The Development of the School Reform Model: The Impact of Critical Constructs of School Culture, School Climate, Teacher Efficacy, and Collective Efficacy on Reform

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The Development of the School Reform Model:
The Impact of Critical Constructs of School Culture, School Climate,
Teacher Efficacy, and Collective Efficacy on Reform

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DEDICATION

This study is dedicated to my mother, Melodye Willie, who, with much wisdom and grace, impacted many students as a dedicated teacher and principal. With her support, I am able to achieve more than I ever dreamed and finish the work that she started.

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As I am drawing close to the end of my journey as a doctoral student, I realize that a special season of my life is ending. Although it has been a difficult season, it has been more fruitful than I could have imagined, and for that I am thankful. The Lord has been faithful, as always, throughout every step. I am looking forward to what is ahead, and I am even more invigorated to make a difference for all students, especially those who have no advocate. Although my perspective has changed throughout the journey, the call to make a difference for public education has never been stronger.

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I would also like to acknowledge my husband, Andrew, who, sometimes painstakingly, walked along beside me throughout my educational pursuits, cheering for me, pushing me forward, and being a shoulder on which to cry. Although life has been difficult with death, sickness, and stress, he’s been faithful to lift me up, and is truly an example of Christ.

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This journey to acquire a Doctor of Education has challenged me in numerous ways and has allowed me to research constructs of which I am most passionate: school culture, school climate, teacher efficacy, collective efficacy, and of course, reform. May these findings challenge districts to address these constructs that impact our students in so many ways. I am thankful for the opportunity to learn so much, and I look forward to pursuing new challenges.

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CHAPTER 1: INTRODUCTION

Overview

Education in the United States has been in a constant state of reform since the No Child Left Behind Act of 2001 by President Bush, which called for increased accountability for districts using test scores and school performance scores. Schools across the nation urgently sought new ways to increase test scores, which were often tied to funding. In 2012, President Obama enacted the Race to the Top initiative, which required states to commit to a set of national standards, the Common Core State Standards, and recreate current teacher evaluation systems that used a student achievement component, all to receive a sizeable amount of federal dollars (Boser, 2012).

Unfortunately, several years later, the United States still has failing schools and struggling districts. States are still faced with many of the same problems, such as teacher shortages (Gardner, 2015). In fact, in Louisiana, during the first and second years after the implementation of Race to the Top reforms, the state experienced a 24% increase in the amount of teacher retirees. Over those two years, more than 7,500 teachers left Louisiana public schools to retire (Shuler, 2013).

Obviously, reform itself is not the key to student achievement or school improvement.

Michael Fullan (2006) suggests that reform movements are only successful for those who understand change theory and the dynamics of other school variables. Many reform movements have not been successful; instead, they cost districts inordinate amounts of time, money, and personnel. As previously mentioned, reform itself is not the key to increasing student achievement. However, research has demonstrated that school culture, school climate, teacher efficacy, and collective efficacy affect student achievement (Bandura, 1997;

Cavanaugh & Dellar, 1997; Cohen, Fege, & Pickeral, 2009; D' Alessandro & Sadh, 1998; MacNeil, Prater, & Busch, 2009; National School Climate Council, 2007; Peterson & Deal, 2009; Stolp, 1994; University-Community Partnerships, Michigan State University, 2004). This study calls for the integration of these concepts by school leaders and policymakers when considering reform.

Change can be greatly affected by each of these interrelated constructs. For example, one can imagine a science experiment. In this experiment, two solutions are presented: one solution representing a healthy school and the other representing a toxic environment. The same object is immersed in both liquids; however, the reaction to the immersed object is completely different. In the toxic liquid, the object combusts, leaving a messy path of destruction. In the other liquid, representing a healthy school culture and climate, the object impacts the solution upon arrival and slowly dissolves, quickly becoming a part of the original solution. To the layperson, the second liquid looks the same, but the scientist knows that because the contents were changed, the liquid has improved.

In a healthy school, reform can be problematic at first, which according to Fullan (1993) is normal and even desired. However, the reform effort will eventually become part of the school's culture with sustained efforts. An outsider may view the reform effort as seamless, but those working in the school know the moral purpose behind the change, the problems that occurred, and the solutions that emerged due to collaboration.

Research concerning school culture has increased over the past 50 years because several researchers have corroborated the fact that school culture impacts student achievement (Van Houtte, 2005). Peterson and Deal (2009) describe four ways that culture impacts a school: by shaping the behavior of individuals, by building community, by

affecting levels of motivation, and by improving school effectiveness. School culture is now a commonly used term among administrators due to its role in school improvement, and in Louisiana, culture is now a component in the evaluation rubric for administrators (Louisiana Department of Education, 2015a).

School culture is the unique characteristic of an organization, and it is founded on shared norms and values, purpose, traditions, and operational frameworks (Cavanaugh & Dellar, 1997; D'Alessandro & Sadh, 1998; Hoy & Hoy, 2003; Stolp, 1994). School culture is described as having levels, with the most abstract being the most influential and the most difficult to change (Hoy & Hoy, 2003).

The term *school climate* is commonly associated with school culture, namely because of its similarity to culture and its research-based impact on student achievement (Cohen et al., 2009; MacNeil et al., 2009; National School Climate Council, 2007; University-Community Partnerships, Michigan State University, 2004). However, the two constructs are quite different. School culture is based on personal beliefs, and school climate is based on organizational members' perspectives. Van Houtte (2005) stated, "Climate researchers measure how organization members perceive the organizational climate, while culture researchers look for what members think and believe about themselves" (p. 75). Furthermore, culture encompasses the assumptions that organization members believe about themselves, while climate is the perception of what they think their colleagues assume. For instance, culture answers the questions, "Who am I and what do I believe?" Whereas climate answers, "How do others in this school feel?" This study concurs with researchers' studies that demonstrate that the manifestation of school culture is school climate (Fiore, 2001; Hoy & Hoy, 2003; Van Houtte, 2005).

Climate is also different in that it can be more easily changed than culture (Fiore, 2001). An example of this would be a school that implemented a new, more rigorous evaluation system for teachers. Although the general atmosphere of the school may be perceived as tense and unhappy for several weeks, which could reflect the school's climate, the teachers start meeting after school to work on improving their lessons in order to receive higher ratings. These meetings were already embedded in the school culture in the form of professional learning communities. Although the teachers were not happy about the changes, the culture of the school supported the belief that they could work together to improve. In essence, the climate was easily changed, but in the end, the strength of the culture remained the same. Climate is easily influenced by outside factors, but culture, which has the most influence on school climate and the organization itself, is not so easily manipulated (Fiore, 2001).

Teacher efficacy and collective efficacy also impact student achievement (Bandura, 1997; Berman, 1977; Dembo & Gibson, 1985; Goddard, Hoy, & Hoy, 2000; Tschannen-Moran, Hoy, & Hoy, 1998; Tschannen-Moran & Hoy, 2001; Ware & Kitsantas, 2007). In addition, researchers have associated teacher efficacy with school culture (Tschannen-Moran et al., 1998).

Although reform in itself is not the sole answer for educational woes, the need for reform does exist. However, change theories and educational theories must work together in order for reform efforts to be implemented successfully and sustained (Fullan, 1999). For instance, Bandura (1997) discusses the impact that policy changes can have on collective efficacy. During complex reform, faculties could be faced with administrative directives, community issues, and school-wide teaching initiatives, which can have an impact on

collective efficacy. Furthermore, Bandura (1997) submits that collective efficacy predicts student performance. Therefore, policymakers need to consider educational theories, such as the impact of collective efficacy, throughout the reform process. However, collective efficacy is not the only construct that needs to be considered. This study asserts that school culture, school climate, teacher efficacy, and collective efficacy should be considered when implementing reform.

Several researchers also submit that the key to implementing reform is understanding school culture (Allen, O'Donnell, Baun, & Levine, 1998; Fullan, 2007, 2009). Change theorists describe incremental problems solved by previous experience as *first-order change* (Marzano, 2005). First order change is more closely related to climate change because the changes are superficial. *Second-order change* describes complex reform that requires new ways of thinking. Second-order change requires the reculturing of an organization because an adjustment of values and beliefs must occur for the change to be sustained (Marzano, 2005).

This study asserts that relationships exist among the constructs of school culture, school climate, teacher efficacy, and collective efficacy and that these constructs impact the initiation, implementation, and sustainability of reform movements. This study also asserts that if school leaders can determine the readiness of reform for their schools, using the previously mentioned constructs, they can take anticipatory measures that augment the effectiveness of the reform.

Statement of the Problem

It is believed that many schools in Louisiana have undertaken legislative mandates without being fully equipped to implement the reforms successfully, meaning the reform did not increase student achievement, school performance scores, or teacher retention. While

numerous variables are at play, some of which are specific to certain schools and districts, school culture, school climate, teacher efficacy, and collective efficacy are elements that are often forgotten in the midst of reform. In Louisiana, districts are not required to assess school culture or climate. Those that use culture or climate surveys are usually principals concerned about their own schools. This is not a call for further accountability, however. District leaders and school principals need further support when implementing reforms—especially especially those involving second-order changes.

This study explores the literature regarding the possible effect that school culture, school climate, teacher efficacy, and collective efficacy have on reform movements. Each construct is thoroughly examined in the literature review, and the researcher examines how the constructs are interrelated and impactful on school reform efforts. Although the conceptual framework presented in this study is supported by research, few studies have been conducted that represent the relationship each of the constructs mentioned. Additionally, few studies exist that use data to determine organizational reform readiness. This study seeks to develop a sound measure that determines the level of reform readiness for a school and thereby providing possible next steps for administrators to consider. District leaders and school leaders can then implement the change in a way that promotes reform effectiveness and sustainability.

Purpose of the Study

The purpose of this study is (1) to assess the latent structure of the newly designed Reform Readiness Survey; (2) to determine the relationship between school culture and reform; (3) to determine the nature of the interaction among school culture, school climate, teacher efficacy, and collective efficacy; and (4) to determine the nature of the interaction

among school culture, school climate, teacher efficacy, and collective efficacy in relation to change. The overarching question for this study is: What is the relationship or impact of school culture, climate, and collective efficacy on reform movements? Three other questions also guide this study. First, what is similar and contrasting among the constructs? Second, how are the constructs interrelated? Third, in what ways can these constructs impact school reform efforts?

The term *reform* is more than likely very familiar to many educators in the United States. Without change, how can school systems accommodate the changing student and the changing needs of an evolving society? How can schools increase student achievement year after year without analyzing what should be done differently to achieve better results? Although many politicians promise that reform efforts will raise student achievement, schools can respond to change in a variety of ways—sometimes with little results (Fullan, 2006). However, research demonstrates student achievement can be positively impacted by school culture (Cavanaugh & Dellar, 1997; D' Alessandro & Sadh, 1998; Peterson & Deal, 2009; Stolp, 1994), school climate (Cohen et al., 2009; MacNeil et al., 2009; National School Climate Council, 2007; University-Community Partnerships, Michigan State University, 2004), teacher efficacy and collective efficacy (Bandura, 1993, 1997; Hoy & Hoy, 2003; Moolenaar, Sleegers, & Daly, 2012). Therefore, research must address the relationship of the previous concepts to reform movements.

Importance/Significance of the Study

In recent years, policymakers have advocated that school districts, individual schools, and teachers be held accountable for student achievement. This has been accomplished through school performance scores, school and district letter grades, and statistical

calculations that determine teacher effect. As new accountability systems emerge, so do other reform tactics that aim to increase student achievement levels across states and districts.

Most people would agree that students learn differently today than the mid- or early 20th century students and that schools must change in order to accommodate the changing students and their needs. Simply put, change is a necessary function in educational systems. Subsequently, one may ask: Why do some schools absorb change better than others? What can we do to prepare all types of schools for change? Furthermore, why is reform successful in some schools but not others?

School culture and climate are well-researched topics; in fact, school leaders can easily obtain and administer surveys that measure organizational health (Hoy & Hoy, 2003). Fullan (2007, 2009) discusses the importance of school culture in order to sustain reform efforts. However, this study bridges research on school culture and climate, as well as teacher efficacy and collective efficacy, with research on change theory. Fullan (1999) asserts that educational theories and change theories must work simultaneously. Little research has been conducted that links comprehensive research on each of the aforementioned concepts including the possible impact that the concepts have on school reform efforts.

If school leaders can fully understand the impact school culture and climate may have on reform movements, they can make preparations beforehand that may affect the success of the reform. If reform movements were successfully sustained more often, perhaps district leaders could focus efforts on what is working instead of implementing additional initiatives.

Conceptual Framework

The following conceptual framework represents the summation of research on school culture, school climate, teacher and collective efficacy, and reform. School culture and

school climate have been conceptualized in numerous ways; however, this conceptual framework draws research from Fiore (2001), Hoy and Hoy (2003), and Van Houtte (2005), who assert that school culture is the foundation for school climate. School climate refers to the general feelings and perceptions of the staff members, whereas school culture is the set of shared norms and core values that members maintain. School climate is the sensed manifestation of school culture.

This conceptual framework replicates Fiore's (2001) iceberg metaphor, which describes school culture as being the foundation below the surface of the water that is stable, yet difficult to change. School climate is the observable part of the ice that is easily affected by environmental factors. Therefore, in the graphic representation of school culture and climate, school culture is at the bottom of the triangle, serving as the foundation for school climate. Although it is unobservable, it greatly affects the climate of the school.

Teacher and collective efficacy are interrelated to school culture and climate (Tschannen-Moran et al., 1998); therefore, this conceptual framework represents teacher and collective efficacy as part of a cycle that encompasses school culture and climate. The National School Climate Council (2007) describes five elements that encompass school climate. Four of the five elements have some relation to teacher efficacy: relationships, teaching and learning, institutional environment, and the process of school improvement. Bandura (1993) and Dembo and Gibson (1985) claim that the self-efficacy of teachers impacts classroom instruction, classroom environment, and teachers' relationships with students. Allinder (1994) asserts that highly efficacious teachers improve their practice by attending professional development and incorporating innovative practices.

Just as teacher efficacy can impact school climate, school climate concurrently affects collective efficacy. Collective efficacy is the shared belief of teachers that together they can positively impact student learning (Hoy & Hoy, 2003). Healthy school climates, according to Hoy and Hoy (2003), are characterized by shared leadership, an emphasis on learning, positive attitudes, and a motivation to learn. Teachers in healthy schools tend to collaborate with one another and work toward a shared vision. If a school has an unhealthy school climate, which is characterized by negative attitudes, competition among teachers, and low motivation, the collective efficacy can be affected.

Bandura (1997) admits that collective efficacy affects the school as a whole. This study proposes that collective efficacy can also impact school culture. For instance, if low collective efficacy is part of the norm for a school, then it is embedded into the school's culture. "Organizational members' collective belief about their efficacy in producing and achieving at certain levels is an important feature of the institution's operating culture" (Tschannen-Moran et al., 1998, p. 241).

Lastly, school culture can affect teacher efficacy. In Tschannen-Moran et al.'s (1998) conceptualization of teacher efficacy, teachers are influenced by Bandura's (1977) four sources of efficacy and the teaching context, which are embedded in the school's culture. School culture shapes the behavior of the members of the organization and affects levels of motivation among staff (Peterson & Deal, 2009). Highly efficacious teachers tend to have a stronger focus on learning, are willing to question and probe students, are more willing to change, and incorporate innovative methods (Berman, 1977; Dembo & Gibson, 1985). However, if the school's culture does not support these attitudes and behaviors, teachers are more likely not to embody these behaviors. The inverse is true as well—teacher efficacy can

also affect culture. If individual teacher efficacy is unusually high, this tends to affect other teachers as they have vicarious experiences through their colleagues. If these individually held values become school-wide core values over time, this has indeed affected the school culture. Furthermore, Berman (1977) notes that teacher efficacy can impact teacher change.

Teacher efficacy and collective efficacy work together simultaneously, similar to school culture and climate. This study does not assert that the cycle always flows in one direction. The concepts are tightly interlinked, and much like change, the concepts are complex.

The concept of reform is in the center of the framework. A non-shape was chosen to represent change because it is complex, problematic, and encompasses many variables that are unique to the organization (Fullan 1993, 1999). Reform is both visible and unobservable. Reform can also interrupt the normal interworking of the school. The non-shape representing reform is placed within the culture/climate triangle. Reforms that address climate changes are usually first-order changes—those that are only surface level, visual changes. Conversely, second-order changes require a reculturing of schools because they necessitate new ways of thinking (Marzano, 2005). Consequently, first-order changes are easier to implement because patterns of thinking have not been disrupted; however, second-order changes require new belief systems, which are often difficult for individuals. As one can see, the two different types of reform are symbolized by one shape. Reform must begin with first-order changes but soon after requires second-order changes in order for sustainability to occur.

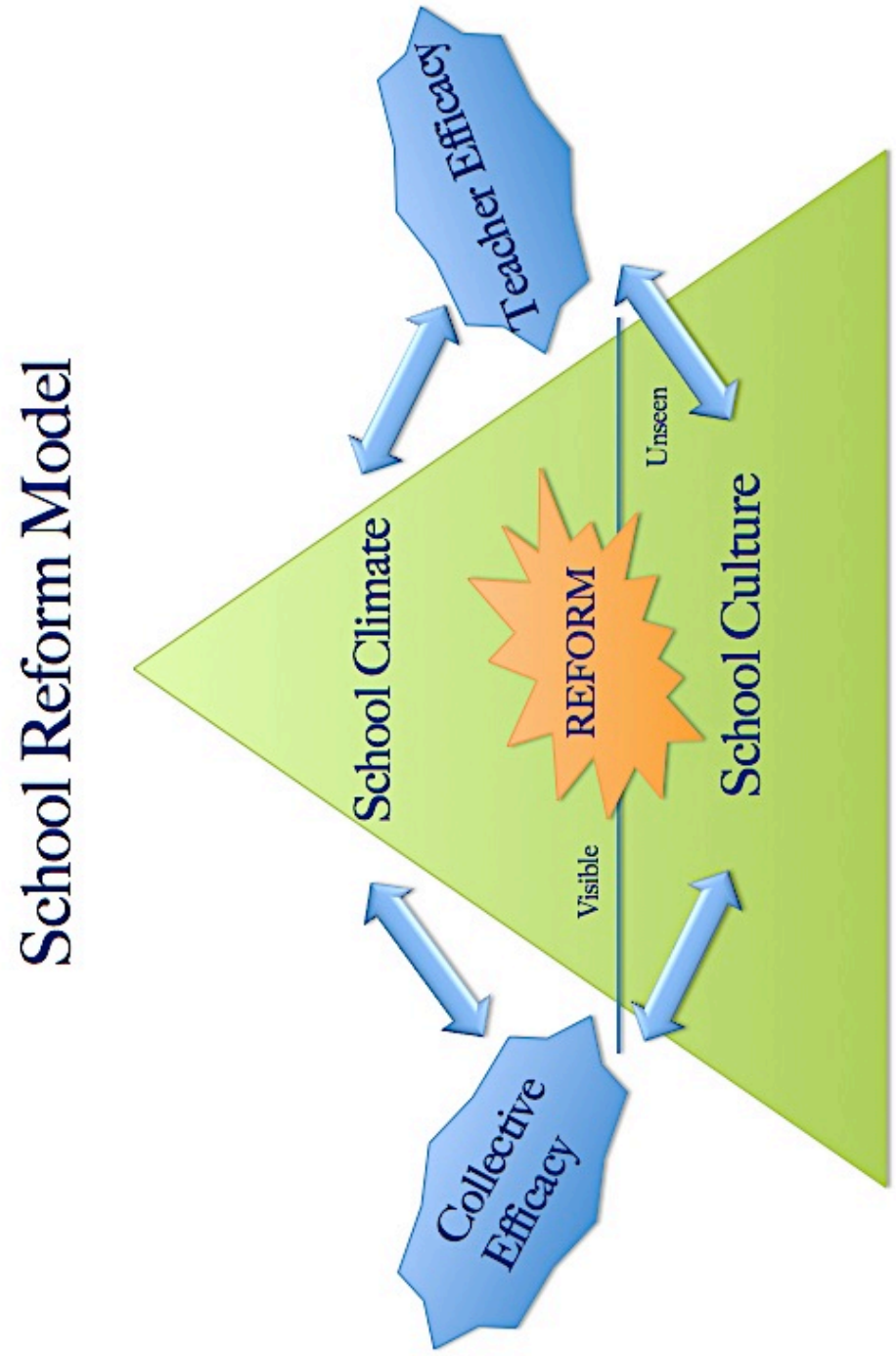

Figure 1. Conceptual Model demonstrating the interaction among constructs.

Research Questions and Hypothesis

Research Questions

Research Question 1. What is the latent structure of the newly created Reform Readiness Survey?

Rationale. A factor analysis of the School Reform Readiness Survey is required to demonstrate the latent structure of the measure. It is the researcher's objective to provide district and school leaders with a robust instrument that yields data concerning a school's readiness to embed sustainable change within its culture.

Research Question 2. What is the relationship between school culture and reform?

Rationale. Allen et al. (1998) and Fullan (2007; 2009) submit that understanding culture is the key to the implementation of change. Allen et al. (1998) report that change is sustained for less than one year in an organization that does not have a supportive culture. However, in order to effectively implement change, school leaders must know more than the definition of school culture; they need to understand the relationship between culture and reform.

Research Question 3. What is the nature of the interaction among school culture, school climate, teacher efficacy, and collective efficacy?

Rationale. As noted in the conceptual framework and the literature review, various characteristics among school culture, school climate, teacher efficacy, and collective efficacy overlap and affect one another. Fiore (2001), Hoy and Hoy (2003), and Van Houtte (2005) describe school culture as being the foundation for school climate. Much like school culture and climate, teacher efficacy and collective efficacy have a reciprocal relationship. Tschannen-Moran et al. (1998) assert that collective efficacy is an important part of school

culture. Although a relationship among constructs is clearly established through the literature, a more comprehensive analysis of the nature of the relationship is warranted.

Research Question 4. What is the nature of the interaction among school culture, school climate, teacher efficacy, and collective efficacy in relation to change?

Rationale. Research suggests a relationship is present among school culture, school climate, teacher efficacy, and collective efficacy. However, as Fullan (1999) suggests, educational theories and change theory must work together in order to produce positive results. Therefore, further quantitative research is needed to understand the relationship suggested in the literature.

Hypothesis

The following section outlines the hypothesis for this study. A conceptual rationale follows the hypothesis.

Hypothesis 1. There is a statistically significant, positive relationship between teachers' perception of school culture and change.

Rationale. Researchers state that one must understand school culture before implementing change, whether the change is minor or major (Allen et al., 1998; Fullan, 2007; 2009). If the reform is supported by the culture of the school, the change is more likely to be lasting. Furthermore, Allen et al. (1998) report that without a supportive culture, change is sustained for less than one year. Therefore, teachers' perceptions of school culture are hypothesized to have a positive relationship to change.

Conceptual and Operational Definitions

The following section defines the conceptual and operational terms used throughout this study.

School Culture

Conceptual definition. The personal characteristic of an organization is how Van Houtte (2005) describes culture. School culture describes an organization's unique personality that includes values, purpose, traditions, behaviors, and operational frameworks (Cavanaugh & Dellar, 1997; D'Alessandro & Sadh, 1998; Hoy & Hoy, 2003; Stolp, 1994). Research establishes common themes concerning school culture: a focus on learning, collaboration, goal setting, and a sense of community (Cavanaugh & Dellar, 1997; Fyans, Jr. & Maher, 1990; Hongboontri & Keawkhong, 2014; Hoy & Hoy, 2003). Furthermore, Peterson and Deal (2009) outline four ways that culture can influence schools: by shaping the behavior of the members, by building community and commitment, by increasing or decreasing motivation levels, and by improving school effectiveness.

Operational Definition. For the purpose of this study, school culture is operationally defined by teacher scores on the Revised School Culture Elements Questionnaire (RSCEQ).

School Climate

Conceptual Definition. School climate is the "quality and character of school life" (National School Climate Council, 2007, p. 5). The National School Climate Council (2007) lists five elements that encompass school climate: safety, relationships, teaching and learning, institutional environment, and school improvement, and Craig (2012) studied seven factors that comprise school climate: administrative leadership, culture, school environment, safety, faculty and staff, attitudes of students, and parents and the community. School climate

is described a number of ways, but in this study a *healthy* or *positive* school climate refers to a climate that promotes learning and the wellbeing of students and faculty. A *negative* or *unhealthy* climate describes a learning environment hindered by outside forces, poor leadership, and lack of morale and motivation (Hoy & Hoy, 2003). For the purposes of this study, school climate is viewed as a manifestation of school culture, much like Fiore (2001) describes in his iceberg analogy.

Operational definition. School climate is operationally defined by teacher scores on the Organizational Climate Index (OCI).

Teacher Efficacy

Conceptual definition. Hoy and Hoy (2003) define teacher efficacy as "a teacher's belief that he or she can reach even difficult students to help them learn" (p. 129). The four sources of efficacy beliefs—mastery experiences, vicarious experiences, verbal persuasion, and psychological factors—as outlined by Bandura (1977), are explanatory of teachers' self-efficacy beliefs as well. However, the four sources of efficacy are filtered through teachers' cognitive processing of the teaching task and personal teaching competence (Tschannen-Moran et al., 1998).

Operational definition. For the purpose of this study, teacher efficacy is operationally defined by teacher scores on the Teachers' Sense of Efficacy Scale (TSES).

Collective Efficacy

Conceptual definition. Teaching is performed in a group context, and collective efficacy can impact the performance of a school (Tschannen-Moran et al., 1998). Collective efficacy is the perception of a school faculty that they can positively impact student achievement (Hoy & Hoy, 2003). Just as a teacher's self-efficacy can impact his or her

classroom environment, collective efficacy can impact the environment of the entire school. Both constructs are interrelated (Tschannen-Moran et al., 1998), and both are connected to research on teacher burnout (Skaalvik & Skaalvik, 2007).

