57	2.25	.68
12 Focus	3.17	.47	2.24	.63
13 Knowledge of C,I, A	3.46	.54	2.76	.50
14 Visibility	3.11	.61	2.17	.69
15 Knowledge of C, I, A	3.14	.53	2.25	.80
16 Visibility	3.11	.53	2.19	.64
17 Contingent Rewards	3.11	.54	2.25	.57
18 Communication	3.14	.52	2.23	.64
19 Contingent Rewards	3.09	.56	2.23	.55
20 Communication	3.64	.41	2.95	.31
21 Outreach	3.04	.47	2.2	.67
22 Input	3.04	.48	2.1	.53
23 Outreach	3.12	.47	2.17	.69
24 Input	3.04	.58	2.05	.52
25 Affirmation	3.05	.64	2.16	.60
26 Relationship	3.03	.54	2.14	.58
27 Affirmation	3.08	.54	2.29	.65
28 Relationship	3.54	.48	2.89	.44
29 Change Agent	3.1	.59	2.13	.65
30 Optimizer	3.03	.62	2.14	.65
31 Change Agent	3.04	.51	2.1	.64
32 Optimizer	3.13	.50	2.19	.71
33 Ideals/Beliefs	3.14	.63	2.22	.71
34 Monitors/Evaluates	3.06	.56	2.16	.69
35 Intellectual Stimulation	3.07	.53	2.14	.53

Table F1 (continued).

Survey Item	Teach. High (M)	Teach. High (sd)	Teach. Low (M)	Teach. Low (sd)
36 Ideals/Beliefs	3.65	.51	2.96	.45
37 Flexibility	2.94	.74	1.97	.47
38 Situational Awareness	3.05	.60	2.16	.48
39 Flexibility	3.08	.61	2.19	.62
40 Situation Awareness	3.03	.64	2.14	.56
41 Intellectual Stimulation	3.13	.58	2.13	.66

Note. For the high performing school teachers n = 23, for the low performing school teachers n = 16.

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