Operational definition. Collective efficacy is operationally defined by teacher scores on the Teacher Efficacy Beliefs Scale-Collective Form (TEBS-C).

Change Theory

Conceptual definition. Marzano (2005) differentiates between the types of change. First order change is gradual and incremental. Usually these changes are surface-level, and they are guided by past experiences. Second order change is more drastic, requiring a change of culture. These changes are complex and often require a change of mindset. Instead of using past experiences to guide decisions, second order change solves problems by using innovative philosophies (Marzano, 2005). Researchers break down the change process into three stages: initiation, implementation, and institutionalization (Fullan, 2007; Johnson, 2005).

Assumptions

This study is based upon the following assumptions:

1. The data of this study was collected through surveys of teacher perceptions; therefore, it is assumed that participants were reasonably honest in their perceptions of their school environments and their own selves.
2. Respondents of participating schools were a representative teaching sample for the study.

3. Due to the requirement of voluntary participation of teachers, schools will generate sufficient responses to establish valid and reliable school means on the various construct measures used.
4. Personal perceptions of survey respondents are assumed to be valid and reliable indicators of the events occurring in the everyday life of their schools.

Limitations

This study is based upon the following limitations:

1. The generalizability of the results of this study may be limited to the size of the population, due to the number of school and teacher participants, as well as the type of population, such as the school demographics and the characteristics of the teachers from which the data were acquired. These results may apply to similar districts.
2. The requirement of voluntary participation may elicit responses from teachers who may be viewed as more conscientious and/or interested in the topics being measured than those who did not complete the survey.
3. While looking at multiple variables, this study was correlational, with no dependent variable present. In order to determine predictive capabilities of the model, a regression analysis can be conducted.

Chapter Summary

This chapter provided an overview of large-scale reforms, which have affected schools in numerous ways during the past decade. The chapter also provided an overview of change theory and research concerning school culture, school climate, teacher efficacy, and collective efficacy. In addition, a conceptual framework was presented that demonstrates the interaction among the constructs presented in the overview. The formal statement of the

problem was presented as well as the purpose of the study. The significance of the study, research questions, predictive research hypothesis, conceptual and operational definitions of constructs, and assumptions and limitations of the study were also discussed. The following section provides a comprehensive review of literature that supports the conceptual framework of the study.

CHAPTER 2: REVIEW OF LITERATURE AND RESEARCH

Introduction

Teacher effect is the single-most impactful factor on student achievement, more than parental involvement, socioeconomic status, and school type (Goldhaber, 2012; Kane & Cantrell, 2010; McCaffrey, Lockwood, Kortez, & Hamilton, 2003; Sanders & Horn, 1998; Sanders & Rivers, 1996). Therefore, it is no surprise that reform movements of late have focused on evaluating teacher effectiveness.

Reform is usually put into motion by legislators and educational leaders, yet teachers and students are typically those who are most affected by change; furthermore, teachers and students are those who are expected to sustain it. This study discusses elements that are often ignored by policymakers and educational leaders: school climate, school culture, teacher efficacy, and collective efficacy beliefs. Change and sustainability on the school level can be greatly impacted by culture, climate, teacher efficacy, and collective efficacy.

Organization and Scope of the Review

This study is organized into the following sections based on their relationships with one other: school culture, school climate, teacher efficacy, collective efficacy, and change theory. The first section is comprised of an overview of research concerning school culture. The relationship between school culture and school climate is explained, followed by research concerning school climate. Teacher efficacy and collective efficacy are then discussed as well as the relationship between collective efficacy and school culture. Lastly, this literature review outlines research on change theory and its strong connection to school culture.

School Culture

Researchers have yet to agree on an all-encompassing definition for school culture. Although school culture is not seen, it is sensed by members of the organization and by outsiders who interact with organizations. The concept of culture is deep-rooted in anthropology (Glisson, 2000; Hoy & Hoy, 2003; Schein, 2010; Van Houtte, 2005) and has since become the study of many educational researchers (Van Houtte, 2005).

When describing culture, researchers commonly use the phrases *shared norms and values* (Cavanaugh & Dellar 1997; Higgins-D'Alessandro & Sadh, 1998; Hoy & Hoy, 2003; Stolp, 1994), *traditions and rituals* (Hongboontri & Keawkhong, 2014; Peterson & Deal, 1998; Stolp, 1994), and *common purpose* (Cavanaugh & Dellar 1997; Higgins-D'Alessandro & Sadh, 1998; Stolp, 1994). Culture is commonly used to describe an organization's unique personality that encompasses values, purpose, traditions, behaviors, and operational frameworks.

Culture is not only an organizational feature but also a characteristic of an organization (Van Houtte, 2005). Culture shapes the perceptions of people as they encounter new experiences. These experiences also influence culture and, therefore, future experiences. Simply put, culture is "the way things are done" (Glisson & James, 2002, p. 769).

The amount of research on *school* culture in particular has increased exponentially over the last 50 years due to revolutionary findings about the impact school culture has on school effectiveness (Van Houtte, 2005). According to Peterson and Deal (1998) school culture "influences everything that goes on in schools: how staff dress, what they talk about, their willingness to change, the practice of instruction, and the emphasis given on student and

faculty learning" (p. 28). Much like school climate, school culture affects student achievement (D' Alessandro & Sadh, 1998; Stolp, 1994).

Levels of school culture. Although the differences between school culture and climate are further discussed in this study, one must note that school culture encompasses layers, or levels of abstraction as Hoy and Hoy (2003) as well as Schein (2010) explain. (See figure 2.) Each level is characterized by the visibility of the characteristics of school culture. Furthermore, researchers agree that the first level, which is most visible, is the easiest to change; however, the last level, which comprises the essence of school culture, is the most difficult to change (Schein, 2010).

The most visible aspect of school culture are the artifacts that represent the history of the school, such as stories, legends, icons, or traditions, which are the most concrete aspects of school culture (Hoy & Hoy, 2003). Stories about why things are done a certain way are a part of culture. Former principals or teachers who do extraordinary things in the face of opposition become legends as the stories are retold and expounded over time. However, the most observable facets of culture are only surface-level manifestations of an organization's core values. Artifacts can also be misleading to an outside observer (Hoy & Hoy, 2003).

The next layer Hoy and Hoy (2003) discuss is shared norms. Each school has a spoken and unspoken code of conduct to which members yield. For example, in one school, teachers may never send students to the office during class because they see it as a sign of weak classroom management. Teachers at another school may send students frequently to the office to show the stringency of their management styles.

An even deeper level, core values, is the collective set of standards that influence behavior. For example, faculties that value cooperation will create time within lessons for

students to work together and time within the school day for teachers to collaborate. Teachers will rarely plan lessons or analyze data in isolation. Members are influenced to embrace the values; otherwise, they will not fully assimilate into the group (Hoy & Hoy, 2003; Van Houtte, 2005). Although norms and values seem similar, "Values define the ends of human conduct and norms distinguish the legitimate and illegitimate means to accomplish those ends" (Hoy & Hoy, 2003, p. 278).

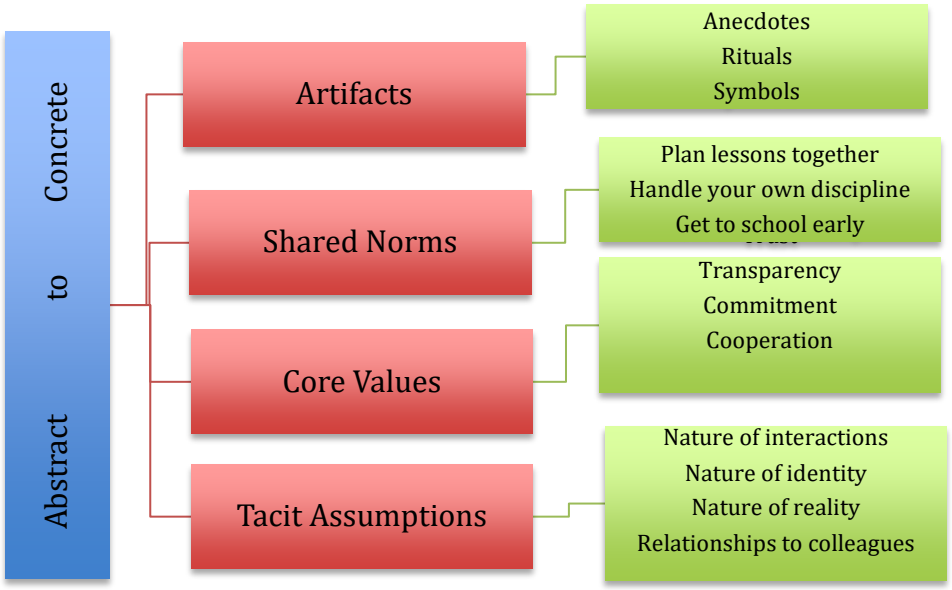

Figure 2. The Levels of Culture (Adapted from Hoy and Hoy, 2003, p. 277)

The most abstract level of culture is complex. Much like the root of a plant unseen below the surface, tacit assumptions influence culture the most, and these assumptions are most difficult to change. Tacit assumptions are similar to deep-seeded beliefs that people hold and to which people are not always conscious. Examples of said assumptions are premises about knowledge, truth, life, trust, and relationships. Collective tacit assumptions affect the way organizations manage problems that arise within or outside the organization. The set of assumptions affect how individuals face problems within the working environment (Hoy & Hoy, 2003).

Based upon these assumptions, culture gives individuals within the organization identity and influences their behavior toward one another, reinforcing only the behavior acceptable to the group. Changing culture can be problematic to leaders because it requires a change in tacit assumptions, and consequently, a change in the behavior of individuals (Schein, 2010).

Elements of school culture. The literature has identified several elements of school culture—some were overlapping across research, and some elements were outliers. Table 1 provides an overview of the following research. Cavanaugh and Dellar (1997) studied six cultural elements: teacher efficacy, an emphasis on learning, collegiality, collaboration, shared planning, and transformational leadership. Hongboontri and Keawkhong (2014) studied eight social organizational variables: teacher certainty, teacher cohesiveness, teacher collaboration, teacher complaints, teacher evaluation, faculty goal setting, managing student behavior, and teacher learning opportunities. Hoy and Hoy (2003) outline seven basic elements of culture based upon their own analysis of research: innovation, stability, attention to detail, outcome orientation, people orientation, team orientation, and aggressiveness. Fyans, Jr. and Maeher (1990) studied five dimensions of school culture: accomplishment in academics; power, or interpersonal competition; performance recognition; affiliation, or a sense of community; and school purpose. Research by Olivier (2001) provided empirical support for professional school culture as a multiple dimensional construct with three identified dimensions of culture: shared leadership, collegial teaching and learning, and professional commitment. Table 1 presents the overview of cultural elements by several researchers.

Table 1.

Overview of research concerning elements of school culture.

Fyans, Jr. and Maeher (1990)	Cavanaugh and Dellar (1997)	Olivier (2001)	Hoy and Hoy (2003)	Hongboontri and Keawkhong (2014)
• Teacher efficacy • Emphasis on learning* • Collegiality* • Collaboration* • Shared planning* • Transformational leadership	• Teacher certainty • Teacher cohesiveness* • Teacher collaboration* • Teacher complaints • Teacher evaluation • Faculty goal setting* • Managing student behavior • Teacher learning opportunities*	• Shared leadership* • Collegial teaching and learning* • Professional commitment	• Innovation • Stability • Attention to detail • Outcome orientation* • People orientation* • Team orientation* • Aggressiveness	• Accomplishment in academics* • Interpersonal competition • Performance recognition • Affiliation* • Sense of community* • School purpose

* Indicates a relation to the one or more of the following overarching themes identified in literature concerning school culture: a focus on learning, collaboration, goal setting, and the sense of community.

After amassing such research, one can identify several overarching and common themes of school culture: a focus on learning, collaboration, goal setting, and the sense of community. Although one may not be able to explicitly see the overarching themes from the list of elements presented, the themes are more apparent when reading the literature concerning each element. Perhaps more importantly, though, these researchers and practitioners sought to discover the influence of school culture on the members of the organization and their productiveness.

Effect of culture on schools. Peterson and Deal (2009) outline four ways that culture influences a school. First, school culture shapes the behavior of the members of the

organization. For instance, those not conforming to the norms and values of the organization will be isolated in a sense. The isolated one usually consents to the desired behaviors of the organization, or that person will leave the organization. In a school, this can be seen in the way teachers handle discipline problems or how involved parents are in decision making. Hongboontri and Keavkhong (2014) confirmed that school culture affects teachers' instructional practices. Schools that reinforce strong values that promote learning are likely to recruit and maintain teachers who feel the same way.

Similarly, school culture builds community and commitment among the members, with the shared norms and values being central to the school's identity (Peterson & Deal, 2009). A sense of community affects not only the teachers but also every staff member and student who attends the school. The community members commit to the shared purposes of the school. Each member is valued and plays an integral role in working toward shared goals. Unfortunately, the opposite is true as well. A negative culture can increase teacher burnout (Friedman, 1991).

Table 2.

Elements and effects of school culture.

Elements of School Culture	Effects of School Culture
• Shared leadership • Collegial teaching and learning • Professional commitment (Olivier, 2001)	• Shapes behavior of people • Builds community and commitment among members • Affects levels of motivation • Improves school effectiveness • Improves student achievement (Cavanaugh & Dellar, 1997; D' Alessandro & Sadh, 1998; Peterson & Deal, 2009; Stolp, 1994).

Furthermore, Peterson and Deal (2009) explain that school culture affects levels of motivation among staff, which can influence student motivation. One can picture a school with an unclear vision and purpose and teachers isolated from one another. Even a passionate teacher at this school may be less motivated to accomplish school goals if his or her coworkers do not share the same vision.

Lastly, school culture improves school effectiveness, including improvements in student achievement (Cavanaugh & Dellar, 1997; D' Alessandro & Sadh, 1998; Peterson & Deal, 2009; Stolp, 1994). If all members of the school share the same values, mission, vision, and purpose as well as conform to positive behavioral norms, success is almost inevitable. Increased productivity only occurs when all members of an organization are efficiently working together toward the same goal. The same can be said for schools.

For an overview of the elements and effects of school culture, see Table 2.

Culture Versus Climate

The differences between culture and climate have been conceptualized numerous ways by researchers. Some foundational researchers have even published argumentative texts acknowledging specific arguments made by researchers and adding their rebuttals (Denison, 1997; Hoy, 1997). Although many practitioners may consider school culture and climate as one in the same, these concepts are different, and in order to successfully transform schools, one must have a thorough understanding of the two.

Culture and climate appear to be quite similar. Both concepts are used to describe the atmosphere of a school, and both have to do with the character of the school (Hoy & Hoy, 2001; Van Houtte, 2005). School culture and climate affect the way outsiders view the school, and both can impact student achievement (Cavanaugh & Dellar, 1997; Cohen et al.,

2009; D' Alessandro & Sadh, 1998; MacNeil et al., 2009; National School Climate Council, 2007; Peterson & Deal, 2009; Stolp, 1994; University-Community Partnerships, Michigan State University, 2004).

However, as Figure 3 demonstrates, the constructs are quite different. Hoy and Hoy (2001) describe culture as "a pattern of shared orientations that binds the organization together and gives it a distinctive identity" (p. 276). Climate, however, is defined as the "general concept that refers to teachers' perceptions of the school's work environment" (Hoy & Hoy, 2001, p. 283). Perhaps the key word differentiating school culture and climate is *perception*. Van Houtte (2005) stated, "Climate researchers measure how organization members perceive the organizational climate, while culture researchers look for what members think and believe about themselves" (p. 75). Furthermore, culture is the assumption that organization members believe about themselves, while climate is the perception of what they think their colleagues assume. Fiore (2001) presents the visual metaphor of an iceberg to describe the difference between culture and climate as well as the connection between the two:

> To understand the subtle differences between culture and climate, one must visualize a giant iceberg floating in the Northern Atlantic. The mass of ice that one is able to see in the frigid water represents school climate, in that it is readily observable. Just as one can easily perceive qualities and characteristics of the iceberg, the same qualities and characteristics are easily observable within the climate in a school. However, it is common knowledge that there is much more to the block of ice floating in the water. In fact, there is a giant mass of ice below the surface that is

not visible or observable to the eye. This mass below the surface is not only larger, but more complex, and therefore provides the supporting structures necessary for the existence of the part that one is able to actually see. This large foundation that is not visible represents culture within the school; thus it is the supporting structure on which the climate rests. The shape of it undergoes a slower, but more purposeful change than does the more easily observable climate. Likewise, with the iceberg, the mass below the surface is stable and very difficult to modify; however, its counterpart above sea level is victim to many environmental factors which cause more rapid changes such as sun, wind, and rain. (p. 9)

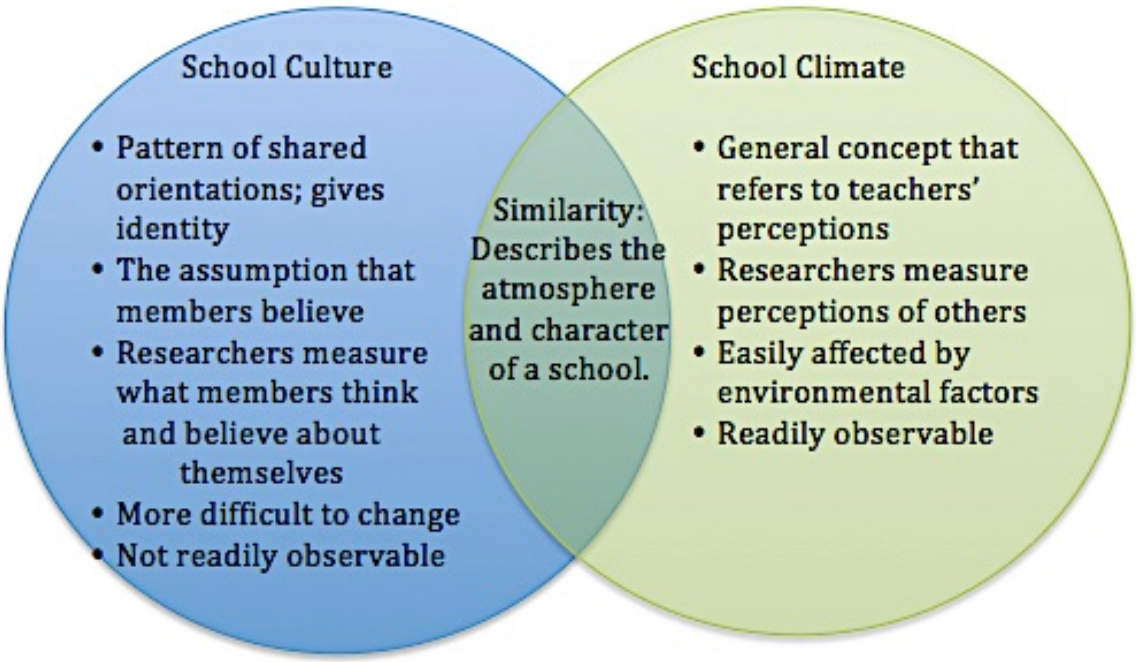

Figure 3. Comparison and contrast of school culture and climate.

School Climate

School climate has been a well-researched topic over the last fifty years. However, professionals have yet to agree on one definition for climate. The National School Climate Council states, “School climate refers to the quality and character of school life. It is based on patterns of school life experiences and reflects norms, goals, values, interpersonal relationships, teaching, learning and leadership practices, and organizational structures” (National School Climate Council, 2007, p. 5). Freiberg and Stein (1999) describe climate as “the heart and soul of a school” (p. 11). Freiberg and Stein (1999) also describe school climate as such:

> School climate is about that quality of a school that helps each individual feel personal worth, dignity and importance, while simultaneously helping create a sense of belonging to something beyond ourselves. The climate of a school can foster resilience or become a risk factor in the lives of people who work and learn in a place called school. (p. 11)

Elements of school climate. The National School Climate Council emphasizes five elements that encompass school climate, with the first being safety. Thapa, Cohen, Higgins-D’Alessandro, and Guffey (2012) summarize research about the importance of students and teachers feeling safe in their school environment. Not only is feeling safe a basic human need, the lack of feeling physically or emotionally safe hinders learning, whether it is the students or the teachers feeling unsafe (Thapa et al., 2012).

The second element that comprises school climate is relationships. The teaching and learning process is based upon relationships. The types of student-student relationships and teacher-student relationships can have a profound effect on student achievement. Research

states that when students have positive interactions with teachers in the younger grades, they are less likely to have behavior and academic problems in later grades. Students are more engaged and attentive during class when they feel they have a supportive teacher-student relationship (Thapa et al., 2012).

Teaching and learning is the third element that affects school climate. Students are more successful when teachers and students work together to formulate goals, set boundaries, analyze curriculum, and create assessments. School climate research has proven that a positive school climate increases student learning and achievement (Thapa et al., 2012; University-Community Partnerships, Michigan State University, 2004). The National School Climate Council recognizes social, emotional, civic, and ethical education as being important elements in curriculums across grade levels (Thapa et al., 2012).

The fourth element, institutional environment, comprises the layout and physical environment of the school as well as the overall feeling of connectedness. Research indicates that the students' perceptions of connectedness are predictors of academic outcomes and adolescent health (Thapa et al., 2012). In a school with a positive climate, students should feel they are valued and belong.

The last element of school climate is the process of school improvement, in particular, improving school climate (Thapa et al., 2012). Included in the norms for a school should be continuous assessment and improvement of school climate. Several different variables can impact school climate such as professional development, community involvement, and parental involvement. Many districts are implementing school improvement plans that specifically address school climate. Research indicates that school reforms must address school climate (McMurrer, 2012; Thapa et al., 2012).

Effects of school climate. Research has demonstrated that a positive school climate is vital to academic achievement and school success (Cohen et al., 2009; MacNeil et al., 2009; National School Climate Council, 2007; University-Community Partnerships, Michigan State University, 2004). The University-Community Partnerships with Michigan State University reviewed several studies on climate. They found that climate is associated with social-behavior issues such as: fewer discipline problems resulting in suspensions, less substance abuse, and less anxiety and depression. Furthermore, "higher grades, engagement, attendance, expectations and aspirations, a sense of scholastics competence, and on-time progression through grades" (University-Community Partnerships, Michigan State University, 2004, p. 5) is associated with a positive school climate. Accordingly, the National School Climate Council (2007) states that a positive school climate motivates students and promotes student learning.

Table 3.

Elements and effects of school climate.

Elements of School Climate	Effects of School Climate
• Safety • Relationships • Teaching and learning • Institutional environment • Process of school improvement (Thapa et al., 2012)	• Promotes academic achievement • Fewer discipline problems • Less anxiety and depression • High attendance rates • Helps teachers feel successful in the classroom (Cohen et al., 2009; MacNeil et al., 2009; National School Climate Council, 2007; University-Community Partnerships, Michigan State University, 2004).

A positive school climate impacts teachers as well. New teachers are able to collaborate and be mentored by veteran teachers, and they feel successful in the classroom. This increases teacher retention (Billingsley, 2004).

For an overview of the elements and effects of school climate, see Table 3.

School climate research necessitates policy change. Several studies have pointed out that most districts do not measure school climate even though research has proven the importance of maintaining a positive school climate (Cohen et al., 2009; MacNeil et al., 2009; National School Climate Council, 2007; University-Community Partnerships, Michigan State University, 2004). These studies recommend using climate surveys such as the Organizational Climate Description Questionnaire (OCDQ) or the Organizational Health Inventory (OHI) to determine problem areas within schools (Cohen et al., 2009; Hoy & Hoy, 2003; National School Climate Council, 2007). Researchers highly recommend developing ways to improve school climate due to the high correlation between school climate and student achievement.

The Center on Educational Policy (CEP) conducted a case study outlining the progress of states and districts that received School Improvement Grants (McMurrer, 2012). The CEP reports that many state and district leaders prioritized changing school climate as being the first step in raising student achievement. These schools solely focused on improving school climate. The CEP found that gains in student test scores were attributed to school climate change. The interviewees felt that because their administration improved school climate, the students were more motivated to learn and behavior problems decreased. Several teachers interviewed were surprised at how quickly the teachers' and students'

attitudes changed. The CEP states that after the first year, one teacher “was ‘blown away’ because the school climate was ‘completely different’” (McMurrer, 2012, p. 8).

The National School Climate Council (2007) advises incorporating school climate research into curriculum for teacher education candidates at colleges and universities so inexperienced teachers will be aware of what makes a positive, open school climate. The National School Climate Council (2007) also believes that all school personnel should participate in professional development on the topic of school climate because every school employee contributes to the climate of the school.

The National School Climate Council, with advisors from several states, has created the National School Climate Standards (National School Climate Council, 2012). The first National School Climate Standard addresses the need for a school community to create shared vision to promote school climate and maintain it. The second standard compels school leaders to teach a variety of skills, including social, emotional, intellectual, and civic skills. Teachers should identify disengagement and remove the barriers that cause it. The third standard requires schools to “create and sustain an appropriate operational infrastructure and capacity building mechanisms” (p. 3) that promote learning and engagement (National School Climate Council, 2012). Making the school environment welcome, safe, and supportive is the theme of the fourth standard, and lastly, the fifth standard recommends schools create activities that promote civic responsibilities and social learning (National School Climate Council, 2012).

The National School Climate Council (2007) suggests that schools not only use climate surveys on a regular basis but also create goals to improve the climate. They also

recommend states and districts include school climate as part of school accountability measures.

Aspects of positive and negative school climates. School climate is described in a number of ways including: open and closed, engaged and disengaged, positive and negative, and healthy and unhealthy (Hoy & Hoy, 2003). Halpin and Croft (1962) described a school's climate as a school's personality. They developed the Organizational Climate Description Questionnaire (OCDQ), which analyzes principal-teacher relationships and teacher-teacher relationships. An open school climate is characterized by supportive behavior from the principal and collegial behavior among teachers. The principal listens to his teachers and provides constructive feedback; teachers collaborate and accomplish tasks with fidelity. An engaged climate is typified by collegial relationships among teachers, but the principal is more directive and less supportive of teachers. Although the principal's behaviors can burden teachers, they continue to support each other and cooperate. A disengaged climate is different because the principal continues to be supportive although the teachers are not supportive of each other. The teachers do not collaborate or share ideas, and they are not motivated to increase student engagement or achievement. Lastly, frustration, negativity, and division characterize the closed climate. The principal is neither motivated nor supportive. The faculty is unconcerned and apathetic (Hoy & Hoy, 2003).

Hoy and Hoy (2003) describe school climate as being healthy or unhealthy, listing seven dimensions of organizational health. The OHI measures these seven patterns of behavior: institutional integrity, principal influence, consideration, initiating structure, resource support, morale, and academic emphasis. A school with a healthy climate would likely score mid-range to high in all of these areas. The principal and district leaders protect

the school from negative outside influences. The principal allows teachers to voice opinions and seeks their input when making decisions. The teachers view learning as being sacred. They have positive attitudes toward one another and the students. Both the students and teachers are motivated to learn and are proud of their school.

An unhealthy school climate breeds frustration on all levels. Students are not motivated to learn and have negative attitudes toward subject matter, as well as teachers. Principals experience high turnover rates among teachers. Teachers often feel competitive, suspicious, and defensive. The school is subject to the notions of the public. The principal does not demonstrate effective leadership, and teachers are not provided the resources they need (Hoy & Hoy, 2003).

Culture and climate in relation to change. As demonstrated in the literature, both culture and climate not only affect the operational systems of the school but also the outcomes of those operations (Cavanaugh & Dellar, 1997; Cohen et al., 2009; D' Alessandro & Sadh, 1998; MacNeil et al., 2009; National School Climate Council, 2007; Peterson & Deal, 2009; Stolp, 1994; University-Community Partnerships, Michigan State University, 2004). Furthermore, they influence the attitudes and behaviors of the members of the organization (Peterson and Deal, 2009). Consequently, the success or demise of a reform may be greatly influenced by the culture and climate of the school. Researchers explain that understanding school culture is necessary for implementing change (Allen et al., 1998; Fullan, 2007, 2009), and reform efforts will not likely be sustained if the change is not embedded into the school's culture.

Efficacy

As noted before, school climate refers to teachers' perceptions of the school's environment and the general feeling of the people in an organization (Hoy & Hoy, 2001). Teacher efficacy is an individual's belief about the impact he or she has on a student's learning (Hoy & Hoy, 2003). If teacher beliefs carry over to the faculty belief system, how does this affect school culture and climate? Does school culture and climate impact efficacy?

The following discussion begins with Bandura's foundational work in self-and collective efficacy and continues with teacher and school-level collective efficacy as it relates to change.

Self efficacy. The concept of self-efficacy cannot be discussed without referencing Alfred Bandura's (1977) foundational work. Self-efficacy refers to a person's beliefs about his or her ability to accomplish a task with competence or effectiveness in a specific domain. People with similar skill levels may complete tasks poorly or extraordinarily depending on their self-efficacy beliefs. Each person perceives situations differently based on his or her self-efficacy. For instance, two students who have the same math ability may have different attitudes about math based on their perceived self-efficacy (Bandura, 1993). Additionally, a person may have great success doing one task and not another due to differences in self-efficacy beliefs for each task (Bandura, 1993, 1997).

Self-efficacy must not be confused with self-concept and self-esteem, which are different in that both refer to the whole person's self-image, whereas self-efficacy is focused on one's perceived ability in a specific domain (Hoy & Hoy, 2003). In fact, Hoy and Hoy (2003) report that self-efficacy has no correlation with self-image. Interestingly, though,

Dembo and Gibson (1985) convey that low self-efficacy can lead to negative expectations and feelings of helplessness, which can contribute to guilt and stress.

Bandura (1993) notes that self-efficacy has an influence on each of the four major processes—cognitive, motivational, affective, and selection processes—, as identified in his earlier work. Bandura (1993) asserts that people are powerfully influenced by their beliefs about their own abilities to control their own functioning and, to some extent, the events in their own lives. Some believe that ability cannot be changed; they believe one is born with certain specific abilities that cannot be increased or decreased. People who tend to have strong self-efficacy beliefs practice the notion that ability can be influenced with diligent work and determination. Furthermore, efficacious people work harder to overcome their failures.

Bandura (1977) describes the difference between outcome expectancy and self-efficacy: Outcome expectancy is an individual's prediction of an outcome based on numerous precedents that must be accomplished by the individual; self-efficacy is the individual's belief that he or she can perform the precedents to achieve the outcome.

Motivation and efficacy. Self-efficacy beliefs affect a person's motivation to complete certain tasks (Bandura 1977, 1993). According to Bandura (1993), motivation is a cognitive process, which can be influenced by self-efficacy beliefs. For instance, a person will contemplate a task before attempting it, filtering past experiences and current abilities. Bandura (1993) lists three types of self-influences when discussing motivation: "affective reactions to one's performance, perceived self-efficacy for goal attainment, and readjustment of personal goals based on one's progress" (p.131).

Foundational researchers refer to self-efficacy as varying in strength. The stronger the belief, the more likely a person will persevere through challenges and meet success (Bandura, 1977, 1993, 1997). Furthermore, said individuals tend to be intrinsically motivated to accomplish more challenging tasks with greater effort and persistence (Bandura, 1997). Additionally, people tend to avoid activities that they think they will fail at doing, while involving themselves in activities they perceive they can successfully accomplish. Consequently, self-efficacy will be increased if a person involves himself in activities in which he is likely to succeed; however, the opposite is true as well: a person who consistently fails at activities is likely to abandon the activity with decreased self-efficacy (Bandura 1977). Individuals with low self-efficacy cease from exerting effort when faced with challenges they cannot seem to overcome (Bandura 1993).

Four sources of efficacy beliefs. After extensive research concerning the cognitive and behavioral processes that strengthen or lessen a person's sense of efficacy, Bandura (1977) outlined four sources of efficacy: mastery experiences, vicarious experiences, verbal persuasion, and psychological factors. The aforementioned sources of efficacy impact one's perceptions differently, with mastery experiences being the most influential of the four.

Mastery experiences. Mastery experiences are personal experiences of success at a task. Several consecutive successes increase expectations of mastery. Similarly, repeated failures lower expectations. The timing of these successes or failures, particularly if they occur in the beginning of the course of events, can also affect mastery expectations. As a person continues to succeed, later failures affect the person's efficacy to a smaller degree. Self-efficacy can also generalize to other similar tasks if self-efficacy is high. Self-efficacy beliefs are most influenced if the person believes that he or she had the most impact on the

results (Hoy & Hoy, 2003). Although some psychologists and researchers attribute attainment as the result of strong self-efficacy, Bandura (1997) asserts that self-efficacy is a mere contributor to success or failure rather than a predictor.

Vicarious experiences. People use other individuals and products as frames of reference for efficacy beliefs (Hoy & Hoy, 2003). Vicarious experiences occur when a person witnesses the success or failure of another person tackling a similar proposed task. Self-efficacy can be increased when a person observes another person perform risk-taking or threatening activities without facing harsh consequences, even if failure ensues. Seeing others persist and succeed despite difficulty can increase the self-efficacy of the viewer. In other words, the individual may believe that he or she can also accomplish the task with increased persistence. If a person is exposed to a variety of success stories from others who employ different strategies, or models, the person is more likely to have increased efficacy. For instance, a student who witnesses a peer with similar mathematical ability understand and complete a new mathematical concept, will likely have greater efficacy beliefs for himself (Bandura, 1977).

Verbal persuasion. People have the most and easiest access to verbal persuasion (Bandura, 1977). Verbal persuasion is simply hearing others confirm their high expectations or encouragement for a person. Verbal persuasion can also come in the form of specific feedback (Hoy & Hoy, 2003). Although this may be a “quick” way to increase self-efficacy, verbal persuasion is not as authentic as one’s own personal experiences with success, and it may not endure as long. The credibility of the persuader can also affect the receiver’s response to the message. Self-efficacy is further influenced when the speaker is trustworthy and considered an expert (Bandura, 1977).

Psychological factors. Psychological factors also affect efficacy beliefs. Bandura (1977) considers levels of arousal and their impact on efficacy depending on how the arousal is cognitively interpreted. High, negative arousal, such as fear or anxiousness, can hinder a person's performance; conversely, arousal can also be motivating. Hoy and Hoy (2003) give the example of anxiousness and worry lowering efficacy while excitement or energy increase efficacy. Though anxiousness and excitement may feel somewhat similar, the affect on efficacious beliefs is contingent on the interpretation of the cognitive processes.

Efficacy measures. Bandura warns against creating efficacy measures that require global judgments or generality of judgments. For instance, if the measure asks the individual to rate his or her musical efficacy, the individual may be likely to rate himself lower simply because he has little expertise in a variety of instruments. Instead, the researcher should administer a measure that encompasses traits within musical efficacy, such as reading music, playing wind instruments, playing brass instruments, and vocal expression. Furthermore, the setting in which the measure is given may also influence results. Bandura (1997) states, "Measures of personal efficacy must be tailored to domains of functioning and must represent gradations of task demands within those domains" (p. 42). Many self-efficacy measures use scales that increase in task difficulty.

Collective efficacy. Bandura (1997) describes collective efficacy as "a group's shared belief in its conjoint capabilities to organize and execute the courses of action required to produce given levels of attainments" (p. 477). Collective efficacy is not simply the compounding of individual efficacy of each member in the group. According to Bandura (1997), groups possess an "emergent property," which is the "mix of knowledge and competencies in the group, how the group is structured and its activities coordinated, how

well it is led, the strategies it adopts, and whether members interact with one another in mutually facilitory or undermining ways" (p. 478).

Collective efficacy is a group attribute. The strength of a group's efficacy affects how much the group achieves, and conversely, the achievements of the group affect the collective efficacy beliefs. Like self-efficacy, collective efficacy is multifaceted and applicable to group performance in various areas, such as athletics, politics, organizations, corporations, and schools. Groups that are dissatisfied with their performance and have a strong collective efficacy are inclined to more productivity (Bandura, 1997).

Although individuals' efficacy levels are not compounded, the sociocognitive determinants—mastery experiences, vicarious experiences, verbal persuasion, and psychological factors—operate in the same way for a whole group. Members of the group, however, assess one another's strengths and weaknesses as well as their own personal efficacy when judging the efficacy of the group as a whole. For instance, a member of a sports team will assess the abilities of each member and his own abilities when judging the efficacy of the group. This is later discussed in reference to school faculties (Bandura, 1997).

Teacher efficacy. The following foundational and contemporary research focuses on teacher efficacy and collective school efficacy as well as the significance of change in relation to both types of efficacy.

Hoy and Hoy (2003) define teacher efficacy as "a teacher's belief that he or she can reach even difficult students to help them learn" (p. 129). The foundational constructs of teacher efficacy are grounded in Bandura's research (1977, 1993, 1997) and Rotter's (1966) study concerning efficacy and locus of control. RAND researcher, J. B. Rotter (1966), wrote about the Social Learning Theory, specifically focusing on internal and external locus of

control. A measure included in the report targeted teacher locus of control. RAND looked at whether teachers felt their actions were impacted most by their own control or environmental control.

Later, in 1993, Bandura included new constructs in his efficacy research: teacher and collective school efficacy. Similar to self-efficacy, teacher efficacy is domain specific. Bandura (1993) considered teacher efficacy as being a type of self-efficacy, influenced by the four sociocognitive determinants. He focused on how teachers cope with difficult situations and outcomes (Tschannen-Moran et al., 1998).

Tschannen-Moran, Hoy, and Hoy (1998) sought to conjoin and clarify the two similar teacher efficacy constructs by analyzing the research and methodologies of both conceptualizations. Tschannen-Moran et al. (1998) confirm that the four sources of efficacy, as outlined by Bandura (1993) are indeed explanatory of teachers' self-efficacy. However, the researchers differentiate efficacy and locus of control: "Beliefs about whether one can produce certain actions (perceived as self-efficacy) are not the same as whether actions affect outcomes (locus of control)" (Tschannen-Moran et al., 1998, p. 211). Trahan (2014) found that teacher efficacy and internal locus of control are related, but "information gathered suggested that if one knew the extent of one's TSE then that person could predict only 2% of the variability regarding an individual's perceived ILOC" (p. 194). Interestingly, self-efficacy is found to be a better predictor of behavior.

Guskey and Passaro's (1994) work in clarifying the meaning of the two factors in Gibson and Dembo's (1984) instrument, the Teacher Efficacy Scale, helped solidify the work of Tschannen-Moran et al. (1998) in their bridging of constructs. Guskey and Passaro (1994) found that the Teacher Efficacy Scale should be reworded to reflect both the internal and

external dimensions. Therefore, the internal dimension reflected a teacher's personal assessment of his or her own teaching competence and the analysis of the teaching task. Tschannen-Moran et al. (1998), however, found that after Guskey and Passaro (1994) modified the Gibson Dembo (1984) instrument, it drew on teachers' inclinations to blame outside circumstances for lack of student achievement.

Researchers have found that, like self-efficacy, teacher efficacy functions in a cyclical nature (Bandura, 1993; Tschannen-Moran et al., 1998). After Tschannen-Moran et al. (1998) worked to fuse two teacher efficacy constructs together by conducting a comprehensive review of literature and methodologies, they created a conceptual framework that can be easily applicable to past and present research concerning teacher efficacy. (See Figure 4).

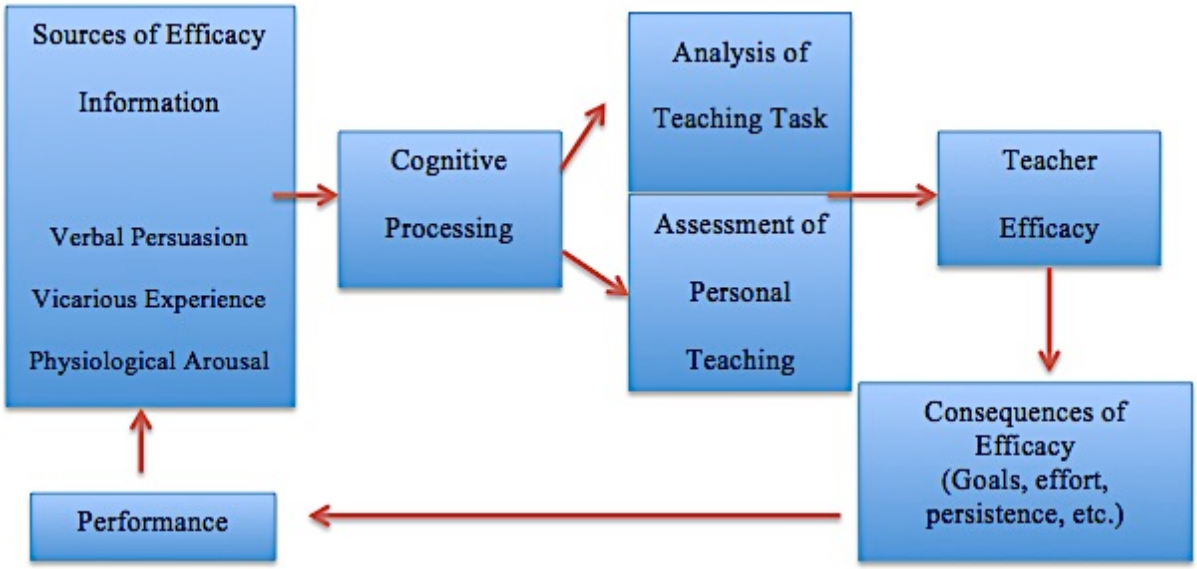

Figure 4. The Cyclical Nature of Teacher Efficacy (Adapted from Tschannen-Moran et al., 1998, p. 228)

One can see that the four sources of efficacy still apply as they are filtered through the cognitive processing of the teaching task and personal teaching competence. Self-perception

of teaching competence is a teacher's judgment about his or her own capabilities, whereas perception of the teaching task is a teacher's assessment of the resources available and the teaching context. The teaching context can include students' abilities, availability of instructional resources, access to technology, leadership of the principal, and the culture of the school. The level of teacher efficacy hinges on those sources. However, as Figure 2 demonstrates, the consequences of efficacy and performance contribute to the sources of efficacy, particularly mastery experiences (Tschannen-Moran et al., 1998).

Highly efficacious teachers persist despite negative interactions with difficult students. Said individuals hold strong in their beliefs in themselves as well as their students (Hoy & Hoy, 2003). Teachers with high self-efficacy picture success when faced with a scenario; on the contrary, those with low self-efficacy focus on the possible issues that could arise. Furthermore, teachers with low self-efficacy beliefs see little hope that circumstances can change by means of their own abilities. Efficacious teachers can persevere by finding some element of control (Bandura, 1993). Teachers gain a greater sense of self-efficacy from experiencing successes with their own students and by participating in professional development and shared practices (Hoy & Hoy, 2003).

Effects of teacher efficacy. Perhaps one of the most surprising effects of efficacious teachers is an increase in student achievement (Bandura, 1997; Berman, 1977; Dembo & Gibson, 1985; Goddard et al., 2000; Tschannen-Moran et al., 1998; Tschannen-Moran & Hoy, 2001; Ware & Kitsantas, 2007). Interestingly, teacher efficacy has a greater effect on achievement than student socioeconomic status (Bandura, 1993; Goddard et al., 2000). Dembo and Gibson (1985) found that efficacious teachers are more effective at questioning students because they are willing to use wait time and probe students for answers instead of

calling on others or proceeding with the lesson. Teachers who scored in the top ranges on their teacher efficacy instrument were likely to persist longer and have a stronger focus on student learning than teachers who scored lower on the instrument (Dembo & Gibson, 1985).

The self-efficacy of teachers also has an impact on classroom environment. For instance, efficacious teachers persevere when students struggle or misbehave. More time is spent on academics and providing students with opportunities to develop their own self-efficacy and intrinsic motivation (Bandura, 1993). Dembo and Gibson (1985) exert that teachers with strong efficacy beliefs feel competent in content knowledge and pedagogy, and they tend to spend more time providing engaging, whole group instruction.

Teacher efficacy impacts the willingness of teachers to change and the overall success of the initiated change. Berman's (1977) study concerning the implementation of federal programs found that teachers' efficacy beliefs had "major positive impacts on the percentage of goals achieved, improved student performance, teacher change, and continuation of project methods and materials" (p.11). Several other researchers corroborate Berman's (1977) beliefs, as articulated in the next several statements. Teacher efficacy is found to influence teachers' willingness to implement new strategies as well as their stress levels (Klassan & Chiu, 2010; Tschannen-Moran, et al. 1998). Allinder (1994) asserts that efficacious teachers are associated with incorporating innovative methods. Additionally, teacher efficacy affects the types of goals teachers make for themselves as professionals (Ross, Cousins, & Gadalla, 1996).

Unfortunately, changes in self-efficacy for inservice teachers are more difficult to initiate and sustain than those for pre-service teachers (Tschannen-Moran et al., 1998). However, in reviewing more recent literature concerning teacher efficacy and reform,

researchers agree that professional development has a positive impact on teacher efficacy beliefs (Bruce, Esmonde, Ross, Dookie, & Beatty, 2010; Goddard, et al. 2000; Klassen & Chiu, 2010; Tschannen-Moran & Johnson, 2011; Tschannen-Moran & McMaster, 2009). Gibson and Dembo (1984), however, describe a *double-edged sword* with teacher training. They claim that teachers who attend professional development sessions and begin the implementation process experience a slight slump in efficacy; however, when successful implementation occurs, said teachers' levels of efficacy increase. Tschannen-Moran et al. (1998) describe efficacious teachers as more willing to embrace new challenges without grumbling than those with low self-efficacy.

Collective school efficacy and change. "Collective efficacy is the shared perception of teachers in a school that the efforts of the faculty as a whole will have a positive effect on student learning" (Hoy & Hoy, 2003, p. 296). Unlike other professions, teaching is performed in a group context; therefore, collective efficacy plays a vital role in the performance of a school (Tschannen-Moran et al., 1998). The staff as a whole can have overarching feelings and beliefs about how much they can impact students at their school. Some schools have a strong sense of collective efficacy, which translates a positive atmosphere. Other faculties may have a low collective efficacy, blaming outside forces or policies as being the reasons why they have little impact on student achievement (Bandura, 1993).

Collective efficacy has an impact on the school as a whole; whereas individual efficacy for a teacher only impacts his or her classroom (Bandura, 1997). However, any changes in a school filter through the perceptions and the work of individuals. In other

words, teachers and staff members are those to implement changes; therefore, one must keep in mind the four sources of self-efficacy.

Research indicates that teacher efficacy and collective efficacy are, in fact, interrelated. Teacher efficacy is affected by the collective efficacy of a school; conversely, collectively efficacy can be influenced by teacher efficacy. Tschannen-Moran et al. (1998) confims, “Teachers’ sense of self-efficacy is related to a number of school-level variables, such as climate of the school, behavior of the principal, sense of school community, and decision-making structures” (p. 220). Additionally, Skaalvik and Skaalvik (2007) found that both teacher and collective efficacy are both related to teacher burnout. Bandura (1993) portrays schools that have a high level of interdependence as contributing to individual teachers’ self-efficacies.

Schools can develop a strong sense of collective efficacy and raise student achievement in the process (Bandura, 1993, 1997; Hoy & Hoy, 2003; Moolenaar, Sleegers, & Daly, 2012). In low socioeconomic schools, student achievement is powerfully affected by teachers’ decreasing collective efficacy. A staff can be overwhelmed by pressure to raise student test scores, behavioral issues with students, and lack of parental involvement, among other things (Bandura, 1997). Staffs tend to have lower collective efficacy in schools with large numbers of low socioeconomic students and student absenteeism. However, low performing schools will reach high percentile ranks if teachers can collectively embody the belief that all students can achieve their high expectations (Bandura, 1993). Even schools with large achievement gains can find themselves faced with administrative directives, community issues, policy changes, and school-wide teaching initiatives, which can have an impact on collective efficacy (Bandura, 1997).

Collective efficacy is an important aspect of school culture and climate (Bandura, 1993, 1997; Berman, 1977; Dembo & Gibson, 1985; Tschannen-Moran et al., 1998; Ware & Kitsantas, 2007). Although both culture and climate can describe the atmosphere of a school, they are different. Hoy and Hoy (2003) describe organizational culture as "a pattern of shared orientations that binds the organization together and gives it a distinctive identity" (p. 276). Culture describes ingrained values and norms. In a strong culture, teachers respect one another, challenge one another, work together, and take care of everyone, which in turn, also affects the collective efficacy (Moolenaar et al., 2012). Tschannen-Moran et al., (1998) state, "Organizational members' collective belief about their efficacy in producing and achieving at certain levels is an important feature of the institution's operating culture" (p. 241).

Teachers' beliefs about themselves can carry over to the faculty belief system. Freiberg and Stein (1999) describe school climate as such: "School climate is about that quality of a school that helps each individual feel personal worth, dignity and importance, while simultaneously helping create a sense of belonging to something beyond ourselves" (p. 11). Tschannen-Moran et al. (1998) suggest that improvements in school climate are related to higher teacher efficacy. Higher self-efficacy is related to health of the organizational climate. Obviously, teacher efficacy and collective efficacy work together simultaneously, and both are interrelated to school climate and culture.

Change Theory

Bandura (1997) mentions that policy changes and school-wide initiatives can impact collective efficacy, and as noted earlier, teacher and collective efficacy are interrelated with school culture and climate. Therefore, how is reform affected by school culture, climate, and collective efficacy?

Teachers who began their profession in the last decade know educational reform movements all too well. In Louisiana, these teachers remember the introduction of the Louisiana Content Standards, the Louisiana Grade Level Expectations, the Common Core State Standards, the Louisiana Teacher Assistance and Assessment Program, the Satisfactory/Unsatisfactory observation forms, and the district-specific Individualized Education Plan forms—all but one of which are not used anymore (Louisiana Department of Education, 2015c). Fortunately, for these now veteran teachers, they are not surprised by change, although that does not make change any easier for many.

Fullan (1993) submits two reasons why educational reforms are failing. One, problems are extremely complex and include many variables of which are often unaccounted. Two, many strategies that are initiated do not focus on things that will truly impact student achievement. No longer can the incessant excuse for lack of progress be the shortage of time and money—even districts with lavish funds can squander reform efforts if not careful.

Understanding school culture is key to implementing change, whether the change is minor or major (Allen et al., 1998; Fullan, 2007, 2009). If the reform is supported by the culture of the school, the change is more likely to be lasting. Furthermore, Allen et al. (1998) report that without a supportive culture, change is sustained for less than one year. One may ask why culture affects change. Culture is commonly used to describe an organization's unique personality that encompasses values, purpose, traditions, behaviors, and operational frameworks. Wagner et al. (2006) list culture as one of the 4 C's, which is an approach to systematic thinking for educational organizations. Two other C's listed, conditions and context, could theoretically be a result of school culture. The last C, competency, can be assessed with a culture lens and tackled through reculturing efforts.

Often, depending on the type of change, reform requires a reculturing of organizations. However, conversely to most people's thinking, restructuring as the effect of reculturing is most effective (Fullan, 1993). When teachers and administrators seek to work in new ways as the result of an existing problem, they discover that current school structures are barriers to their work. On the other hand, if schools are restructured before experiencing a rebirth of culture, members may become confused, angry, or bitter (Fullan, 1993). Most importantly, before initiating a change, whether school-wide or district-wide, leaders need to understand the types of change as well as change theories by leading researchers.

Marzano (2005) describes the differences between first-order and second-order change. Gradual changes that are incremental can be described as first-order changes. These changes are usually subtle, surface-level changes such as creating job-embedded time for professional development by manipulating the school calendar. First-order changes are typically tackled by using experiences from the past to guide thinking. Problems can be approached in the same way (Marzano, 2005). Thus, first order change is more closely related to climate change because it is more visible and superficial. First order change is not always easy, but it is often necessary for second-order change to occur (Marzano, 2005).

According to Marzano (2005), school leaders often tackle large problems using first-order thinking, but for sustainable and effective change to occur, second-order thinking must occur. Second-order change is drastic and requires new ways of thinking. Organizations that experience this type of change may also experience a completely new organizational structure or vision. Problems are solved using innovative philosophies. Second-order change is complex and often problematic for individuals. This type of change also requires more time and effort to accomplish. The leadership style must match the order of change required

by the innovation, according to Marzano (2005). As noted in the conceptual framework, second-order change requires a culture change because it requires an adjustment in values and beliefs.

Many researchers distinguish the change process as three stages: initiation, implementation, and institutionalization (Fullan, 2007; Johnson, 2005). The complexity of reform tends to conceal the separation of the phases. For instance, one does not decide when specifically the change will be considered institutionalized. Furthermore, the change process is not linear; decisions during the change process cause the organization to interact between stages over time (Fullan, 2007).

The initiation stage begins with the decision to change. This stage also includes the organizational processes that lead up to implementation. Fullan (2007) lists eight factors associated with initiation: existence and quality of innovations, access to information, advocacy from central office leaders, teacher advocacy, external change agents, community impressions, new policy, and problem-solving and bureaucratic orientations. Each of the previous factors can affect the initiation of a new program or policy. Furthermore, it is important that all stakeholders understand the meaning behind the change (Fullan, 2007).

The implementation stage certainly requires much support. Teachers and leaders should recognize the need for the change throughout the implementation process as well (Fullan, 2007). Furthermore, they should be able to recognize what meeting those needs should look like. This may be in the form of goals and objectives. Assessment of the initiative should be continual. Lack of clarity can be detrimental to the life of the change. Teachers should understand the process of the change—including the intricacies of the

change. Resources must be continually available and replenished throughout the process. This may include ongoing professional development (Fullan, 2007).

Institutionalization is the point at which the organization has infused the change as a part of its typical work (Fullan, 2007). In other words, the change has become part of the school's culture. The term *institutionalization* is more recently viewed as *sustainability* (Hipp & Huffman, 2010). Institutionalization implies a fixed change; however, sustainability implies continued attention and focus. Although sustainability is the target, schools must continue to attend to the reform, adjusting to the other variables that change over time, such as personnel or student demographics. The teachers and administrators continue to monitor the success of the change, celebrating when goals are achieved (Fullan, 2007). In this study, when referring to the final stage of change, the term *sustainability* will be used.

Michael Fullan, an internationally recognized frontrunner in change research, begins many of his books with an emphasis on moral purpose as the required catalyst for educational reform (Fullan, 1993, 1999, 2001, 2005, 2009). Fullan (1999) stated, "Moral purpose in education means making a difference in the life-chances of all students—more of a difference for the disadvantaged because they have further to go" (p. 1). Moral purpose answers the questions pertaining to why people do what they do. It drives their commitment to tasks. Although the building blocks of educational change are the teachers' sense of moral purpose, it encompasses more than simply caring. Individual moral purpose must be interconnected with a shared group purpose, which in turn, is usually associated with a broad, societal purpose (Fullan, 1993). Fullan (2001) argues that no one in his or her job, whether a teacher or retail worker, can do the job effectively without a strong sense of moral purpose. Johnson (2005) lists purpose as the first of four *P*s that encompass the change process.

However, reform driven only by moral purpose will find little momentum—leaders must also understand the change process and its complexity. Fullan (1999) candidly admits that change research will ever be evolving because change is complex, messy, and uncontrollable. Although researchers over decades have created conceptual frameworks and models for change, not one is timeless or accommodating to all changes. Fullan (1993) contends, "Complexity, dynamism, and unpredictability, in other words, are not merely things that get in the way. They are normal!" (p. 28). An extraordinary number of variables exist when policies are created (Fullan, 1993).

In Fullan's (1993, 1999) earlier research, he presents several lessons learned concerning change. His later works allude to these lessons as well (Fullan, 2001, 2005, 2007). A total of 16 lessons will be discussed, although Fullan published eight lessons in *Change Forces* (1993) and eight more in *Change Forces: The Sequal* (1999). See Tables 4 and 5.

Table 4.

Eight lessons from Fullan's (1993) book, *Change Forces*.

The Eight Basic Lessons of the New Paradigm of Change
Lesson One: You Can't Mandate What Matters
Lesson Two: Change is a Journey not a Blueprint
Lesson Three: Problems are Our Friends
Lesson Four: Vision and Strategic Planning Come Later
Lesson Five: Individualism and Collectivism Must Have Equal Power
Lesson Six: Neither Centralization Nor Decentralization Works
Lesson Seven: Connection with the Wider Environment is Critical for Success
Lesson Eight: Every Person is a Change Agent

Fullan (1993) explains in his first lesson that mandating complex change is not effective. Furthermore, the more complex the change is, the less successful the change is.

Mandates are most successful for tasks that involve little human creativity or opportunity for improvisation. Unfortunately, education involves specific skills, creative thinking, decision-making, and action—which are all complex tasks. Fullan (1993) explains that goals become narrower with mandates. Policy cannot force people to change.

Fullan's (1993) second lesson uses imagery to describe lasting change. Reform is a journey, not a plan. Change occurs when plans are acted upon. Leaders must expect that large-scale reform or more complex reforms take more time to initiate and sustain. The implementation gap can also be expected (Fullan, 2001). More time and energy of leaders and change agents will be required for major reform. Other researches describe change as a process, not an event (Hord, Rutherford, Huling-Austin, & Hall, 1998).

Table 5

Eight lessons from Fullan's (1999) book, *Change Forces: The Sequal*.

Complex Change Lessons
Lesson One: Moral Purpose is Complex and Problematic
Lesson Two: Theories of Change and Theories of Education Need Each Other
Lesson Three: Conflict and Diversity Are Our Friends
Lesson Four: Understand the Meaning of Operating on the Edge of Chaos
Lesson Five: Emotional Intelligence is Anxiety Provoking and Anxiety Containing
Lesson Six: Collaborative School Cultures Are Anxiety Provoking and Anxiety Containing
Lesson Seven: Attack Incoherence: Connectedness and Knowledge Creation are Critical
Lesson Eight: There is No Single Solution: Craft Your Own Theories and Actions by Being a Critical Consumer

Contrary to most people's reasoning, problems must be embraced according to the third lesson from Fullan. (1993). The culture of the organization should expect to encounter problems, foresee potential problems, and tackle the problems as they come. Furthermore, the organization should not be surprised, or traumatized in extreme situations, by problems. Fullan (1993) outlines simple coping mechanisms, such as tracking problems, creating worry lists, discovering underlying causes, and reviewing problem solving decisions.

The next lesson is also divergent to other educational researchers' and consultants' instructions. Fullan proffers that vision and strategic planning come later. Before vision can be constructed, individuals must reflect. Reflection will form vision, and organizations can work toward a shared vision through actions. Many organizations work to create a common vision while individuals are still forming their own personal vision. Shared vision takes time. Additionally, individual and shared visions continue to develop during the change process. They are shaped and reshaped due to reform, and this encourages the members to have ownership of the change process (Fullan, 1993).

Fullan also suggests in his next lesson that individualism and collectivism must be an equal partnership. Many organizations, including schools, have unknowingly discouraged individualism by glorifying community and collaboration. Although both community and collaboration are extremely important, overconformity is unconstructive. Groups are more prone to fads, which may not be solidly grounded in research. A balance of power between individualism and collectivism is desired (Fullan, 1993).

Fullan explains in his sixth lesson that both top-down and bottom-up strategies are needed for change to sustain. Centralization may cause leaders to be impatient after giving directives, being somewhat isolated from stakeholders. However, bottom-up strategies may

cause leaders to be preoccupied with the most immediate issues within the closest organization. Since top-down and bottom-up strategies both influence organizations in different ways, they are both needed. Pressure and support are keys to success. Both are needed (Fullan, 1993).

External influence is needed for the growth of the organization according to Fullan's (1993) seventh lesson. The strongest organizations use both internal and external influences; they are connected to the environment outside themselves. Learning is valued and shared among members (Fullan, 1993).

The first chapter in Hord et al.'s (1998) book is titled, "You Are In This Book" (p.1), signifying that each person is an integral part of the change process. The last lesson in Fullan's (1993) *Change Forces* is that "every person is a change agent" (p. 22). Reform starts with individuals and is accomplished by individuals (Hord et al., 1998). Lasting reform is not initiated by mandates. Unfortunately, policymakers tend to overlook educators in creating policy that affects them. Fullan quips, "Change is too important to leave to the experts" (p. 39). Every teacher has the responsibility to bring about change in his or her own vision and practice, while contributing to the school's vision and practices.

Six years later, Fullan (1999) wrote and published another book, *Change Forces: The Sequel*, with eight more valuable lessons concerning the nature and complexity of change. The first lesson is that moral purpose is not simple—it is complex and even problematic. It involves changing the structure of power. Like the first lesson in *Change Forces*, moral purpose is also multifaceted. Educators are faced with several challenges to moral purpose. Fullan (1999) summarizes his thoughts in this statement:

> Moral purpose and change strategies combined to promote greater attachment to the school and greater academic achievement. What we need, then, are even larger-scale efforts where whole districts, whole states, and whole nations engage in strategies that simultaneously work on motivation and attachment along with academic achievement. (p. 20)

The second lesson demonstrates the need for educational theory and change theory to work together. Educational theories are valuable only if they are implemented and sustained using change theory. Furthermore, change theories are simply theories without being coupled with theories of action. As previously mentioned, no one definitive, correct, or true theory of change exists because every situation is unique with differing variables and unpredictable circumstances (Fullan, 1999).

Fullan's (1999) third lesson also mirrors a previous lesson, but explores the concept a bit further. He states that organizations should not just embrace problems, but also conflict and diversity. Without conflict, many organizations would never experience innovative breakthroughs. True consensus does not exist without argument, unless the group is superficially in agreement. Although conflict and problem solving are messy processes, generally groups that experience this form relationships with everyone in the organization (Fullan, 1999).

The *edge of chaos* is discussed in Fullan's fourth lesson (Fullan, 1999). The edge of chaos is the vicinity between too much structure and too little structure. This leaves room for open-endedness while maintaining structure. Frequent change can be a part of the normality of a healthy culture. Embedded processes, if trusted, can allow leaders to lead without micromanaging (Fullan, 1999).

Change makes people uncomfortable because it involves facing the unknown. Anxiety often has a negative connotation, but Fullan (1999) argues that, if properly contained, members of organizations can function at high levels despite the anxiety. Organizations must not deny or ridicule anxiety; it can be addressed through emotional intelligence. Emotionally intelligent people control their worry better (Fullan, 1999).

The next lesson is coupled with the previous one. Fullan (1999) explains that while organizations create anxiety through change and mediated conflict, emotional support must always be available for its members. Dissonance should be valued, not discouraged.

Fullan's seventh lesson pertains to the dilemma that many public educators face: incorporating several innovative programs that lack coherence. Fullan (1999) recognizes, "Policies get passed independent of each other, innovations are introduced before previous ones are adequately implemented, the sheer presence of problems and multiple unconnected solutions are overwhelming" (p. 27). Schools and districts must proactively tackle disjointedness. Leaders can do this by examining data to determine progress or lack of progress related to programs. Purposeful, necessary changes can then be made. School and district leaders can also be highly selective about the professional development they provide teachers as well as the programs and initiatives that seem popular at the time. A district will make speedier achievement gains if the programs coordinate and compliment one another (Fullan, 1999). Hord et al. (1998) proffer that teachers will better relate to changes if they understand how it will personally affect their own classrooms. Many teachers immediately begin deliberating how the newest reform effort will assimilate with the other programs they use in the classroom.

Lastly, no *silver bullet of change* exists. Each organization possesses its own unique variables; therefore, leaders and members must be consumers of research, critically analyzing the impact of new programs or initiatives. As noted earlier, a perfect theory of change does not exist, either. However, researchers can refine their own theories of change with new information and insights from other change theory researchers (Fullan, 1999).

Fullan (1999) suggests that these lessons not be used in isolation because they are more powerful when used in combination. Unfortunately, these lessons cannot be used as a checklist of sorts; change is much too complex for checklists (Fullan, 2001).

As previously mentioned, individuals are the most powerful catalysts for change. Fullan (1999) identifies those who are conscious of the change process and the nature of change as "change agents" (p. 12). Each change agent needs the following competences to build change capacity. First, he or she must possess personal vision building, which, in turn, contributes to the larger shared vision of the organization—which also changes over time. Second, a change agent must possess habits of inquiry, extending what he or she values. Third, mastery of skills and using mastery as a means to understand more and achieve more is necessary. Lastly, collaboration is key. Without others, individuals experience a ceiling effect in the amount of insight gained (Fullan, 1999).

The strengthening of a reform movement. School reform is primarily for the purpose of increasing student achievement. Teachers who truly want to improve their instruction will welcome successful strategies and behaviors that teachers should display. The 2005 National Teacher of the Year, Jason Kamras, stated, "As a teacher, the ability to know how much impact I can have on students is exciting and empowering" (The Working Group on Teacher Quality, 2007, p. 4).

However, could teachers at schools characterized by a strong culture, a health climate, and high levels of efficacious beliefs find it easier to embody this reform-ready attitude? Could teachers be more willing to embrace reform because of a school's overarching culture of deep thinking, continual learning, and rigorous work? When teachers experience success in the classroom, self-efficacy and motivation increases. Self-efficacy is the belief about one's effectiveness on a certain task or area (Hoy & Hoy, 2003). Self-efficacy influences motivation, and motivation has a direct correlation with school climate (Hoy & Hoy, 2003).

Schools with strong cultures generally hold the same norms and values (Hoy & Hoy, 2003). Collegiality, collaboration, and shared planning are also common elements of school culture (Cavanaugh & Dellar, 1997). Healthy, positive school climates are also characterized by collegial and supportive relationships between teachers and principals (Hoy & Hoy, 2003). Teachers in schools that possess these traits are more likely to work together to provide the most beneficial lessons. The sense of togetherness in the school can alleviate fears of reform.

Klassan and Chiu (2010) and Allinder (1994) found that teachers with high self-efficacy are more willing to implement new strategies. If school leaders promote a strong sense of collective efficacy, teachers will take on the challenge of complex reform. Highly effective teachers can lead professional development sessions as well as mentor other teachers. Teacher leaders can model specific behaviors, characteristics, and strategies known to increase student achievement. Principals can further support new teachers by pairing them with effective teachers and by coaching them in particular areas of weakness. Collegial

relationships among teachers may increase teacher retention and the success of first year teachers.

In a positive school culture and climate, with highly efficacious teachers, principals and teachers are more likely to embrace what can be learned from the reform. Principals may be able to better align programs and initiatives by evaluating current programs using data. Success of school programs and instructional strategies will increase teacher morale, therefore affecting school climate.

Highly efficacious faculties are more likely to embrace reform rather than reject it. Furthermore, if the change is embedded into the culture of the school, the more likely it will be sustained.

The weakening and anticipated demise of a reform movement. One must imagine a struggling school that has high turnover rates. The facilities are dilapidated, and the students are from a dangerous part of town. The teachers are generally young and inexperienced, and their passion for making a difference is waning under pressure from school leaders, parents, and students. Their school consistently has lower test scores than the school across the interstate. The teachers are made aware that the district plans to implement a complex reform in all schools. How would these teachers feel in this school compared to a school with a positive climate and a strong sense of collective efficacy? How would this affect the success of the reform movement? The following discussion advances the hypotheses that school culture and climate as well as teacher and collective efficacy can impact the success of reform movements.

Without a strong culture and climate and high levels of efficacy, confusion and doubts about reform methods may breed frustration in schools. Schools with negative

climates and cultures that breed competition may foster feelings of negativity and frustration, which may also affect student achievement. For example, Pedulla et al. (2003) found that seven out of 10 teachers felt that state policies negatively impacted instruction and 75% of the teachers surveyed felt anxious and pressured due to state mandated testing. This teacher competition may lead to a more closed climate. Teachers may no longer want to collaborate or share ideas. This isolates teachers from one another, which is an indicator of a closed, or unhealthy school climate (Hoy & Hoy, 2003).

Schools with low levels of motivation and negativity will only intensify these feelings of helplessness. A teacher with an already low sense of efficacy could lose all hope. Bandura (1997) found those who have greater self-efficacy tend to be intrinsically motivated to accomplish more challenging tasks with greater effort and persistence. People are less likely to easily give up on problems or tasks if they have a high self-efficacy. However, teachers with low self-efficacious beliefs see little hope that they can change their circumstances by using their own ability. Those with high self-efficacy tend to persevere by finding some element of control. Berman et al. (1997) found that teacher efficacy was a predictor of the continuation of previously federally funded projects. Would reform movements be more successful if leaders were able to provide schools more support in the areas of school culture, school climate, teacher efficacy and collective efficacy?

Chapter Summary

This study amasses foundational and contemporary research on school culture and climate and the connection between the two. The section of the study concerning teacher and collective efficacy begins with the foundational work of Albert Bandura (1977, 1993, 1997) on the construct of self-efficacy and motivation. Teacher and collective efficacy are then

discussed in relation to Bandura's (1997, 1993, 1997) work, Gibson and Dembo's (1984) instrument, Guskey and Passaro's (1994) research, and Tschannen-Moran et al.'s (1998) summation of the research. Change theory is also discussed in relation to school culture, school climate, and collective efficacy. Lastly, the success or failure of the implementation and sustainability of reform movements due to school culture, school climate, teacher efficacy, and collective efficacy is presented.

The literature strongly suggests that school culture is an important aspect of implementing and sustaining change (Allen et al., 1998; Fullan, 2007, 2009). Research also supports the conceptual framework concerning school climate being a manifestation of school culture. School culture greatly affects school climate. Furthermore, research has established the interrelationship among teacher and collective efficacy and school culture and climate.

CHAPTER 3: METHODOLOGY

The purpose of this study is to ascertain what we know about the interaction among the following variables; school culture, school climate, teacher efficacy, and collective efficacy; and to determine their impact on school reform. This study recognizes that many variables influence school reform, many unique to specific districts and schools. However, as presented in the conceptual framework, it is believed that the constructs influence each stage of reform. The overarching question for this study is: What is the relationship or impact of school culture, climate, teacher efficacy, and collective efficacy on reform movements? Three other questions also guide the review of literature. First, what is similar and contrasting among the constructs? Second, how are the constructs interrelated? Third, in what ways can these constructs impact school reform efforts?

As the literature review revealed, each of the previously mentioned concepts affects student achievement; however, reform alone is often the tool policymakers use to increase student achievement. This study seeks to bridge educational research and change theory in order to provide educational leaders tools to approach reform, whether initiated by top-down mandates or a grassroots movement. This study also seeks to validate the presented conceptual framework, which would provide leaders with further understanding concerning reform and other constructs that can greatly affect schools.

Research Design and Rationale

The research questions and hypothesis presented in Chapter 1 correspond to the conceptual framework, which proposes that reform is impacted by school culture, school climate, teacher efficacy, and collective efficacy. The hypothesis is designed to answer Research Question 2.

This study uses quantitative methods to collect and analyze data in order to test the hypothesized relationships and to confirm the conceptual framework. Quantitative methods were sufficient for this study because numerical data representing a population was collected through surveys. Data collected from surveys was aggregated and subjected to statistical analyses, which answers the hypothesis and applies to the broader, similar population. The hypothesis, measures, and analyses for this study are displayed in Table 6.

Table 6
Proposed Analyses for Research Questions and Hypothesis

Research Question/Hypothesis	Measure(s)	Analyses
Research Question 1: What is the latent structure of the newly created Reform Readiness Survey?	RRS: All items	Factor Analysis
Research Question 2: What is the relationship between school culture and reform?	RSCEQ: All items RRS: All items	Bivariate Pearson Correlations
Research Question 3: What is the nature of the interaction among school culture, school climate, teacher efficacy, and collective efficacy?	RSCEQ: All items OCI: All items TSES: All items TEBS-C: All items	Bivariate Pearson Correlations
Research Question 4: What is the nature of the interaction among school culture, school climate, teacher efficacy, and collective efficacy in relation to change?	RSCEQ: All items OCI: All items TSES: All items TEBS-C: All items RRS: All items	Bivariate Pearson Correlations

Research Question/Hypothesis	Measure(s)	Analyses
Hypothesis 1:		
There is a statistically significant, positive relationship between teachers' perception of school culture and change.	RSCEQ: All items RRS: All items	Bivariate Pearson Correlations

Sampling Design

The sample population for this study includes 46 schools located in a centrally located school district in Louisiana. Twenty-eight schools are considered elementary schools, housing students from Pre-kindergarten to fifth grade or Pre-kindergarten to sixth grade. Seven schools are middle schools, three of which house grades sixth through eighth, two house only seventh and eighth grades, and two consist of grades Pre-kindergarten through eighth grades. Eleven schools are high schools, six of which house ninth through twelfth grades. Three schools serve grades Pre-kindergarten through twelfth. Two schools consist of grades seventh through twelfth. More detailed information about each school, such as student demographics, grade-level make up, socio-economic status, and academic performance, is presented in Appendix A.

Upon agreement by the Superintendent, the principals in the district received an invitation for their schools to participate in the study. Each school designated a contact person who served as a liaison between the school and central office for the purpose of assisting with data collection efforts.

Study Measures

Teachers were surveyed through an electronic instrument. Several measures were used in this study in order to find correlations among constructs. The Revised School Culture Elements Questionnaire (RSCEQ) measured school culture. Hoy, Smith, and Sweetland's (2002) Organizational Climate Index (OCI) measured school climate. In order to assess levels of teacher efficacy, Tschannen-Moran's (2001) Teachers' Sense of Efficacy Scale (TSES) was used. Lastly, Olivier's (2001) Teacher Efficacy Beliefs Scale - Collective (TEBS-C) was used to measure collective efficacy. Conceptual definitions of each subscale are presented in Table 7.

Table 7

Conceptualization of Subscales for the RSCEQ

Subscale	Conceptual Definition	Research-based Rationale
Shared Leadership	"Shared leadership is defined as: an ongoing process to accomplish school goals that reflect interpersonal roles and relationships among organizational members grounded in the norms, values, and beliefs of cooperation, sharing, support, and encouragement in work tasks and sensitivity to the problems and difficulties expressed by colleagues" (Olivier, 2002, p. 334)	Olivier (2001) found empirical support for shared leadership as one dimension of school culture.
Collegial Teaching and Learning	"Collegial teaching and learning is defined as: a continual growth process in which teachers prioritize the need to continue to learn as an organizational member for the purpose of enhancing learning through collaborative efforts in order to personally and collectively benefit all students and staff; characterized by collaborative work, shared planning, personal and group reflection, dialogue among teachers,	Hongboontri and Keavkhong (2014) confirmed that school culture affects teachers' instructional practices. Schools that reinforce strong values that promote learning are likely to recruit and maintain teachers who feel the same way.

	incorporation of educational research" (Olivier, 2002, p. 334).	
Professional Commitment	"Professional commitment is defined as: a continuous process that provides opportunities to enhance the professional effectiveness of teachers through a commitment to the continuous improvement of the learning process and a commitment among teachers to serve as sources of help and support for colleagues within the organization" (Olivier, 2002, p. 334).	School culture improves school effectiveness, including improvements in student achievement (Cavanaugh & Dellar, 1997; D' Alessandro & Sadh, 1998; Olivier, 2001; Peterson & Deal, 2009; Stolp, 1994). If all members of the school share the same values, mission, vision, and purpose as well as conform to positive behavioral norms, success is almost inevitable. Increased productivity only occurs when all members of an organization are efficiently working together toward the same goal.

Conceptualization of Subscales for the OCI

Subscale	Conceptual Definition	Research-based Rationale
Institutional Vulnerability	"Institutional Vulnerability is the extent to which the school is susceptible to a few vocal parents and citizen groups. High vulnerability suggests that both teachers and principals are unprotected and put on the defensive" (Hoy et al., 2002, p. 42).	"The open school climate is one in which behavior of both teachers and principals is authentic; teachers and principals respect one another and are 'straight' with each other" (Hoy et al., 2002, p. 39). The closed school climate would be the opposite—teachers and principals are trying to protect themselves from negative community members, thereby being put on the defensive.
Collegial Leadership	"Collegial Leadership is principal behavior directed toward meeting both social needs of the faculty and achieving the goals of the school. The principal treats teachers as col- leagues, is open, egalitarian, and friendly, but at the same time sets clear teacher expectations and standards of performance" (Hoy et al., 2002, p. 42).	Halpin and Croft (1962) analyzed principal-teacher relationships and teacher-teacher relationships. An open school climate is characterized by supportive behavior from the principal and collegial behavior among teachers. The principal listens to his teachers and provides constructive feedback; teachers collaborate and accomplish tasks with fidelity.
Teacher Professionalism	"Professional Teacher Behavior is marked by respect for colleague competence, commitment to students, autonomous judgment, and mutual cooperation and support of colleagues" (Hoy et al., 2002, p. 42).	Teachers' interactions impact school climate. "A healthy school climate is imbued with positive student, teacher, and administrator interrelationships (Hoy et al., 2002, p. 39.) In a healthy school climate, new teachers are able to collaborate and be mentored by veteran teachers, and they feel successful in the classroom. This increases teacher retention (Billingsley, 2004).

Achievement Press	"Achievement Press describes a school that sets high but achievable academic standards and goals. Students persist, strive to achieve, and are respected by both students and teachers for their academic success. Parents, teachers, and the principal all exert pressure for high standards and school improvement" (Hoy et al., 2002, p. 42).	"Healthy schools have good relationships with the community. In brief, the interpersonal dynamics of the school are positive" (Hoy et al., 2002, p. 39).

Conceptualization of Subscales for the TSES

Subscale	Conceptual Definition	Research-based Rationale
Instructional Strategies	The pedagogical choices made by the teacher in order to teach skills and concepts.	Dembo and Gibson (1985) exert that teachers with strong efficacy beliefs feel competent in content knowledge and pedagogy, and they tend to spend more time providing engaging, whole group instruction. Tschannen-Moran and Hoy (2001) found that after correlating the TSES with other notable efficacy measures, the instructional strategies factor was strong.
Classroom Management	The ability of the teacher to manage behavior and events in a classroom, including the "instructional challenges of responding to the needs of capable students as well as using a variety of instructional strategies to promote student thinking" (Tschannen-Moran & Hoy, 2001, p. 799).	Highly efficacious teachers persist despite negative interactions with difficult students. Said individuals hold strong in their beliefs in themselves as well as their students (Hoy & Hoy, 2003). Tschannen-Moran & Hoy (2001) report that participants in their study confirmed that "classroom management is an important element of teaching" (p. 798).

Student Engagement	Student interest and commitment to the learning task.	Teacher efficacy has a greater effect on achievement than student socioeconomic status (Bandura, 1993; Goddard et al., 2000). Teachers who scored in the top ranges on the teacher efficacy instrument were likely to persist longer and have a stronger focus on student learning than teachers who scored lower on the instrument (Dembo & Gibson, 1985). Tschannen-Moran and Hoy (2001) found that after correlating the TSES with other notable efficacy measures, the subscale for student engagement was indeed strong.

Conceptualization of Subscales for the TEBS-C

Subscale	Conceptual Definition	Research-based Rationale
Collective Efficacy	Bandura (1997) describes collective efficacy as "a group's shared belief in its conjoint capabilities to organize and execute the courses of action required to produce given levels of attainments" (p. 477).	Schools can develop a strong sense of collective efficacy and raise student achievement in the process (Bandura, 1993, 1997; Hoy & Hoy, 2003; Moolenaar, Sleegers, & Daly, 2012). Olivier's (2002) study "provides support for teachers within schools having strong collective self-efficacy beliefs in their capabilities to improve student academic performance to challenge each other to work hard toward improvement" (p. 287).

Revised School Culture Elements Questionnaire (RSCEQ)

The RSCEQ was originally developed from Cavanagh's (1997) measure, the School Culture Elements Questionnaire (SCEQ). The SCEQ stemmed from Cavanaugh's noteworthy research concerning the aspects of school culture, and was used to measure teachers' perceptions of school culture in Western Australia. The SCEQ measured eight subcomponents: professional values, teachers as learners, mutual empowerment, transformational leadership, collegiality, collaboration, school wide planning, and shared vision (Cavanagh, 1997). In 1998, Bobbett, Olivier, Ellet, Ruggett, and Cavanagh (1998) adapted the measure to include more items, and later, researchers identified five subscales: shared leadership and vision, professional values, professional growth, professional commitment, and professional relationships.

Using the same five subscales, Olivier (2001) reduced the measure to 20 questions that represent teachers' perceptions of school culture, which was grounded in values, beliefs, and norms concerning their own personal behaviors within the school. This supports Van Houtte's (2005) statement concerning culture and climate research: "Climate researchers measure how the organization members perceive the organizational climate, while culture researchers look for what members think and believe about themselves" (p. 75).

Each of the 20 items in Olivier's (2001) measure, the Revised School Culture Elements Questionnaire (RSCEQ), was used in this study due to Olivier's selection process of each item, which involved choosing items with the highest loadings. The measure used a four-point forced choice selection process ranging from 1 = *Strongly Disagree* to 4 = *Strongly Agree*. In order to better capture teachers' personal behaviors and feelings, the RECEQ consists of two sections: actual and preferred. The actual section of the survey

addresses the teachers' feelings about how their schools currently are. The preferred section of the survey addresses what the teachers prefer their school to be like. This study used the actual section of the survey.

In order to create consistency for readers, all measures in this study, including the RSCEQ, used a six-point Likert scale ranging from 1 = *Strongly Disagree* to 6 = *Strongly Agree*. The RSCEQ can be found in Appendix C.

Validity of the RSCEQ. Face validity of the original measure, the SCEQ, was established by several researchers after a thorough examination of the literature and previous studies concerning school culture. Furthermore, subsequent studies confirmed the content validity of the SCEQ through factor analyses (Olivier, 2001). However, these studies also spurred a modification of the SCEQ, identifying three factors, which were then further validated: leadership and vision, collegial teacher and learning, and professional commitment (Olivier, 2001). Olivier's (2001) factor analysis further corroborated previous studies by analyzing the same three factors.

Reliability of the RSCEQ. Due to the measure being refined over time, Cronbach alpha coefficients have improved. Olivier (2001) found that the optimal statistical and conceptual analysis for RSCEQ data was a three-factor, orthogonal solution. The three constructs and their Cronbach alpha reliability coefficients are as follows: Shared Leadership (.96), Collegial Teaching and Learning (.88), and Professional Commitment (.88) (Olivier, 2001.)

Organizational Climate Index (OCI)

Hoy, Smith, and Sweetland (2002) created the Organizational Climate Index (OCI) in an attempt to capture the essence of Haplin and Croft's (1963) open-closed framework for

climate and the healthy-unhealthy description of climate that Hoy and Hoy (2003) discuss. Before creating the OCI, the researchers found overlapping elements in both the Organizational Climate Description Questionnaire and the Organizational Health Inventory, and they created a new measure, the OCI, using four general dimensions of climate: environmental press, collegial leadership, teacher professionalism, and academic press.

During the development of the instrument, several items were selected, a factor analysis was conducted, the conceptual framework was modified, the dimensions of climate were identified, and the reliability was checked for each dimension (Hoy et al., 2002). When selecting items, researchers analyzed 95 items and reduced the measure to 30 items, which were unanimously chosen.

During the principal-axis factor analysis, two items did not as expected: *parents exert pressure to maintain high standards* and *parents press for school improvement.* Although the researchers expected the item to load on environmental press, they loaded on academic press. Therefore, Hoy et al., (2002) renamed the dimension, originally academic press, to achievement press. They then reconsidered the items associated with environmental press, realizing that the negative tone associated with those items could be revised in order to portray a neutral tone. The new dimension resulting from these revisions is institutional vulnerability. Therefore, the OCI used in this study used the same four dimensions: institutional vulnerability, collegial leadership, professional teacher behavior, and academic press.

The OCI originally used a four-point Likert scale; however, in order to gain consistency for readers, each measure in this study possessed a 6-point Likert scale ranging from 1 = *Strongly Disagree* to 6 = *Strongly Agree*. The OCI can be found in Appendix A.

Validity of the OCI. Hoy et al. (2002) conducted a factor analysis to determine construct validity. As predicted for each dimension, the items loaded strongly.

Reliability of the OCI. The four dimensions for the OCI were measured as separate subtests. The alpha coefficients are as follows: collegial leadership (.94), professional teacher behavior (.88), achievement press (.92), and institutional vulnerability (.87) (Hoy et al., 2002).

Teachers' Sense of Efficacy Scale (TSES)

Originally named the Ohio State Teacher Efficacy Scale (OSTES), the TSES emerged from Tschannen-Moran and Hoy's (2001) realization that a need for a teacher efficacy measure that was both reliable and valid existed. After the researchers' examination of preceding studies, they learned that capturing the elusive construct was difficult due to a lack of clarity of factors, inconsistencies in factor analyses, and issues with measures being either too context-specific or too broad. Gibson and Dembo (1984) grappled with self-efficacy and outcome expectancy, and Guskey and Passaro (1994) later attributed the distinction to the differences between internal and external factors.

Using past research and confirming the idea from Tschannen-Moran et al. (1998) that teacher efficacy measures must address both personal teaching competence and the analysis of the teaching task, Tschannen-Moran and Hoy (2001) began creating the TSES with the help of seminar participants. In addition to Bandura's measure, the participants created a pool of 100 items, which were reduced to 52 total items, with 23 items attributed to Bandura. Subsequent studies reduced the item pool to 32, then to 18 items with three subscales. A third study tested 18 new items. Finally, the resulting TSES consisted of a long form with 24 items and a short form comprised of 12 items. This study used the short form of the TSES because

teacher efficacy is not the sole focus of this study. Additionally, the TSES items were sufficiently desirable to measure teacher efficacy in this study. Other measures were used within this study, and the endurance of the participants was considered.

Three subscales are used in the TSES: efficacy for instructional strategies, efficacy for classroom management, and efficacy for student engagement. The short form of the TSES uses four items to measure each subscale, while the long form uses eight. The TSES uses a Likert scale ranging from one to nine, with 1 = *none at all*, 3 = *very little*, 4 = *some degree*, 7 = *quite a bit*, and 9 = *a great deal* as each represents a degree on a continuum.

In order to gain consistency for readers, this study used a six-point Likert scale for the TSES ranging from 1 = *Strongly Disagree* to 6 = *Strongly Agree*. The TSES can be found in Appendix A.

Validity of the TSES. When testing the construct validity of the TSES, Tschannen-Moran and Hoy (2001) correlated participants' responses with other teacher efficacy measures, such as Rotter's (1966) study, and the Gibson and Dembo (1984) measure of teacher efficacy. Results were similar to other teacher efficacy measures, indicating high correlations; however, correlations were slightly lower when correlated to the locus of control measure by Rotter (1966). The researchers attribute this to the fact that Rotter (1966) was not solely measuring teacher efficacy. Unlike other measures, however, the TSES captures larger breadth of teaching tasks.

Reliability of the TSES. Two separate factor analyses were conducted for the TSES, one for the long form and one for the short form. Initially a principal-axis factoring with varimax rotation was used to discover the variance of the inservice teachers' responses, which was 54% for the long form and 65% for the short form. When preservice teachers'

responses were extracted, the variance changed to 57% for the long form and 61% for the short form. This study, however, did not use responses from any preservice teachers (Tschannen-Moran and Hoy, 2001).

A second order factor analysis revealed that both the long form and the short form are appropriate to use as a measure of teacher efficacy. The reliability was 0.94 for the long form and 0.90 for the short form (Tschannen-Moran and Hoy, 2001).

Teacher Efficacy Beliefs Scale—Collective Efficacy (TEBS-C)

Olivier (2001) used Bandura's (1997) *Guide for Constructing Efficacy Scales* when developing the Teacher Efficacy Beliefs Scale (TEBS) and the TEBS-C. This study used only the ten statements in the TEBS-C in order to measure collective efficacy. During the development of the surveys, Olivier (2001) used a panel of readers to rate items by level of importance concerning both constructs presented—teacher self-efficacy and collective efficacy. The highest rated items were used, modifying the measure from 51 to 30 statements. Ten items specifically concern collective efficacy. Unlike a self-efficacy measure, the TEBS-C asks teachers to make judgments concerning the collective strength of the entire faculty by reading the statements and selecting numbers that correspond with their points of view. The Likert scale on the original survey was four-points, ranging from 1 = *weak beliefs* in our capabilities, 2 = *somewhat strong beliefs* in our capabilities, 3 = *strong beliefs* in our capabilities, to 4 = *very strong beliefs* in our capabilities.

In order to gain consistency for readers, this study used a six-point Likert scale for the TEBS-C, ranging from 1 = *Strongly Disagree* to 6 = *Strongly Agree*. The TESB-C can be found in Appendix A.

Validity of the TEBS-C. Olivier (2001) used a series of factor analyses to further delineate the scale constructs. During the development of the measure, face validity was established through a thorough review of the literature and the examination of established efficacy measures.

Reliability of the TEBS-C. One-factor and two-factor solutions were generated for the TEBS-C. In the one-factor solution, the factor loadings ranged from .72 to .83, and the one-factor solution accounted for 61.37% of the variance. All ten items were present in the one-factor solution. While the two-factor solution accounted for 68.69% of the variance, it only accounted for two items and decreased the strength of the item factor loadings for several items loading on Factor 1. Olivier (2001) chose to treat the measure as uni-dimensional, representing teachers' beliefs about their faculties' collective capabilities. Cronbach Alpha internal consistency reliabilities were computed, yielding a .96 for the TEBS-C (Olivier, 2001).

Reform Readiness Survey (RRS)

The Reform Readiness Survey (RRS) is an assessment designed to determine the current status of schools concerning the domains of culture, climate, teacher efficacy, collective efficacy, and change research, before embracing reform. The questionnaire assesses perceptions of teachers about their schools in relation to change. This researcher wrote each item in the measure by synthesizing literature concerning each of the constructs in the conceptual framework (see Appendix C).

The RRS contains a number of statements about teachers' perceptions of themselves, their school faculties, and their administrators. Teachers were asked to read each statement and use a scale to select the scale point that best reflected their personal degrees of agreement

with the statements. The RRS used a six-point Likert scale: 1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Somewhat Disagree*, 4 = *Somewhat Agree*, 5 = *Agree*, and 6 = *Strongly Agree*. Comments after each dimension were optional. Teachers were reminded to consider the school in which they currently work when selecting responses and that all responses were anonymous.

Validity of the RRS. Due to the novelty of the RRS, the psychometric quality of the measure needed to be tested; therefore, several methods of validation were used. First, face validity was established through an expert panel including individuals with 7 years to 43 years of experience in public education from the following groups: university professors, school level administrators, central office administrators, and teachers. The members of the panel were familiar with each construct and the stages of change, and each item was reviewed for relevance and clarity. The measure was rated by each member, and based on their feedback, items were added, removed, or modified. The RRS was also piloted for the purpose of item reduction, and the measure was modified using the results of the factor analysis. The sample for the pilot did not include respondents that were participants in the final survey. Although the pilot survey had 56 items, the researcher anticipated that after item reduction, the final instrument would include 20 to 30 items. Although face validity is often necessary for a new measure, construct validity was preferred and was determined through a secondary factor analysis after the survey had been given to the sample population for this study.

Reliability of the RRS. Reliability of the RRS was analyzed after conducting a factor analysis including principal components and varimax rotation procedures. Survey items were further reduced after factor analyses revealed reliability coefficients.

Data Collection and Processing

Prior to collecting data, the University of Louisiana at Lafayette (UL Lafayette) Institutional Review Board was contacted to seek and obtain approval regarding the features and instrumentation of the study. The UL Lafayette Institutional Review Board also determined that this study met all the conditions of survey research involving human subjects, including full disclosure, voluntary, and confidential for exemption from institutional oversight.

Although the district in which the study was conducted had many teachers, in order to reduce bias, especially at the school level, a concerted effort was made to maximize the awareness of the importance of the study. The researcher worked with the Superintendent of the district to create a plan to ensure full participation of the teachers, which included an explanation of the study.

The Superintendent was initially contacted by letter, which explained the purpose of the study and the potential benefits to the district. The letter also detailed the logistics of the survey, such as who was selected as participants and the research process, including the methods of data collection. Most importantly, the letter sought permission for all teachers across the district to participate in the study. Upon agreement of the Superintendent, the principals were contacted in writing to participate in the study. Principals agreeing to participate in the study designated a school contact person to assist with data collection efforts. Although the survey instrument was sent via email to all participants, a cover letter was attached which outlined the purpose and significance of the study, particularly to the school district.

Participants in the study accessed the instrument by using SurveyMonkey, an online program designed for survey research and critical analysis. The researcher chose SurveyMonkey due to the ease of distributing the survey and collecting data electronically. Data were exported to IBM SPSS Statistics, a program that conducts statistical analyses. Other benefits to using SurveyMonkey were being able to use an unlimited number of questions and responses, to generate and customize charts and graphs, and to randomize questions.

SurveyMonkey also allowed the researcher to ensure anonymity of the participants by disabling the IP tracking devices. Furthermore, enabling the Secure Sockets Layer (SSL) encryption protected collected data as a secure server transmitted it. At the end of the survey, the participants could choose to withdraw from the study before submitting responses. The researcher attained written permission to use SurveyMonkey for the purpose of social science research.

Participants were assured of the anonymity of their choices and the security of the data collected in the cover letter and at the beginning of the survey. The participants were asked to complete the survey during a two-week period. Reminder emails were sent in order to encourage participation over the two weeks. The researcher refrained from conducting statistical analyses until all data had been received at the end of the two-week period.

Ethical Considerations

As stated before, prior to data collection, the UL Lafayette Institutional Review Board was contacted in order to seek approval of data collection methods involving human subjects. The researcher did not have to implement any changes to data collection procedures. Due to the quantitative data collection techniques, all responses remained anonymous.

SurveyMonkey allowed all responses to be anonymous and users to withdraw from the survey any time before submitting responses. Moreover, to ensure participant anonymity and to ensure candid responses, the researcher chose to limit demographic questions at the beginning of the survey. The researcher did not know the true identity of anyone participating in the survey thus ensuring no repercussions for individuals within the school district. Lastly, raw were not disseminated to any other party.

Data Analyses

Upon collection of data, a variety of data analyses methods were used to examine the psychometric characteristics of the study measures, test the research hypothesis, and answer the additional research questions. Data were imported from SurveyMonkey and analyzed using Statistical Product and Service Solutions (SPSS). Specific quantitative tests and their corresponding research questions or hypothesis were presented in Table 6. These analyses included:

1. A summary of descriptive statistics relating to the sample, including demographic information, and descriptive statistics pertaining to the items and subscales of each measure, including means, standard deviations, and ranges;
2. Factor analyses procedures, including principal components and varimax rotation procedures to examine construct validity and the latent structure of the RRS;
3. Cronbach Alpha reliability analyses in order to examine the internal consistency and reliability of the subscales within the RRS;
4. A series of bivariate correlations in order to examine the relationships among the variables in the study for the purpose of testing the conceptual model.

Each of the preceding analyses is discussed at length in the following section.

Descriptive Statistics

Descriptive statistics are valuable to ascertain because the researcher is able to organize and summarize the data set (Gall, Gall, & Borg, 2007). In addition to the descriptive statistics that were reported for each survey item and subscale, such as means, standard deviations, modes, and ranges, descriptive statistics for the population sample was also made available. At the end of the survey, teachers identified the years of teaching experience, the name of the school in which they taught, and the grade level to which they were currently assigned. Each demographic question involving years and grade levels will present options as numerical ranges, such as *0 to 3 years*, *4 to 15 years*, *16+ years*, and *grades Pre-K to 4th*, *grades 5th through 8th*, *grades 9th through 12th*. This provided the researcher with a more accurate picture of the sample before generalizing results to larger populations. Furthermore, the researcher was able to find statistical differences within the population.

Factor Analysis

Construct validity was determined by a factor analysis. According to Gall et al. (2007), "Factor analysis provides an empirical basis for reducing all these variables to a few factors by combining variables that are moderately or highly correlated with each other" (p. 369). Survey participants who strongly agree with one item may also strongly agree with another item, therefore forming groupings that may yield underlying patterns in the way participants' belief systems are structured (Gall et al., 2007). The variables in the RRS are related conceptually as demonstrated by the literature; therefore, a factor analysis was appropriate for the measure. This study used one of three methods of orthogonal rotation—varimax rotation, which is suggested as a "good general approach that simplifies the interpretation of factors" (Field, 2013, p. 681).

Cronbach's Alpha Reliability

Ideally, a person taking the RRS at one moment time will score similarly if he takes the RRS at a different time, supposing all other outside variables remain the same. Reliability of the RRS was explored using Cronbach's Alpha, which is a common measure of internal reliability (Gall et al., 2007). The researcher explored variance within each item and the covariance between one item and any other items on the scale.

Bivariate Correlations

Gall et al. (2007) explain that Pearson product-moment correlations are ideally used for variables expressed as continuous scores. Additionally, it is the most widely used technique because of the stability of the measure. In order to test the relationships between subscales for each measure, the researcher used bivariate correlations using Pearson product-moment procedures. However, before the correlations could be tested, the following assumptions were tested: linearity of the data, which assumes a linear relationship exists between two variables; normality of the data, which assumes that data is normally distributed along the bell curve; and homogeneity of variance, the assumption that the within group variances are equal.

The Pearson's correlation coefficient not only measures the nature of the relationship, but the strength of the relationship, with correlations ranging from -1.0, indicating an absolute negative relationship, to a +1.0, indicating an absolute positive relationship. The closer the number is to +1.0, the stronger the positive relationship is. If the Pearson's correlation coefficient is 0.0, no relationship exists (Sirkin, 2006).

Chapter Summary

Chapter Three presented an overview of the methodology for this study, including the research design and rationale, the sampling design and procedures, each measure and details concerning its reliability and validity, data collection and processing procedures, and an overview of statistical analyses that will address the research questions and hypothesis. Chapter Four that follows will present the results of the data analyses.

CHAPTER 4: RESULTS OF ANALYSES

This chapter presents the results of the data analyses for this study, including descriptive statistics pertaining to the characteristics of the sample as well as for each measure used in the study, Pearson correlations for each variable in the study, and a factor analysis of the Reform Readiness Survey (RRS). Additionally, the psychometric qualities of the RRS are reported, including reliability analyses and inter-item correlations for the factored subscales. The results pertaining to the research questions in the study are also outlined in Chapter Four.

The order of analyses presented is as follows: (a) descriptive statistics and demographics for the survey sample; (b) descriptive statistics for each measure, including means, standard deviations, and percentages of maximum possible scores; (c) factor analyses of the RRS; (d) descriptive statistics for the factored variables; (e) Pearson correlations among study variables; and (f) reliabilities of the data for the factored measure. Results pertaining to each analysis are presented in tables throughout the chapter.

The study used several instruments that possess multiple subscales, such as the Revised School Culture Elements Questionnaire (RSCEQ), Organizational Climate Index (OCI), Teacher Self Efficacy Scale (TSES), Teacher Efficacy Belief Scale-Collective Efficacy (TEBS-C) and the RRS. These subscales were correlated and analyzed to determine strengths of correlations. Summaries of the descriptive statistics and correlations for the measures can be cross-referenced for item content with the survey instruments in Appendix C.

Summary of the Descriptive Statistics for Survey Sample

The sample for the study was drawn from a large district in central Louisiana with 47 brick-and-mortar schools that are representative of schools around the state (e.g., school grade configuration, school letter grades [based on student performance], and rural/urban nature). All principals in the district volunteered their schools to participate in the study, thereby yielding 100% participation of schools across the district, not including non-traditional schools, such as virtual schools. The principals sent the survey link to all teachers at their own schools with a sample letter that stated the survey was voluntary and anonymous.

The sample population included only teachers, exclusive of paraprofessionals or administrative personnel. The school district employs a total of 1, 607 teachers, including virtual-school teachers, and 1,230 teachers volunteered to complete the survey, which is a 77% rate of participation. However, several participants did not complete a significant portion of the survey; therefore, several surveys were deemed unusable.

As outlined in Chapter Three, the survey given was a combination of several measures—RRS, RSCEQ, SCI, TSES, and TEBS-C. The researcher used the randomizing effect for survey pages following the RRS, thereby increasing the validity of the data. Questions within each page were also randomized through Survey Monkey. Participants who completed the entire RRS and excluded the remaining measures were included in the analyses. In contrast, those who completed only a portion of the first measure in the survey were not included in the sample. A total of 1,155 respondents remained in the sample, which yields a 72% completion rate.

The final portion of the survey was used to gain demographic information from teachers. Ninety-eight teachers did not choose to indicate the school in which they teach, which accounts for 8.5% of the 1,155 usable surveys. Table 8 provides a summary of the rates of participation per school. Of the 47 schools, the rate of participation ranged from a high of 100% participation to a low of 27% participation. Fifty-seven percent of schools had a rate of participation higher than 70%.

Table 8

Rate of Participation per School Yielding Usable Surveys

School Code	Teaching Staff	n	%
1	23	22	96%
2	30	20	67%
3	76	34	45%
4	20	18	90%
5	56	32	57%
6	43	21	49%
7	52	18	35%
8	28	21	75%
9	30	27	90%
10	66	18	27%
11	42	22	52%
12	49	46	94%
13	20	12	60%
14	12	10	83%

School Code	Teaching Staff	n	%
15	21	19	90%
16	30	28	93%
17	17	8	47%
18	20	8	40%
19	40	35	88%
20	21	21	100%
21	54	46	85%
22	34	29	85%
23	39	20	51%
24	27	25	93%
25	27	13	48%
26	79	66	84%
27	40	23	56%
28	22	20	91%
29	24	24	100%
30	26	21	81%
31	11	6	55%
32	16	14	88%
33	23	21	91%
34	22	13	59%
35	25	25	100%
36	17	15	88%

School Code	Teaching Staff	n	%
37	28	14	50%
38	19	18	95%
39	41	41	100%
40	64	29	45%
41	36	19	53%
42	30	24	80%
43	14	10	71%
44	49	21	43%
45	25	21	84%
46	31	27	87%
47	23	12	52%
*		98	
Total	1230	1155	94%

n = number of participants yielding usable survey per school

* These surveys were usable, yet no school was indicated by participants.

Other demographic information gained from the survey was limited to the number of years teaching and the grade-span in which each teacher serves. Descriptive statistics were computed to determine sample sizes, means, and standard deviations. Table 9 outlines the descriptive statistics for the demographic characteristics for the participants.

Table 9

Demographic Characteristics of Total Participants (N =1155)

Characteristic	Frequency	Percent	Valid Percent
Grade level currently teaching			
Pre-K - 3	435	37.7%	41.5%
4 - 8	365	31.6%	34.8%
9 - 12	249	21.6%	23.7%
Total responses received	1049	90.8%	100.0%
Missing	106	9.2%	
Total number of participants	1155	100%	
Total years teaching experience			
0 - 3	174	15.1%	16.3%
4 - 15	476	41.2%	44.7%
16 +	416	36.0%	39.0%
Total responses received	1066	92.3%	
Missing	89	7.7%	
Total number of participants	1155	100%	

Approximately 90.8% responded to the demographic question concerning grade-span taught. A total of 37% of respondents teach grades Pre-K through third grade, 31.6% teach grades fourth through eighth, and 21.6% were high school teachers, grades ninth through twelfth. However, concerning years of teaching experience, only 7.7% did not respond to the

question. The majority of teachers had 4 to 15 years of teaching experience, with 41.2% of the respondents falling in this category. Those who had more than 16 years of teaching experience fell in the next largest category, accounting for 36% of the population. Those with 0 to 3 years of teaching experience accounted for the smallest percentage with only 15.1%. Table 10 presents the crosstabulation concerning number of years experience with grade span taught.

Of the 435 teachers serving in pre-kindergarten to second grade, approximately 50% or 216 teachers, have taught between four to fifteen years. For teachers in grades three through eight, those teaching in each grade span is more evenly distributed with 77 having 0 to 3 years of experience, 162 having 4 to 15 years of experience, and 124 having 16 or more years of experience. Only 26 high school teacher respondents, grades 9 through 12, have taught less than four years.

Table 10

Crosstabulation of Demographic Frequencies

	Years 0 - 3		Years 4-15		Years 16+		Total
	#	%	#	%	#	%	#
Pre-K - 2	71	6.8	216	20.7	148	14.2	435
3 - 8	77	7.3	162	15.5	124	11.9	363
9 - 12	26	2.4	90	8.6	130	12.5	246
Total	174	16.7	468	44.8	402	38.5	1044

Summary of Descriptive Statistics for Survey Items

Descriptive statistics were computed for each survey item including the number of respondents, the mean, the standard deviation, and the variance for each item in the entire

survey. Table 11 is organized by each measure within the survey, beginning with the RRS and ending with the TEBS-C. Although each measure after the RRS was randomized, the number of respondents tends to decrease per measure. Fortunately, the sample size remains quite large.

As noted in Chapter Three, the researcher modified the scale of each measure to a six-point Likert scale, with 1 representing *strongly disagree* or *never occurs* and 6 representing *strongly agree* or *always occurs* in order to create consistency for the reader. Each of the five surveys will be briefly discussed in light of the entire sample.

The RRS has largest numbers of respondents for each question, with the lowest number of respondents being 1147 and the highest being 1155. The researcher intentionally placed the RRS at the beginning of the survey in order to get enough respondents to complete a strong factor analysis. The two items with the lowest means (3.786 and 3.674 consecutively) are *teachers at my school are optimistic about state reform efforts* and *reform mandates positively influence morale at my school*. The item with the highest mean (5.334), *I am confident in my ability to teach what my students need to know despite policy changes,* also had a low variance at a .636. The next highest item mean (5.204) was *my administration exhibits confidence in the faculty's ability to implement changes in their classrooms.* This item also had a small variance across the sample at .878. It can be inferred that the sample generally has confidence in their practices, yet has a poor outlook on state reform efforts.

Table 11

Summary of Item Means, Standard Deviations, Variances, and Number of Response for Each Measure: the RRS, the RSCEQ, the OCI, the TSES, and the TEBS-C

Survey Measure Item	*n*	*M*	*SD*	*VAR*
Reform Readiness Survey				
1. Teachers at my school are optimistic about district reform efforts.	1153	4.088	1.3193	1.740
2. Teachers at my school are optimistic about state reform efforts.	1151	3.786	1.3356	1.784
3. Reform mandates positively influence morale at my school.	1148	3.674	1.3850	1.918
4. Our school embraces reform as an avenue to improve student performance.	1147	4.483	1.1419	1.304
5. Teachers at my school willingly adopt change.	1151	4.430	1.1268	1.270
6. My school's reform efforts motivate faculty to create new goals for school improvement.	1147	4.602	1.1173	1.248
7. Teachers at this school have a positive attitude toward administrators' reform efforts.	1155	4.554	1.2085	1.460
8. Teachers at this school view change as an opportunity to increase student achievement.	1152	4.585	1.0988	1.207

Survey Measure Item	*n*	*M*	*SD*	*VAR*
9. Teachers at my school readily accept new administrative directives related to reform.	1151	4.493	1.1556	1.335
10. In the initial stages of reform, faculty members at my school remain positive.	1148	4.309	1.1984	1.436
11. Traditions at my school enhance the implementation of new ideas.	1150	4.627	1.0859	1.179
12.Teachers are provided with the necessary resources to implement reform.	1154	4.131	1.4329	2.053
13. Professional relationships among faculty members enhance the implementation of new reform policies.	1148	4.813	1.0940	1.197
14. I believe I have the capability to implement reform.	1154	5.177	.8381	.702
15. I am capable of implementing curricular changes due to reform efforts.	1150	5.155	.8522	.726
16. As a member of my school staff, I believe I am vital in our efforts for school reform.	1149	5.165	.9003	.811
17. I am confident in my ability to teach what my students need to know despite policy changes.	1153	5.334	.7974	.636

Survey Measure Item	*n*	*M*	*SD*	*VAR*
18. I believe that I can positively impact learning while implementing mandates.	1154	5.123	.9089	.826
19. I able to maintain my creativity while implementing mandates.	1154	4.669	1.2119	1.469
20. I believe I can implement changes in my classroom to increase student performance.	1152	5.187	.8459	.715
21. I believe that I am capable of successfully implementing new initiatives while teaching difficult students.	1154	4.841	1.0626	1.129
22. My successes in teaching contribute to my confidence in implementing reform.	1153	4.925	1.0735	1.152
23. I am motivated to change my own classroom practices.	1154	5.029	.9438	.891
24. I am confident in my ability to manage difficult students during reform.	1153	4.944	.9857	.972
25. Our faculty's high level of efficacy contributes to teacher success during reform changes.	1154	4.854	.9694	.940
26. Our faculty's high level of efficacy contributes to student success during reform changes.	1152	4.885	.9500	.903

Survey Measure Item	*n*	*M*	*SD*	*VAR*
27. Our faculty is able to address barriers in order to successfully accomplish the designated task.	1154	4.873	.9792	.959
28. Teachers at my school are capable of supporting one another when faced with change.	1153	5.167	.9391	.882
29. Our faculty is capable of utilizing reform to achieve higher levels of performance.	1150	5.006	.9259	.857
30. Teachers at my school are capable of changing instructional practices.	1149	5.098	.8594	.739
31. Our faculty believes they can impact student performance in the face of varying reform efforts.	1147	5.024	.9272	.860
32. My administration exhibits confidence in the faculty's ability to implement changes in their classrooms.	1150	5.204	.9371	.878
33. Our faculty is capable of addressing challenging reform efforts.	1149	5.106	.8691	.755
34. School administrators seek to coordinate current and new initiatives.	1151	5.144	.8993	.809
35. School administrators increase their level of support as the change process becomes more complex.	1150	4.950	1.1129	1.239

Survey Measure Item	*n*	*M*	*SD*	*VAR*
36. During reform, administrators actively problem solve.	1151	4.983	1.0833	1.174
37. School leaders maintain focus on the purpose of reform.	1145	5.041	.9873	.975
38. Our faculty uses conflict to enhance reform efforts.	1145	4.256	1.3432	1.804
39. School leaders address anxiety associated with change.	1147	4.574	1.3019	1.695
40. Our school's vision is either assessed or revisited during times of change.	1149	4.849	1.0859	1.179
41. The actions of my administrators foster positive transitions throughout major changes.	1148	4.908	1.1558	1.336
42. District leaders offer helpful support throughout reform processes.	1146	4.234	1.3547	1.835
Revised School Culture Elements Questionnaire				
43. Administrators provide visible, ongoing support for new school programs and ideas.	1111	5.022	1.0343	1.070
44. Teachers are willing to help each other when problems arise.	1108	5.319	.8334	.695

Survey Measure Item	*n*	*M*	*SD*	*VAR*
45. Teachers give priority to helping their students develop higher order thinking skills.	1107	5.198	.8189	.671
46. Administrators are sympathetic with problems and difficulties encountered by teachers in their work.	1111	4.880	1.2262	1.504
47. Teachers share classroom experiences with each other to improve their understanding of students' learning.	1109	5.267	.8481	.719
48. Teachers incorporate the findings of educational research into their own teaching and learning practices.	1110	5.031	.9053	.820
49. Administrators work to ensure the cooperation of teachers.	1107	5.056	1.0488	1.100
50. Teachers openly share problems with each other.	1106	5.150	.9268	.859
51. Teachers believe that all students can learn.	1110	5.277	.8786	.772
52. Administrators visibly encourage teachers to be the best that they can be in the classroom.	1113	5.212	1.0240	1.049
53. Teachers professionally share and learn from one another.	1110	5.309	.8392	.704

Survey Measure Item	*n*	*M*	*SD*	*VAR*
54. Teachers are committed to professional growth to improve teaching and learning.	1112	5.270	.8288	.687
55. Teachers and administrators work cooperatively in developing new school programs and policies.	1110	5.005	1.0889	1.186
56. Teachers encourage each other to use professional judgment when making decisions.	1110	5.224	.8636	.746
57. Teachers adequately plan teaching and learning activities to accommodate individual differences among students.	1109	5.143	.8477	.719
58. Teachers receive the assistance they need from administrators and colleagues to enhance the quality of teaching and learning in their classrooms.	1110	4.961	1.1071	1.226
59. Teachers feel comfortable in providing suggestions to colleagues about ways in which to improve teaching and learning in their classrooms.	1108	5.051	.9928	.986
60. Teachers spend time in professional reflection about their work.	1111	4.986	.9562	.914
61. Leadership roles are equally shared by teachers and administrators.	1106	4.693	1.2356	1.527

Survey Measure Item	*n*	*M*	*SD*	*VAR*
62. Teachers spend time together informally discuss ways to improve the school.	1107	4.949	1.0908	1.190
Organizational Climate Index				
63. The principal explores all sides of topics and admits that other opinions exist.	1109	4.645	1.2416	1.542
64. A few vocal parents can change school policy.	1102	2.944	1.2943	1.675
65. The principal treats all faculty members as his or her equal.	1107	4.626	1.4043	1.972
66. The principal is friendly and approachable.	1114	5.060	1.2031	1.447
67. Select citizen groups are influential with the board.	1092	3.601	1.3860	1.921
68. The school sets high standards for academic performance.	1112	5.406	.8982	.807
69. Teachers help and support one another.	1111	5.237	.9702	.941
70. The principal responds to pressure from parents.	1092	3.813	1.5437	2.383
71. The principal lets faculty know what is expected of them.	1109	5.377	.9281	.861
72. Students respect others who get good grades.	1110	4.525	1.1633	1.353

Survey Measure Item	*n*	*M*	*SD*	*VAR*
73. Teachers feel pressure from the community.	1106	3.418	1.4624	2.138
74. The principal maintains definite standards of performance.	1108	5.268	.9810	.962
75. Students seek extra work so they can get good grades.	1108	3.336	1.2994	1.688
76. Parents exert pressure to maintain high standards.	1111	3.441	1.2972	1.683
77. Students try hard to improve on previous work.	1108	3.864	1.1719	1.373
78. Teachers accomplish their jobs with enthusiasm.	1110	4.705	1.0036	1.007
79. Academic achievement is recognized and acknowledged by the school.	1110	5.190	1.0098	1.020
80. The principal puts suggestions made by faculty into operation.	1116	4.649	1.2217	1.493
81. Teachers respect the professional competence of their colleagues.	1110	5.056	.9470	.897
82. Parents press for school improvement.	1104	3.419	1.3522	1.828

Survey Measure Item	*n*	*M*	*SD*	*VAR*
83. The interactions between faculty members are cooperative.	1114	5.036	.9706	.942
84. Students in this school can achieve the goals that have been set for them.	1113	4.888	.9535	.909
85. Teachers in this school exercise professional judgment.	1112	5.107	.8901	.792
86. The school is vulnerable to outside pressures.	1100	3.127	1.4341	2.057
87. The principal is willing to make changes.	1115	4.962	1.1332	1.284
88. Teachers "go the extra mile" with their students.	1114	5.246	.8814	.777
89. Teachers provide strong social support for colleagues.	1113	5.056	1.0330	1.067
Teacher Self-Efficacy Scale				
90. How much can you do to control disruptive behavior in the classroom?	1115	5.267	.8086	.654
91. How much can you do to motivate students who show low interest in school work?	1113	4.948	.9286	.862
92. How much can you do to calm a student who is disruptive or noisy?	1115	5.131	.8011	.642

Survey Measure Item	*n*	*M*	*SD*	*VAR*
93. How much can you do to help your students value learning?	1114	5.141	.8279	.685
94. To what extent can you craft good questions for your students?	1115	5.267	.7218	.521
95. How much can you do to get children to follow classroom rules?	1115	5.357	.7064	.499
96. How much can you do to get students to believe they can do well in school work?	1112	5.264	.7472	.558
97. How well can you establish a classroom management system with each group of students?	1114	5.399	.6601	.436
98. To what extent can you use a variety of assessment strategies?	1113	5.208	.7640	.584
99. To what extent can you provide an alternative explanation or example when students are confused?	1113	5.403	.6554	.430
100. How much can you assist families in helping their children do well in school?	1114	4.788	.9316	.868
101. How well can you implement alternative teaching strategies in your classroom?	1113	5.159	.7767	.603
Teacher Efficacy Belief Scale - Collective Efficacy				

Survey Measure Item	*n*	*M*	*SD*	*VAR*
102. The strength in our faculty's collective beliefs in our capabilities to carry out decisions and plans designed for school wide improvement.	1103	5.057	.9331	.871
103. The strength in our faculty's collective beliefs in our capabilities to produce high levels of learning with our students.	1101	5.142	.8842	.782
104. The strength in our faculty's collective beliefs in our capabilities to create ways to improve the school environment.	1098	5.117	.8952	.801
105. The strength in our faculty's collective beliefs in our capabilities to maintain effective communication with parents and the larger community.	1103	4.960	.9575	.917
106. The strength in our faculty's collective beliefs in our capabilities to support each other in addressing new policies, rules, and regulations.	1103	5.105	.9006	.811
107. The strength in our faculty's collective beliefs in our capabilities to maintain a school environment in which students feel good about themselves.	1103	5.206	.9188	.844
108. The strength in our faculty's collective beliefs in our capabilities to provide input in making important school decisions.	1104	4.928	1.0773	1.161

Survey Measure Item	*n*	*M*	*SD*	*VAR*
109. The strength in our faculty's collective beliefs in our capabilities to effectively communicate with the school administration.	1103	5.023	1.0627	1.129
110. The strength in our faculty's collective beliefs in our capabilities to work with disadvantaged and troublesome students.	1103	5.024	.9768	.954
111. The strength in our faculty's collective beliefs in our capabilities to manage student misbehavior.	1099	4.932	1.0635	1.131

The RSCEQ had a range of 1113 respondents to 1106 respondents. The item with the lowest mean (4.693) was *leadership roles are equally shared by teachers and administrators*. The next lowest mean was 4.880 for the item *administrators are sympathetic with problems and difficulties encountered by teachers in their work.* Both of the items with lower means, however, had more variance. The item with the highest mean was *teachers are willing to help each other when problems arise* at 5.319. This item had a small variance at .695. The second highest item, *teachers professionally share and learn from one another*, had a mean close to the previous item at 5.309.

The highest number of respondents for the OCI was 1116, while the lowest number of respondents was 1092. The item with the lowest mean (2.944) not only within the OCI but across all measures was *a few vocal parents can change school policy*. The next lowest means were items that scored relatively closely. These items relate to institutional

vulnerability, subcomponent of the measure. This will be later discussed. The two items with the highest means (5.406 and 5.377) were *the school sets high standards for academic performance* and *the principal lets faculty know what is expected of them*.

The TSES had a range of 1115 to 1112 respondents for each question. The item with the lowest mean (4.788) was *how much can you assist families in helping their children do well in school*. One other item with a lower mean at 4.948 was *how much can you do to motivate students who show low interest in school work.* The item with the highest mean (5.403) was *to what extent can you provide an alternative explanation or example with students are confused*. This item also had a low variance at .430.

The TEBS-C had a high of 1104 respondents to a low of 1098 respondents. The item with the lowest mean at 4.928 was *the strength in our faculty's collective beliefs in our capabilities to provide input in making important school decisions*. The item with the highest mean at 5.206 was *the strength in our faculty's collective beliefs in our capabilities to maintain a school environment in which students feel good about themselves*. The item with the next highest mean (5.142) was *the strength in our faculty's collective beliefs in our capabilities to produce high levels of learning with our students*.

Overall, standard deviations ranged from 1.434 for the item *the school is vulnerable to outside pressures* to .7064 for the item *how much can you do to get children to follow classroom rules*. This suggests that staff members perceive community relations very differently across the district, yet teachers generally agreed upon their abilities to get children to follow rules.

Analyses Regarding the Psychometric Qualities of the RRS

In order to determine the validity and reliability of the measure developed for this study, a series of statistical analyses were conducted, including factor analyses, bivariate correlations, and Cronbach's alpha reliability analyses.

However, preceding the factor analysis for this study, the researcher took several steps during the design of the measure to ensure face validity and to promote construct validity. First, each item was written in response to the literature concerning the following constructs: school culture, school climate, teacher efficacy, collective efficacy, and change. Items were revised in order to ensure that the item was measuring one phenomenon instead of two or more. Items were also revised for clarity. In order to establish face validity, an expert panel including individuals with 7 years to 43 years of experience in public education reviewed the survey for relevance and clarity. These individuals were also familiar with each construct as well as the stages of change. The RRS was then further reduced to 56 items and piloted with teachers outside of the district associated with this study. One hundred and three individuals volunteered to complete the survey, knowing that the intent of the pilot study was for the purpose of item reduction. An exploratory factor analysis was conducted to determine the nature of how items loaded, including which items double- or triple-loaded and which items loaded strongly in an outlying factor. Using the data, items were reworded for clarity or eliminated from the measure. The researcher also projected the number of factors for this study by analyzing which items loaded on the same component. However, the low number of participants in the pilot study was taken into consideration when reviewing the results of the initial analyses.

The significant number of participants (n = 1155) for this study was favorable for the factor analysis of the RRS, which has 42 questions and uses a six-point Likert scale. Exploratory factor analyses using principal components analysis procedures and orthogonal Varimax rotation of factors were conducted in order to determine construct validity and the latent structure of the newly developed measure. Due to the assumption that the constructs are not highly correlated, orthogonal rotations were used. Each subscale within the measure was analyzed using Cronbach's alpha reliability analyses in order to determine the internal reliability of the measure.

During the exploratory analyses, factor loadings were examined as well as the correlations and variance for each item. However, multiple criteria were used to determine the retention of items:

- The minimum factor loading to consider the retention of an item was .500.
- Items loading on more than one factor should load significantly higher on one factor, at least a difference of 0.1, in order to retain the item and to determine the factor in which the item is retained.
- Items loading at least .500 on more than one factor were retained only on the factor with the highest loading.

In order to determine how many factors to retain, the researcher used the following criteria:

- Kaiser's rule, which recommends retaining all factors greater than 1.
- The Scree Test, which determines the point of inflexion for the plotted eigenvalues.

When conducting the initial factor analysis, a fixed number of factors was not selected and the extract was based on the eigenvalue greater than one. As previously

mentioned, orthogonal rotations were used due to the assumption that the variables are not highly correlated. This was confirmed in the correlation matrix, which revealed only two sets of items being correlated, as determined by a correlation of .8 or higher. Missing values were treated as excluded cases listwise. The initial factor analysis resulted in the extraction of four factors, accounting for 70.3% of the variance. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy yielded a .974 with a statistical significance of .00. Table 12 presents each item with factor loadings and commonalities. Each eigenvalue larger than .4 is shaded.

Table 12

Initial Factor Analysis Including Commonalities and Components

		Component			
		1	2	3	4
	Com.	CUCL	TE	CE	LEAD
1. Teachers at my school are optimistic about state reform efforts.	.774	.825	.202	.098	.178
2. Teachers at my school are optimistic about district reform efforts.	.763	.815	.225	.166	.178
3. Reform mandates positively influence morale at my school.	.741	.812	.201	.068	.193
4. Our school embraces reform as an avenue to improve student performance.	.692	.699	.230	.295	.252
5. In the initial stages of reform, faculty members at my school remain positive.	.672	.690	.192	.391	.219
6. Teachers at my school readily accept new administrative directives related to reform.	.704	.685	.135	.427	.304
7. Teachers at this school view change as an opportunity to increase student achievement.	.746	.673	.184	.447	.284
8. My school's reform efforts motivate faculty to create new goals for school improvement.	.767	.633	.200	.378	.347
9. Teachers at my school willingly adopt change.	.763	.628	.148	.479	.165
10. Teachers at this school have a positive attitude toward administrators' reform efforts.	.714	.621	.134	.417	.411
11. Teachers are provided with the necessary resources to implement reform.	.648	.577	.232	.135	.427
12. District leaders offer helpful support throughout reform processes.	.587	.573	.336	.011	.426

	Component				
		1	2	3	4
	Com.	CUCL	TE	CE	LEAD
13. Traditions at my school enhance the implementation of new ideas.	.658	.534	.147	.485	.325
14. I believe I can implement changes in my classroom to increase student performance.	.722	.160	.796	.240	.121
15. I am capable of implementing curricular changes due to reform efforts.	.719	.097	.787	.260	.151
16. I believe that I can positively impact learning while implementing mandates.	.626	.221	.780	.215	.141
17. I believe I have the capability to implement reform.	.576	.085	.779	.282	.169
18. I believe that I am capable of successfully implementing new initiatives while teaching difficult students.	.725	.297	.766	.110	.096
19. I am confident in my ability to manage difficult students during reform.	.646	.223	.722	.176	.178
20. I am confident in my ability to teach what my students need to know despite policy changes.	.732	-.067	.697	.231	.178
21. As a member of my school staff, I believe I am vital in our efforts for school reform.	.696	.092	.697	.251	.264
22. My successes in teaching contribute to my confidence in implementing reform.	.637	.323	.688	.163	.179
23. I able to maintain my creativity while implementing mandates.	.580	.382	.680	.030	.193
24. I am motivated to change my own classroom practices.	.633	.309	.642	.194	.186
25. Teachers at my school are capable of supporting one another when faced with change.	.757	.123	.205	.735	.308

	Component				
		1	2	3	4
	Com.	CUCL	TE	CE	LEAD
26. Teachers at my school are capable of changing instructional practices.	.723	.202	.348	.690	.171
27. Our faculty believes they can impact student performance in the face of varying reform efforts.	.731	.219	.369	.688	.199
28. Our faculty's high level of efficacy contributes to student success during reform changes.	.692	.332	.264	.686	.269
29. Our faculty's high level of efficacy contributes to teacher success during reform changes.	.739	.347	.285	.686	.291
30. Our faculty is able to address barriers in order to successfully accomplish the designated task.	.668	.266	.254	.684	.358
31. Our faculty is capable of addressing challenging reform efforts.	.697	.207	.335	.677	.325
32. Our faculty is capable of utilizing reform to achieve higher levels of performance.	.688	.273	.384	.644	.320
33. Professional relationships among faculty members enhance the implementation of new reform policies.	.720	.408	.219	.531	.403
34. School administrators increase their level of support as the change process becomes more complex.	.729	.281	.178	.288	.808
35. During reform, administrators actively problem solve.	.847	.277	.197	.322	.796
36. The actions of my administrators foster positive transitions throughout major changes.	.852	.300	.201	.300	.780
37. School leaders maintain focus on the purpose of reform.	.809	.249	.231	.332	.763

		Component			
		1	2	3	4
	Com.	CUCL	TE	CE	LEAD
38. School leaders address anxiety associated with change.	.444	.322	.203	.219	.732
39. School administrators seek to coordinate current and new initiatives.	.729	.205	.248	.345	.712
40. Our school's vision is either assessed or revisited during times of change.	.725	.281	.239	.301	.706
41. My administration exhibits confidence in the faculty's ability to implement changes in their classrooms.	.828	.159	.203	.556	.560
42. Our faculty uses conflict to enhance reform efforts.	.623	.336	.234	.122	.512

Note. Data shown is the result of an exploratory factor analysis using principal components analysis procedures and the orthogonal Varimax rotation of factors.
Com. denotes communalities.

Items 1 through 13 loaded in the subscale entitled *Culture and Climate in Relation to Reform* with factor loadings ranging from .825 (Item 1) to .534 (Item 13). This component explained 51.8% of the variance. Each of the items within this subscale was originally written by isolating literature concerning culture and climate. However, after the factor analysis was conducted, these items loaded on the same factor, thereby indicating that teachers answered questions regarding school culture and school climate similarly. This is not surprising due to the relationship between school culture and school climate (Fiore, 2001). However, item 13, *traditions at my school enhance the implementation of new ideas*, double loaded with components one (.534) and three (.485). This item was eliminated because it did not meet the criteria for item retention.

Items 14 through 24 loaded in the subscale entitled *Teacher Efficacy in Relation to Reform* with single factor loadings ranging from .796 (Item 14) to .642 (Item 24). This component explained 8.5% of the variance. All of the items loaded solely on component two.

Items 25 through 33 loaded in the third component, which represents the subscale *Collective Efficacy in Relation to Reform*. The factor loadings for this component ranged from .735 (Item 25) to .531 (Item 33). This component accounted for 5.8% of the variance. All nine items that loaded on factor three were meant to represent collective efficacy and reform except for one item: *professional relationships among faculty member enhance the implementation of new reform policies*. This item was originally intended to reflect culture; however, the item loaded at a .531 in factor three, which is at least .10 higher than its loading on components one and four. Therefore, the item was retained.

The fourth component, with items 34 through 42, represents Change Leadership. The factor loadings ranged from .808 (Item 34) to .512 (Item 42). Only one item double-loaded: *my administration exhibits confidence in the faculty's ability to implement changes in their classrooms.* This item loaded in the third component at .556 and in the fourth component at .560; therefore, this item was eliminated.

Overall, the RRS loaded as expected, with four factors representing Culture and Climate in Relation to Reform, Teacher Efficacy in Relation to Reform, Collective Efficacy in Relation to Reform, and Change Leadership. The strongest loading item was *teachers at my school are optimistic about state reform efforts* (.825). The item with the weakest acceptable loading was *our faculty uses conflict to enhance reform efforts* (.512).

Only two items were eliminated due to double loading: *traditions at my school enhance the implementation of new ideas* and *my administration exhibits confidence in the faculty's ability to implement changes in their classrooms.*

A subsequent factor analysis was conducted after eliminating the two items. Table 13 presents the second and final factor analysis for the RRS in this study.

Table 13

Final Factor Analysis Including Commonalities and Components

	Com.*	Component 1 TE	2 CUCL	3 LEAD	4 CE
1. I believe I can implement changes in my classroom to increase student performance.	.778	.799	.160	.120	.235
2. I am capable of implementing curricular changes due to reform efforts.	.769	.788	.093	.151	.262
3. I believe I have the capability to implement reform.	.748	.779	.083	.165	.280
4. I believe that I can positively impact learning while implementing mandates.	.690	.779	.224	.139	.217
5. I believe that I am capable of successfully implementing new initiatives while teaching difficult students.	.670	.767	.294	.100	.112
6. I am confident in my ability to manage difficult students during reform.	.698	.723	.217	.181	.175
7. I am confident in my ability to teach what my students need to know despite policy changes.	.741	.701	-.073	.177	.229
8. As a member of my school staff, I believe I am vital in our efforts for school reform.	.764	.697	.088	.264	.252
9. My successes in teaching contribute to my confidence in implementing reform.	.758	.691	.320	.181	.162
10. I able to maintain my creativity while implementing mandates.	.707	.680	.382	.192	.031
11. I am motivated to change my own classroom practices.	.585	.646	.309	.185	.188
12. Teachers at my school are optimistic about state reform efforts.	.654	.194	.829	.183	.106
13. Reform mandates positively influence morale at my school.	.720	.199	.816	.192	.075

	Component				
	Com.*	1 TE	2 CUCL	3 LEAD	4 CE
14. Teachers at my school are optimistic about district reform efforts.	.720	.217	.816	.185	.175
15. Our school embraces reform as an avenue to improve student performance.	.627	.228	.694	.260	.299
16. In the initial stages of reform, faculty members at my school remain positive.	.580	.194	.681	.230	.392
17. Teachers at my school readily accept new administrative directives related to reform.	.724	.137	.676	.315	.428
18. Teachers at this school view change as an opportunity to increase student achievement.	.646	.181	.665	.295	.450
19. My school's reform efforts motivate faculty to create new goals for school improvement.	.733	.201	.624	.357	.376
20. Teachers at this school have a positive attitude toward administrators' reform efforts.	.697	.136	.617	.416	.410
21. Teachers at my school willingly adopt change.	.639	.143	.616	.182	.487
22. Teachers are provided with the necessary resources to implement reform.	.582	.231	.573	.430	.134
23. District leaders offer helpful support throughout reform processes.	.633	.329	.570	.432	.022
24. School administrators increase their level of support as the change process becomes more complex.	.763	.177	.271	.813	.284
25. During reform, administrators actively problem solve.	.727	.196	.269	.799	.318
26. The actions of my administrators foster positive transitions throughout major changes.	.734	.197	.293	.782	.293

	Component				
	Com.*	1 TE	2 CUCL	3 LEAD	4 CE
27. School leaders maintain focus on the purpose of reform.	.696	.230	.241	.766	.332
28. School leaders address anxiety associated with change.	.746	.200	.313	.737	.221
29. School administrators seek to coordinate current and new initiatives.	.664	.248	.196	.717	.341
30. Our school's vision is either assessed or revisited during times of change.	.702	.232	.266	.713	.304
31. Our faculty uses conflict to enhance reform efforts.	.719	.226	.326	.522	.134
32. Teachers at my school are capable of supporting one another when faced with change.	.731	.194	.112	.320	.737
33. Our faculty believes they can impact student performance in the face of varying reform efforts.	.846	.364	.218	.203	.693
34. Our faculty's high level of efficacy contributes to teacher success during reform changes.	.851	.280	.339	.299	.693
35. Our faculty's high level of efficacy contributes to student success during reform changes.	.809	.258	.323	.276	.693
36. Teachers at my school are capable of changing instructional practices.	.448	.342	.200	.175	.690
37. Our faculty is able to address barriers in order to successfully accomplish the designated task.	.730	.252	.261	.362	.687
38. Our faculty is capable of addressing challenging reform efforts.	.726	.330	.206	.328	.678
39. Our faculty is capable of utilizing reform to achieve higher levels of performance.	.823	.381	.266	.326	.651
40. Professional relationships among faculty members enhance the implementation of new reform policies.	.621	.219	.395	.416	.527

Note. Data shown is the result of an exploratory factor analysis using principal components analysis procedures and the orthogonal Varimax rotation of factors.
Com. denotes communalities.

None of the 40 remaining items in the RRS double- or triple-loaded. Four factors emerged from the items, as did previously. Although the factors loaded in a different sequence than before, the factors still represent the following subcomponents within the measure: Teacher Efficacy in Relation to Reform (Component 1), Culture and Climate in Relation to Reform (Component 2), Change Leadership (Component 3), and Collective Efficacy in Relation to Reform (Component 4). These four components account for 70.5% of the variance, which increased by 0.2% from the previous factor analysis.

Items 1 through 11 loaded in the subscale entitled *Teacher Efficacy in Relation to Reform* with single factor loadings ranging from .799 (Item 1) to .646 (Item 11). This component explained 51.6% of the variance. All of the items loaded solely on component one.

Items 12 through 23 loaded in the subscale entitled *Culture and Climate in Relation to Reform* with factor loadings ranging from .829 (Item 12) to .570 (Item 23). This component explained 8.8% of the variance. Due to the item *traditions at my school enhance the implementation of new ideas* on the previous factor analysis being eliminated, all items on this factor analysis loaded on only one component.

The third component, with items 24 through 31, represents the component *Change Leadership*. The factor loadings ranged from .813 (Item 24) to .522 (Item 31). The item that previously double-loaded, *my administration exhibits confidence in the faculty's ability to implement*, was eliminated; therefore, no items in this factor double-loaded during this factor analysis.

Items 32 through 40 loaded in the fourth component, which represents the subscale *Collective Efficacy in Relation to Reform*. The factor loadings for this component ranged from .737 (Item 32) to .527 (Item 40). This component accounted for 4.3% of the variance. The item that previously loaded a minimum of .40 in three components on the last factor analysis loaded above a .40 in only two components during this factor analysis, .416 in Component 3 and a .527 in Component 4. Therefore, Item 40, *professional relationships among faculty member enhance the implementation of new reform policies,* will remain in Component 4, Collective Efficacy in Relation to Change because it is more than .10 higher than the loading in the third component.

The RRS loaded as expected, with four factors representing Culture and Climate in Relation to Reform, Teacher Efficacy in Relation to Reform, Collective Efficacy in Relation to Reform, and Change Leadership. The strongest loading item was *teachers at my school are optimistic about state reform efforts* (.829). The item with the weakest acceptable loading was *our faculty uses conflict to enhance reform efforts* (.522).

Summary of Reliability Analyses for the RRS

Table 14 presents the components with observed variables, factor loadings, commonalities, derived variables, explained variance, and reliability coefficients (using list-wise deletion) for the RRS. The derived variables are listed in the following order: Teacher Efficacy in Relation to Reform, School Culture and School Climate in Relation to Reform, Change Leadership, Collective Efficacy in Relation to Reform.

Reliability is the likelihood that the items and subscales within a measure actually measure what it was designed to measure (Sirkin, 2006). Cronbach's alpha was used to measure the internal consistency of the measure. The items in each subscale should ideally

measure the same phenomenon. Upon refining the measure by eliminating two items, each subscale within the measure was analyzed using Cronbach's alpha reliability analyses in order to determine the internal reliability of the measure. The Cronbach's alpha reliability for the entire measure is .976. For each subscale, the reliability coefficients are as follows: Teacher Efficacy in Relation to Reform (.940), School Culture and School Climate in Relation to Reform (.954), Change Leadership (.940), and Collective Efficacy in Relation to Reform (.946).

Table 14

Components with observed variables, factor loadings, commonalities, derived variables, explained variance, and reliability coefficients (using list-wise deletion)

Component	*Item Number*	*Factor Loadings*	*Commonalities*	*Derived Variables*	*% Variance*	*Reliability Coefficient*
1	1	.799	.778			
	2	.788	.769			
	3	.779	.748			
	4	.779	.690			
	5	.767	.670	Teacher Efficacy	51.6	.940
	6	.723	.698	in Relation to Reform		N = 1132
	7	.701	.741			
	8	.697	.764			
	9	.691	.758			
	10	.680	.707			
	11	.646	.585			
2	12	.829	.654			
	13	.816	.720			
	14	.816	.720			
	15	.694	.627		8.8	.954
	16	.681	.580			N = 1112

Component	*Item Number*	*Factor Loadings*	*Commonalities*	*Derived Variables*	*% Variance*	*Reliability Coefficient*
	17	.676	.724			
	18	.665	.646	School Culture		
	19	.624	.733	and School Climate		
	20	.617	.697	in Relation to Reform		
	21	.616	.639			
	22	.573	.582			
	23	.570	.633			
3	24	.813	.763			
	25	.799	.727			
	26	.782	.734			
	27	.766	.696	Change Leadership	5.8	.940
	28	.737	.746			N = 1117
	29	.717	.664			
	30	.713	.702			
	31	.522	.719			
4	32	.737	.731			
	33	.693	.846			
	34	.693	.851	Collective Efficacy		
	35	.693	.809	in Relation to Reform	4.3	.946
	36	.690	.448			N = 1126

Component	*Item Number*	*Factor Loadings*	*Commonalities*	*Derived Variables*	*% Variance*	*Reliability Coefficient*
	37	.687	.730			
	38	.678	.726			
	39	.651	.823			
	40	.527	.621			

All four components were found to be highly reliable, with the School Culture and School Climate in Relation to Reform yielding the highest reliability with a .954 reliability rating. The lowest ratings were Teacher Efficacy in Relation to Reform and Change Leadership, with both yielding a rating of .940, which is still highly reliable.

RRS Inter-item Correlation Analyses by Subscale

Inter-item correlation analyses by subscales were completed in order to measure the degree of coherence among items within each factor. Due to the ordinal nature of the data when using Likert scales, Spearman's rho correlation analyses were used. Tables 15-18 present bivariate correlations between the RRS items that were retained after the series of factor analyses. The item numbers correspond with the item numbers on the RRS. For instance, in Table 15, item numbers 1-12 correspond with the subscale, School Culture and School Climate in Relation to Reform. Table 16 presents items 13-23, which comprise the subscale Teacher Efficacy in Relation to Reform. Table 17 presents items 24-32, representing the subscale Collective Efficacy in Relation to Reform. Lastly, items 33-40 can be found in Table 18, which corresponds with the subscale Change Leadership. The item numbers can be cross-referenced with the final RRS items located in Appendix C.

All correlations in between items in the RRS were found statistically significant (p <.01) and positive. The correlated items within each factored subscale were found to be moderate to strong. Of the 410 correlations, only 8 were above a .80, which can be considered strong. No correlations resulted in any coefficient lower than .40. For this study, because few strong correlations exist, multicollinearity is not a concern.

Table 15

Inter-item Correlations for the Derived Variables School Culture and School Climate in Relation to Reform

	Item Numbers											
	1	2	3	4	5	6	7	8	9	10	11	12
1	-											
2	.851	-										
3	.757	.784	-									
4	.685	.663	.677	-								
5	.604	.568	.558	.657	-							
6	.622	.584	.593	.694	.684	-						
7	.653	.597	.587	.657	.687	.762	-					
8	.646	.608	.609	.712	.686	.731	.769	-				
9	.662	.610	.599	.658	.687	.723	.811	.779	-			
10	.635	.605	.611	.640	.680	.656	.721	.722	.766	-		
11	.587	.562	.588	.567	.489	.584	.574	.577	.587	.568	-	
12	.587	.575	.582	.546	.449	.491	.497	.513	.507	.502	.608	-

Note. All Spearman correlations are significant with $p < .01$

Table 16

Inter-item Correlations for the Derived Variable Teacher Efficacy in Relation to Reform

	Item Numbers										
	13	14	15	16	17	18	19	20	21	22	23
13	-										
14	.874	-									
15	.742	.739	-								
16	.618	.628	.592	-							
17	.678	.687	.663	.662	-						
18	.536	.529	.509	.464	.684	-					
19	.677	.655	.625	.619	.726	.635	-				
20	.602	.609	.572	.517	.691	.703	.719	-			
21	.601	.609	.601	.477	.655	.601	.661	.690	-		
22	.566	.561	.555	.454	.588	.538	.649	.616	.654	-	
23	.580	.568	.548	.516	.630	.604	.635	.759	.665	.601	-

Note. All Spearman correlations are significant with $p < .01$

Table 17

Inter-item Correlations for the Derived Variable Collective Efficacy in Relation to Reform

	Item Numbers								
	24	25	26	27	28	29	30	31	32
24	-								
25	.644	-							
26	.608	.880	-						
27	.611	.755	.753	-					
28	.586	.604	.602	.658	-				
29	.612	.697	.687	.700	.689	-			
30	.538	.616	.628	.608	.616	.715	-		
31	.572	.692	.676	.667	.628	.725	.712	-	
32	.569	.683	.660	.694	.651	.749	.716	.726	-

Note. All Spearman correlations are significant with $p < .01$

Table 18

Inter-item Correlations for the Derived Variable Change Leadership

	Item Numbers							
	33	34	35	36	37	38	39	40
33	-							
34	.789	-						
35	.761	.867	-					
36	.775	.809	.856	-				
37	.450	.547	.547	.542	-			
38	.610	.712	.723	.705	.617	-		
39	.669	.715	.705	.729	.565	.693	-	
40	.727	.815	.809	.782	.544	.742	.744	-

Bivariate Correlation Analyses

Pearson correlations are a widely used technique due to the stability of the analysis. Bivariate correlations using Pearson product-moment techniques were used in order to test the relationships between subscales for each measure. Before the correlations were tested, the following assumptions were tested: normality of the data, which assumes that data are normally distributed along the bell curve, and homogeneity of variance, which assumes that the within group variances are equal. As predicted, the data are not normally distributed due to the ordinal nature of the data when using Likert scales. Both the Kolmogorov-Smirnov and Shapiro-Wilk tests show a .000 level of significance, which rejects the null hypothesis that the data are normally distributed. However, this should not adversely affect factor analyses or

bivariate correlations because of the levels of significance.

The strength of the relationships was also tested using Pearson's correlation coefficients. Correlations generally range from a -1.0, indicating an absolute negative relationship, to a +1.0, indicating an absolute positive relationship. The closer to 1.0, the stronger the relationship. The correlation coefficients will be reported for each item.

Table 19 presents the correlations among the following subscales for the RSCEQ: Shared Leadership, Professional Commitment, Collegial Teaching and Learning; and the following subscales in the RRS: Teacher Efficacy in Relation to Reform, Collective Efficacy in Relation to Reform, Change Leadership, and Culture/Climate in Relation to Reform.

Table 19

Summary of Intercorrelations between Multiple Factor Subscales of the RSCEQ and the RRS

			RSCEQ			RRS			
			1	2	3	4	5	6	7
			SL	PC	CTL	TER	CER	CL	CCR
	1	Shared Leadership	-						
RSCEQ	2	Professional Commitment	.732**	-					
	3	Collegial Teaching and Learning	.711**	.869**	-				
RRS	4	Teacher Efficacy and Reform	.490**	.502**	.551**	-			
	5	Collective Efficacy and Reform	.684**	.715**	.720**	.646**	-		
	6	Change Leadership	.798**	.594**	.581**	.551**	.738**	-	

		RSCEQ			RRS			
		1	2	3	4	5	6	7
		SL	PC	CTL	TER	CER	CL	CCR
7	Culture/ Climate and Reform	.664**	.538**	.571**	.573**	.712**	.728**	-

**p<.001

All of the factored subscales resulted in statistically significant relationships (p<.001). The weakest correlations were among the three subscales in the RSCEQ, which are Shared Leadership (.490), Professional Commitment (.502), and Collegial Teaching and Learning (.551), with one subscale in the RRS, Teacher Efficacy and Reform. However, according to Proctor and Badzanski (2002), these correlations are still considered moderate to substantial. The strength of correlations among the subscales in the RSCEQ is expected due to the measure focusing on one construct—change. However, the correlations are not so strong that multicollinearity is an issue. The strongest correlation across the measures (.798) occurred between the subscales Shared Leadership (RSCEQ) and Change Leadership (RRS). This is not surprising considering the nature of the items in both measures that address leadership. Strong correlations were also generated for the subscale Collective Efficacy in Relation to Reform (RRS) and all three subscales in the RSCEQ with correlations as follows: .684, .715, and .720. Therefore, a positive relationship between collective efficacy in relation to reform and culture exists.

Table 20 presents the bivariate correlations among subscales in the RSCEQ, TEBS-C, TSES, and OCI. The following subscales were correlated: Shared Leadership (RSCEQ), Professional Commitment (RSCEQ), Collegial Teaching and Learning (RSCEQ), Collective Efficacy (TEBS-C), Classroom Management (TSES), Student Engagement (TSES),

Instructional Strategies (TSES), Collegial Leadership (TSES), Institutional Vulnerability (OCI), Achievement Press (OCI), and Teacher Professionalism (OCI).

All correlations resulted in relationships that were moderately correlated except for all subscales that were correlated with Institutional Vulnerability (OCI). These correlations were extremely weak (-.027, .005, .030, .057, .076, .080, .038) and not statistically significant according to the p-values, which were all above .006. Institutional Vulnerability is the only subscale that addresses vocal citizen groups, community politics, and strained parental relationships; therefore, it was expected for this subscale to not highly correlate with subscales relating to within-school relationships, characteristics, and values.

Although Institutional Vulnerability had the lowest correlations, all subscales within the TSES also had weak to moderate correlations with other subscales from other measures. However, the strongest correlations for the subscales TSES subscales occurred with each other. For instance, the following substantial correlations within the TSES were noted: Classroom Management and Student Engagement (.656), Instructional Strategies and Student Engagement (.656), and Instructional Strategies and Classroom Management (.577). Therefore, it was noted that teacher efficacy, in comparison with other correlations, was most correlated with its own subscales rather than subscales in the measures that address culture, climate, or collective efficacy.

Other substantial correlations (.60 to .70) exist between several subscales, such as the relationship between Shared Leadership and Teacher Professionalism (.626), Collegial Leadership and Teacher Professionalism (.671), and Achievement Press and Teacher Professionalism (.649). Teachers who emulate professionalism tend to be associated with leadership practices, whether shared with the administrators or with colleges. These teachers

also tend to focus on academics, pressing students to meet high expectations. Collective efficacy also correlated substantially with the following: Professional Commitment (.699), Collegial Leadership (.676), and Achievement Press (.640). This may be due to the nature of faculties that exhibit high levels of collective efficacy. For instance, these types of faculties may exhibit attributes such as collegial leadership, professional commitment, and achievement press.

The highest correlation, .869, was between Collegial Teaching and Learning and Professional Commitment, which are both measured by the RSCEQ. Each subscale in the RSCEQ was highly correlated with the other, with all correlations being above a .70. Several other substantial relationships were noted. Shared Leadership and Collective Efficacy possess a strong correlation (.720) as well as Collegial Teaching and Learning and Collective Efficacy (.728). As predicted, Collegial Leadership (OCI) and Shared Leadership (RSCEQ) highly correlated at a .783. Lastly, Teacher Professionalism (OCI) highly correlated with the following subscales: Professional Commitment (.771), Collegial Teaching and Learning (.748), and Collective Efficacy (.761).

In summary, strong correlations exist among the subscales within the RSCEQ. Also, Collective Efficacy (TEBS-C) was significantly correlated with several subscales: Shared Leadership (720), Professional Commitment (.699), Collegial Teaching and Learning (.728), Collegial Leadership (.676), Achievement Press (.640), and Teacher Professionalism (.761). In light of these results, schools that emulate these types of behaviors (sharing leadership, collegiality, teacher professionalism, and a focus on learning) may tend to have higher levels of collective efficacy. Another subscale that significantly correlated with several other subscales was Teacher Professionalism from the OCI. Teacher Professionalism substantially

correlated with the following: Shared Leadership (.626), Professional Commitment (.771), Collegial Teaching and Learning (.748), Collective Efficacy (.761), Collegial Leadership (.671), and Achievement Press (.649). Subscales within the TSES substantially correlated only with other subscales within the TSES. No correlations exist among the OCI subscale, Institutional Vulnerability, with all other subscales, with the exception of one: Achievement Press (.311).

Table 21 presents the bivariate correlations among subscales in the RSCEQ, TEBS-C, TSES, and OCI, with the addition of the subscales in the RRS. The following subscales were correlated: Shared Leadership (RSCEQ), Professional Commitment (RSCEQ), Collegial Teaching and Learning (RSCEQ), Collective Efficacy (TEBS-C), Classroom Management (TSES), Student Engagement (TSES), Instructional Strategies (TSES), Collegial Leadership (TSES), Achievement Press (OCI), Teacher Professionalism (OCI), Teacher Efficacy in Relation to Reform (RRS), Collective Efficacy in Relation to Reform (RRS), Change Leadership in Relation to Reform (RRS), and lastly, Culture and Climate in Relation to Reform (RRS). As expected, correlations among the subscales in Table 20 are the same as Table 21 with the addition of the RRS subscales; therefore, discussion concerning Table 21 will be focused on correlations among RRS subscales with all other subscales.

All correlations for the RRS were statistically significant ($p < .001$) with the exception of subscales correlated with Institutional Vulnerability, much like all other correlations in Table 21. The RRS subscale Teacher Efficacy and Reform had moderate to substantial correlations will all other subscales, ranging from .392 to .551, with the exception of the correlation with Institutional Vulnerability (-.032). The other three subscales within the RRS had higher correlations overall. However, the results for Teacher Efficacy in Relation to

Reform are as expected after analyzing the correlations among the TSES subscales, which were lower with all other measures. Interestingly, though, Teacher Efficacy in Relation to Reform did not highly correlate with other subscales pertaining to teacher efficacy. However, some may consider the correlations substantial (.396, .513, and .506). This could be due to the nature of the teacher efficacy items in the RRS being related to reform.

The three other subscales in the RRS, Collective Efficacy in Relation to Reform, Change Leadership, and Culture and Climate in Relation to Reform had several substantial to high correlations. Collective Efficacy in Relation to Reform highly correlated with the subscales of the RSCEQ, Shared Leadership (.684), Professional Commitment (.715) and Collegial Teaching and Learning (.720). As expected, it was highly correlated with Collective Efficacy, from the TEBS-C (.707). Other significant correlations were with Collegial Leadership (.582), Teacher Professionalism (.697), and Teacher Efficacy in Relation to Reform (.646).

Change leadership also correlated with items in the RSCEQ and the TEBS-C. Change leadership substantially correlated with the following subscales within the RSCEQ and the TEBS-C: Shared Leadership (.798), Professional Commitment (.594), Collegial Teaching and Learning (.581), and Collective Efficacy (.647). Change leadership also correlated with subscales from other measures: Collegial Leadership (.700), Teacher Professionalism (.559), Teacher Efficacy in Relation to Reform (.551) and Collective Efficacy in Relation to Reform (.738). The highest correlation with Change Leadership was with Shared Leadership (.798) from the RSCEQ. Interestingly, Change Leadership was more closely correlated with Shared Leadership than with Collegial Leadership. This is likely due to the nature of the items within the Change Leadership subscale and the Shared Leadership subscale being focused more on

the formal leadership roles of administrators, whereas Collegial Leadership alludes to *teacher* leaders among faculties.

The last subscale, Culture and Climate in Relation to Reform, correlated substantially to strongly with several subscales. They are as follows: Shared Leadership (.664), Professional Commitment (.538), Collegial Teaching and Learning (.571), Collective Efficacy (.575), Collegial Leadership (.566), Teacher Efficacy in Relation to Reform (.573), Collective Efficacy in Relation to Reform (.712), and Change Leadership (.728). Interestingly, the highest correlation with Culture and Climate in Relation to Reform subscale was Change Leadership.

Overall, three of the four subscales for the RRS were significantly correlated with all the subscales in the RSCEQ as well as one subscale in the OCI, Teacher Professionalism. The four subscales in the RRS were only moderately correlated with the subscales in the TSES, which relates to efficacy. The highest correlation occurred between Culture and Climate in Relation to Reform and Change Leadership (.798). When comparing the strengths of correlations among subscales, Collective Efficacy in Relation to Reform had higher correlations with every subscale in comparison to Culture and Climate in Relation to Reform. The lowest correlations were with subscales of the TSES. RRS subscales, much like all other subscales, did not correlate with Institutional Vulnerability of the OCI.

Table 20

Summary of Intercorrelations between Multiple Factor Subscales of the RSCEQ, TEBS-C, TSES, and OCI

					RSCEQ		TEBS-C		TSES			OCI			
				1	2	3	4	5	6	7	8	9	10	11
				SL	PC	CTL	CE	CM	SE	IS	CL	IV	AP	TP
	1	Shared Leadership	Pearson Corr.	-										
RSCEQ	2	Professional Commitment	Pearson Corr.	.732	-									
	3	Collegial Teaching and Learning	Pearson Corr.	.711	.869	-								
TEBS-C	4	Collective Efficacy	Pearson Corr.	.720	.699	.728	-							
TSES	5	Classroom Management	Pearson Corr.	.321	.321	.328	.402	-						
	6	Student Engagement	Pearson Corr.	.394	.417	.472	.480	.656	-					
	7	Instructional Strategies	Pearson Corr.	.327	.411	.462	.428	.577	.656	-				
OCI	8	Collegial Leadership	Pearson Corr.	.783	.560	.557	.676	.313	.386	.317	-			
	9	Institutional Vulnerability	Pearson Corr.	-.027*	.005*	.030*	.030*	.057*	.076*	.080*	.038*	-		
	10	Achievement Press	Pearson Corr.	.539	.527	.543	.640	.369	.479	.388	.571	.311	-	

			RSCEQ			TEBS-C		TSES			OCI		
			1	2	3	4	5	6	7	8	9	10	11
			SL	PC	CTL	CE	CM	SE	IS	CL	IV	AP	TP
11	Teacher Professionalism	Pearson Corr.	.626	.771	.748	.761	.345	.440	.414	.671	.053*	.649	-

Note. All Pearson correlations are significant with $p < .001$, with the exception of those noted by *

* $p > .05$

Table 21

Summary of Intercorrelations between Multiple Factor Subscales of the RSCEQ, TEBS-C, TSES, OCI, and RRS

			RSCEQ			CE	TEBS-C			OCI				RRS			
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
			SL	PC	CTL	CE	CM	SE	IS	CL	IV	AP	TP	TER	CER	CL	CCR
RSCEQ	1	SL	-														
	2	PC	.732	-													
	3	CTL	.711	.869	-												
TEBS-C	4	CE	.720	.699	.728	-											
TSES	5	CM	.321	.321	.328	.402	-										
	6	SE	.394	.417	.472	.480	.656	-									
	7	IS	.327	.411	.462	.428	.577	.656	-								
OCI	8	CL	.783	.560	.557	.676	.313	.386	.317	-							
	9	IV	-.027*	.005*	.030*	.030*	.057*	.076*	.080*	.038*	-						
	10	AP	.539	.527	.543	.640	.369	.479	.388	.571	.311	-					
	11	TP	.626	.771	.748	.761	.345	.440	.414	.671	.053*	.649	-				

			RSCEQ			CE	TEBS-C				OCI				RRS		
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
			SL	PC	CTL	CE	CM	SE	IS	CL	IV	AP	TP	TER	CER	CL	CCR
RRS	12	TER	.490	.502	.551	.489	.396	.513	.506	.417	-.032*	.392	.452	-			
	13	CER	.684	.715	.720	.707	.316	.405	.365	.582	-.043*	.517	.697	.646	-		
	14	CL	.798	.594	.581	.647	.287	.345	.301	.700	-.016*	.484	.559	.551	.738	-	
	15	CCR	.664	.538	.571	.575	.230	.395	.279	.566	-.020*	.473	.508	.573	.712	.728	-

Note. All Pearson correlations are significant with $p < .001$, with the exception of those noted by *
* $p > .05$

Results Pertaining to Primary Research Questions and the Research Hypothesis

Four research questions and one hypothesis were used to guide the methodology and data analysis of this study. One research question was used to explore the latent structure of the RRS. Details concerning the factor analyses are presented in Chapter Four in Tables 12, 13, and 14. Three other research questions explore the nature of the relationships among the major constructs of the study: school culture, school climate, teacher efficacy, collective efficacy, and change. Pearson product moment correlations were conducted and analyzed in order to explore these relationships. Correlation coefficients were computed between all subscales of each measure and can be found in Tables 19, 20, and 21.

Research Question 1

What is the latent structure of the newly created Reform Readiness Survey?

Factor analyses were completed for the RRS. The factor solution most appropriate given the decision parameters was a four-factor orthogonal solution. The four factors of the RRS and the number of items per factor are as follows: Culture and Climate in Relation to Reform (12 items), Teacher Efficacy in Relation to Reform (11 items), Collective Efficacy in Relation to Reform (9 items), and Change Leadership (8 items). Forty items were retained and thus comprise the RRS. The measure is also statistically reliable according to Cronbach's alpha reliability analysis.

Research Question 2

What is the relationship between school culture and reform?

The RSCEQ, which comprises the operational definition of school culture, and the RRS, which operationally defines reform, were correlated by subscale. The following subscales were correlated: Shared Leadership, Professional Commitment, Collegial Teaching

and Learning, Teacher Efficacy in Relation to Reform, Collective Efficacy in Relation to Reform, Change Leadership, and Culture and Climate in Relation to Reform. Every correlation (100%) was statistically significant ($p<.001$). The lowest correlation was still considered of moderate strength at .490. There is a strong relationship among all correlations of the RRS and the RSCEQ, which confirms research by Allen et al. (1998) and Fullan (2007, 2009), which states that understanding culture is the key to implementing change. A supportive culture is necessary for change to be sustained for more than one year (Allen et al., 1998). The significant correlations among subscales indeed corroborate the research that asserts a strong relationship exists between school culture and change.

Research Question 3

What is the nature of the interaction among school culture, school climate, teacher efficacy, and collective efficacy?

Correlations were conducted for each subscale of the following measures: the RSCEQ, OCI, TSES, and the TEBS-C. Forty-six of the 55 correlations, or 84%, were statistically significant ($p<.001$). Only 36% of correlations were below a .40, which is considered moderately correlated. Therefore, 64% of correlations were moderately to highly correlated. One subscale within the OCI, Institutional Vulnerability, correlated very weakly with the other constructs. This is likely because Institutional Vulnerability was the only subscale in which items assessed external school factors. The subscales in the TSES were generally moderately correlated with other subscales. Shared Leadership (RSCEQ), Professional Commitment (RSCEQ), Collegial Teaching and Learning (RSCEQ), Collective Efficacy (TEBS-C), Collegial Leadership (OCI), and Teacher Professionalism (OCI) all correlated highly with one another, indicating that each construct represented by these

measures, school culture, school climate, and collective efficacy are strongly related. Subscales within the RSCEQ and the OCI were highly correlated, with the exception of institutional vulnerability. This confirms research by Fiore (2001), Hoy and Hoy (2003), and Van Houtte (2005), who assert school culture as being the foundation for school climate. Although the correlations do not explicitly suggest the foundation aspect of the research, the correlations do confirm the strong relationship between school culture and school climate. Teacher efficacy, although correlated, is not as significantly correlated as the other constructs. Tschannen-Moran et al. (1998) submits that collective efficacy is an important part of school culture. This study affirms the literature in that collective efficacy was strongly correlated with subscales of the RSCEQ (.720, .699, .728).

Research Question 4

What is the nature of the interaction among school culture, school climate, teacher efficacy, and collective efficacy in relation to change?

Correlations were conducted for each subscale of the following measures: the RSCEQ, OCI, TSES, TEBS-C, and RRS. Ninety-two of 105 correlations, or 88%, were statistically significant ($p<.001$). Only 31% of correlations were below a .40, which is considered moderately correlated. The RRS subscale, Culture and Climate in Relation to Reform correlated strongly with several subscales including: Shared Leadership (.664), Collegial Teaching and Learning (.571), Collective Efficacy (.575), Collegial Leadership (.566), Teacher Efficacy in Relation to Reform (.573), Collective Efficacy in Relation to Reform (.712), and Change Leadership (.728).

Overall, three of the four subscales for the RRS were significantly correlated with all the subscales in the RSCEQ as well as one subscale in the OCI, Teacher Professionalism.

The four subscales in the RRS were only moderately correlated with the subscales in the TSES, which relates to efficacy. The highest correlation occurred between Culture and Climate in Relation to Reform and Shared Leadership (.798). The lowest correlations were with subscales of the TSES; however, these correlations are still considered moderate because they range from .230 to .506, with most correlations falling within the .30 to .50 range. All subscales did not correlate with Institutional Vulnerability of the OCI. Therefore, the following constructs are significantly correlated with change: culture, climate, and collective efficacy. Teacher efficacy has a moderate correlation with change. Although change is executed by individuals, or change agents, the efficacy of individual teachers is not as highly correlated with change as overall school culture, school climate, and collective efficacy.

Hypothesis 1

There is a statistically significant, positive relationship between teachers' perception of school culture and change.

Results of the bivariate correlations indicate that a statistically significant, positive relationship exists between teachers' perceptions of school culture, operationally defined as the RSCEQ, and change, which is operationally defined as the RRS. The results of the bivariate correlations provide support for this relationship. All correlations between subscales were statistically significant ($p<.001$), and were moderate to substantial in magnitude, with 57% being substantial in magnitude.

Chapter Summary

This chapter summarized the results of the data analyses used in this study. These summaries include: descriptive statistics for the sample, for each item, and for each measure;

factor analyses; reliability analyses; bivariate correlations between items within subscales of the RRS; and bivariate correlations between subscales for each measure. Additionally, this chapter includes a summary of results for the four research questions and the study's hypothesis.

Chapter 5 presents the major findings and conclusions for this study. The discussion includes methodological, theoretical, and practical implications for readers, in addition to suggestions for future research.

CHAPTER 5: CONCLUSIONS, DISCUSSION, AND IMPLICATIONS

This chapter presents an overview of the study, including its purpose, conceptualization, scope of literature, research design, and intended contributions to knowledge about reform for educational researchers and practitioners. Additionally, this chapter includes a summary of major findings and conclusions from the study as well as a discussion of implications for the findings for theory and practice.

Overview of the Study

Although the word *reform* means, in essence, change, reform is nothing new for educators. Education in the United States has been in a constant state of reform since President Bush signed the No Child Left Behind Act of 2001, which called for increased accountability for schools and districts by using school performance scores. Districts across the nation urgently sought new ways to increase test scores, which were often tied to funding. This put more pressure on school leaders and teachers to use data and other resources to increase student performance. In 2012, Race to the Top was enacted, which required states to commit to a national set of standards and overhaul their current teacher evaluation systems in order to receive a sizable amount of federal dollars (Boser, 2012).

Even though student achievement was positively affected in some areas, the United States still has failing schools and struggling districts. Many states are working to overcome teacher shortages (Gardner, 2015). In fact, in Louisiana, during the first two years of reform in compliance with Race to the Top, the state experienced a 24% increase in teacher retirees—more than 7,500 teachers retired from Louisiana public schools. This number does not include teachers who left to pursue other careers (Shuler, 2013).

Obviously, reform itself is not the only key to student achievement or school improvement.

Many reform efforts have cost districts and states inordinate amounts of money, time, and personnel, and unfortunately, many have not been successful and/or sustainable. Fullan (2006) suggests that reform movements are only successful for those who understand theories of change as well as educational theories. Although reform itself is not the key to increasing student achievement, research has demonstrated that school culture, school climate, teacher efficacy, and collective efficacy affect student achievement (Bandura, 1997; Cavanaugh & Dellar, 1997; Cohen, Fege, & Pickeral, 2009; D' Alessandro & Sadh, 1998; MacNeil, Prater, & Busch, 2009; National School Climate Council, 2007; Peterson & Deal, 2009; Stolp, 1994; University-Community Partnerships, Michigan State University, 2004). This study seeks to integrate these concepts for the purpose of proving theoretical and practical contributions to the educational research field.

It is believed that many schools in Louisiana have attempted to execute legislative mandates without being fully equipped to implement reforms successfully, meaning the reform did not increase student achievement, school performance scores, or teacher retention. While numerous variables are at play during reform, several of which are school- and district-specific, school culture, school climate, teacher efficacy, and collective efficacy are constructs which are often unaccounted. District leaders and school principals need additional support before and during the implementation of reforms, especially those involving second-order changes. This study explored the literature regarding the possible effect that school culture, school climate, teacher efficacy, and collective efficacy have on reform movements.

The purpose of this study is to (1) assess the latent structure of the newly designed Reform Readiness Survey; (2) determine the relationship between school culture and reform; (3) determine the nature of the interaction among school culture, school climate, teacher efficacy, and collective efficacy; and (4) determine the nature of the interaction among school culture, school climate, teacher efficacy, and collective efficacy in relation to change. The overarching question for this study is: *What is the relationship or impact of school culture, climate, and collective efficacy on reform movements?* Three other questions also guide this study. *First, what is similar and contrasting among the constructs? Second, how are the constructs interrelated? Third, in what ways can these constructs impact school reform efforts?* Hence, this study explores school culture, school climate, teacher efficacy, collective efficacy, and change as well as the subcomponents of these constructs in an effort to determine the nature of the relationships among them. Little research has been conducted that links comprehensive research on each of the aforementioned constructs including the possible impact that these constructs have on school reform efforts.

This study endeavors to ascertain the nature of the interaction among the following variables: school culture, school climate, teacher efficacy, and collective efficacy by sing quantitative methods. Data were collected from surveys representing each construct and were aggregated and subjected to statistical analyses in order to answer the research questions and hypothesis. The following measures were used in this study to determine strengths of correlations among constructs: the Revised School Culture Elements Questionnaire (RSCEQ), which measures perceptions of culture; Organizational Climate Index (OCI), which measures perceptions of school climate; Teachers' Sense of Efficacy Scale (TSES), which measures teacher efficacy beliefs; Teacher Efficacy Beliefs Scale- Collective (TEBS-

C) which measures collective efficacy; and the newly created Reform Readiness Survey (RRS) which measures change readiness. Correlations among each subscale in the measures were conducted as well as factor analyses on the newly created measure, the RRS.

The sample population for this study is a large school district in central Louisiana, and includes 46 schools, grades pre-kindergarten through 12th. Data were collected through SurveyMonkey, an online program designed for survey research and data analyses. Data were then exported to IBM SPSS Statistics in order to conduct further statistical analyses.

Structure and Progression of the Framework

The original conceptual framework that guides this study was developed as a researched-based framework regarding the relationship among school culture, school climate, teacher efficacy, collective efficacy, and reform. The researcher initially drew on foundational research for each independent construct. However, it was realized that these constructs have substantial associations with each other in the literature. In order to fully understand the nature of the relationship among these constructs, the researcher correlated the subscales of the measures that were used to operationally define each construct.

School Culture

Although the concept of culture is deeply rooted in anthropology, the term *school culture* is commonly used to describe an organization's unique personality that encompasses shared norms and values, traditions and rituals, behaviors, purpose, and operational frameworks. The culture of an organization can shape people's perceptions, and conversely, these perceptions shape the culture of the organization. Practically, school culture "influences everything that goes on in schools: how staff dress, what they talk about, their willingness to

change, the practice of instruction, and the emphasis given on student and faculty learning" (Peterson & Deal, 1998, p. 28).

Over the last 50 years, research concerning school culture has significantly increased due to the findings about the impact school culture has on school effectiveness (Van Houtte, 2005). School culture is described as encompassing layers, or levels of abstraction (Hoy & Hoy, 2003; Schein, 2010). These levels are characterized by their nature of visibility. Researchers agree that the first level, which is most visible, is the easiest to change; the last level is the most difficult to change (Schein, 2010). The most abstract level is the most complex, and is characterized by Hoy and Hoy (2003) as encompassing the tacit assumptions or deep-seeded beliefs that organizational members possess.

Fiore (2001) used an analogy that inspired the conceptual framework. He likened culture to the part of an iceberg that furtively lies below the surface of the ocean, providing the structure and support for the top of the iceberg, which represents school climate. Culture remains stable and is difficult to change. School climate, much like the top of the iceberg, is more easily perceived among outsiders and members of the organization, yet it is easily affected by environmental factors, such as wind and waves. Van Houtte (2005) explains, "Climate researchers measure how organization members perceive the organizational climate, while culture researchers look for what members think and believe about themselves" (p. 75).

School culture and climate affect the school in similar ways—both can affect the way outsiders view the school and both can impact student achievement (Cavanaugh & Dellar, 1997; Cohen et al., 2009; D' Alessandro & Sadh, 1998; MacNeil et al., 2009; National School Climate Council, 2007; Peterson & Deal, 2009; Stolp, 1994; University-Community

Partnerships, Michigan State University, 2004). Both are used to describe the atmosphere or the character of a school. However, practitioners should have an understanding of the differences between the constructs in order to transform schools.

School Climate

The National School Climate Council (2007) views school climate as "the quality and character of school life" (p. 5). The National School Climate Council (2007) also stated, "It [school climate] is based on patterns of school life experiences and reflects norms, goals, values, interpersonal relationships, teaching, learning and leadership practices, and organizational structures" (p. 5). School climate reflects the norms, goals, and values that are deeply rooted in the culture of a school. Five elements comprise school climate: safety, relationships, teaching and learning, institutional environment, and process of school improvement (Thapa et al., 2012).

Research has demonstrated that a positive school climate is essential to academic achievement and school success (Cohen et al., 2009; MacNeil et al., 2009; National School Climate Council, 2007; University-Community Partnerships, Michigan State University, 2004). The following are themes of common effects of school climate found in the literature: promotes academic achievement, fewer discipline problems, less anxiety and depression, high attendance rates, and helps teachers feel successful in the classroom (Cohen et al., 2009; MacNeil et al., 2009; National School Climate Council, 2007; University-Community Partnerships, Michigan State University, 2004).

Teacher Efficacy

Bandura's (1977) foundational research concerning self-efficacy is at the heart of teacher efficacy. Self-efficacy refers to a person's beliefs about his or her ability to

accomplish a task with competence or effectiveness in a specific domain. The level of self-efficacy a person possesses may inhibit or enhance the performance of a person. Bandura (1993) explains that self-efficacy influences each of the four major processes—cognitive, motivational, affective, and selection.

Teacher efficacy operates similarly, with the exception of specificity of the domain—which is student learning. Hoy and Hoy (2003) define teacher efficacy as such: "a teacher's belief that he or she can reach even difficult students to help them learn" (p. 129). Teacher efficacy is also influenced by the four sources of efficacy beliefs outlined by Bandura (1977): mastery experiences, vicarious experiences, verbal persuasion, and psychological factors. Just as a person with a high sense of self-efficacy tends to be more motivated, highly efficacious teachers persist despite negative interactions with difficult students. These individuals hold strong beliefs in themselves and their students (Hoy & Hoy, 2003).
One of the many effects of efficacious teachers is an increase in student achievement (Bandura, 1997; Berman, 1977; Dembo & Gibson, 1985; Goddard et al., 2000; Tschannen-Moran et al., 1998; Tschannen-Moran & Hoy, 2001; Ware & Kitsantas, 2007). Surprisingly, teacher efficacy has a greater effect on achievement than student socioeconomic status (Bandura, 1993; Goddard et al., 2000). Teachers with strong efficacy beliefs tend to be more willing to change and see to the success of the change (Berman, 1977).

Tschannen-Moran et al. (1998) worked to conjoin foundational conceptual frameworks by several researchers, including Bandura (1993) and Gibson and Dembo (1984), by analyzing the methodologies and psychometrics of their measures, later resulting in the measure used in this study.

Collective Efficacy

"Collective efficacy is the shared perception of teachers in a school that the efforts of the faculty as a whole will have a positive effect on student learning" (Hoy & Hoy, 2003, p. 296). Collective efficacy plays a powerful role in the school setting because teaching is performed in a group context. Individual efficacy for a teacher impacts only his or her classroom; conversely, collective efficacy impacts the school as a whole.

Bandura (1997) explains that collective efficacy is not simply the compounding of each individual's efficacy levels. Collective efficacy is one aspect of a group's emergent property. However, the sociocognitive determinants—mastery experiences, vicarious experiences, verbal persuasion, and psychological factors—operate the same way for a group.

Collective efficacy is also an important aspect of school culture and climate (Bandura, 1993, 1997; Berman, 1977; Dembo & Gibson, 1985; Tschannen-Moran et al. 1998; Ware & Kitsantas, 2007). In fact, much like culture and climate, school faculties that have developed a strong sense of collective efficacy can raise student achievement (Bandura, 1993, 1997; Hoy & Hoy, 2003; Moolenaar, et al., 2012).

Change Theory

The two types of change that Marzano (2005) describes are first-order change and second-order change. First-order change is usually surface-level, gradual, and incremental. These changes are typically guided by past experiences. Second-order change, however, is more drastic, and requires a change of mindset. Second-order change solves problems by using innovation instead of past thinking (Marzano, 2005). Since second-order change is more complex, it requires a change in culture for an organization. If a reform is supported by

the culture of the school, the change is more likely to sustain. In fact, Allen et al. (1998) submits that without a supportive culture, change is sustained less than one year. Researchers generally refer to the stages of change as a three-part process: initiation, implementation, and sustainability (Fullan, 2007; Johnson, 2005). This study focuses on organizational readiness for reform.

The original conceptual framework represents the interaction among the constructs according to the literature. The conceptualization of the relationship between school culture and climate draws on research from Fiore (2001), Hoy and Hoy (2003), and Van Houtte (2005), who assert that school culture is the foundation for school climate. Teacher and collective efficacy are interrelated to culture and climate, as represented by the two-way arrows that connect all four constructs. Although the framework represents a cycle, this study does not assert that the cycle is unidirectional. The constructs are tightly interlinked, yet they are separately complex. A non-shape in the center of the framework represents reform, demonstrating the complex and problematic nature of reform. Reforms that address climate changes are typically first-order changes. Conversely second-order changes require a shift in culture for sustainability to occur.

Development of the Reform Readiness Survey

The RRS is an assessment designed to determine the current status of schools concerning the domains of culture, climate, teacher efficacy, collective efficacy, and change research, before embracing reform. The RRS was birthed from the conceptual framework for this study. After extensively reviewing the literature, the researcher discovered evidence linking four variables—school culture, school climate, teacher efficacy, and collective efficacy—and change. Furthermore, the success of reform in schools was linked to the

strength of the perceptions of said constructs. Therefore, the RRS was created in order to evaluate the readiness of organizational reform.

The researcher wrote each item in the measure by synthesizing the literature concerning the study's constructs (see Appendix C). The measure assesses the perceptions of teachers about themselves, their school faculties, and administrators. Teachers were asked to read each statement carefully and select the scale point that best reflects their personal degree of agreement with each statement. The RRS used a six-point Likert scale ranging from 1 = *Strongly Disagree* to 6 = *Strongly Agree*.

After a series of factor analyses, a total of 40 items were retained within the four components that comprise the RRS: Teacher Efficacy in Relation to Reform (Component 1), Culture and Climate in Relation to Reform (Component 2), Change Leadership (Component 3), and Collective Efficacy in Relation to Reform (Component 4). These four components account for 70.5% of the variance.

The Cronbach's alpha reliability for the entire measure is .976. All four components are found to be highly reliable. For each subscale, the reliability coefficients are as follows: Teacher Efficacy in Relation to Reform (.940), School Culture and School Climate in Relation to Reform (.954), Change Leadership (.940), and Collective Efficacy in Relation to Reform (.946).

Research Questions and Hypothesis

Four research questions and one hypothesis were framed in order to address the variables and the methodology for this study. These questions are addressed by finding the relationships between and among the variables using correlations. Additionally, one research question is specifically addressed through a series of factor analyses. The hypothesis predicts

the positive relationship between school culture and change. This hypothesis was designed to answer the first research question.

Methodology

Quantitative research methods were used in order to test the hypothesis and answer the research questions regarding the variables in the study. Data were collected from a sample population, which includes 46 brick-and-mortar schools, K-12, located in a large centrally located Louisiana district. These schools are representative of state demographics, including school grade configuration and school performance letter grades. Some schools are located in rural areas and others in the inner city. A total of 1250 teachers submitted responses; however, 1155 usable surveys met the criteria for analysis. Data analyses includes descriptive statistics and demographics for the sample, descriptive statistics for each item, factor analyses of the Reform Readiness Survey, inter-item correlations for the RRS, reliability analyses for the RRS as well as factored subscales of the RRS, and bivariate correlations among all subscales of each measure. The following section outlines the research questions and hypothesis as well as the major findings, conclusions, and implications of the study.

Research Questions and the Research Hypothesis

This study is framed by four research questions that explore the relationship among the major constructs of the study: school culture, school climate, teacher efficacy, collective efficacy, and change. The research questions are as follows:

Research Question 1

What is the latent structure of the newly created Reform Readiness Survey?

Research Question 2

What is the relationship between school culture and reform?

Research Question 3

What is the nature of the interaction among school culture, school climate, teacher efficacy, and collective efficacy?

Research Question 4

What is the nature of interaction among school culture, school climate, teacher efficacy, and collective efficacy in relation to change?

Hypothesis 1

There is a statistically significant, positive relationship between teachers' perceptions of school culture and change.

Major Findings and Conclusions

Major Finding Number One

The Reform Readiness Survey developed for use in this study to assess the readiness of organizational change demonstrated satisfactory psychometric qualities (validity and reliability).

Conclusion. The Cronbach's alpha reliability for the RRS is .976. All four components of the RRS were also found to be highly reliable. For each subscale, the reliability coefficients are as follows: Teacher Efficacy in Relation to Reform (.940), School Culture and School Climate in Relation to Reform (.954), Change Leadership (.940), and Collective Efficacy in Relation to Reform (.946). Therefore, the RRS is purported to measure that which it was designed to measure. The factored subscales of the measure loaded as expected, with four major components explaining 70.5% of the variance. Very few items

double-loaded or triple-loaded after the initial factor analysis, and no items double- or triple-loaded after the second factor analysis. The measure was reduced from 42 items to 40 items.

Major Finding Number Two

School culture and school climate, although two discrete constructs, are perceived by teachers to be similar and/or one in the same.

Conclusion. During the creation of the measure and the pilot stages of the measure, the researcher assumed that after the exploratory factor analysis, five factors would emerge, with school culture and school climate loading as separate components. However, the initial factor analysis, intended for item reduction using the pilot survey data, revealed that teachers view school culture and school climate similarly. These two constructs loaded on the same factor. However, all other constructs in the study, teacher efficacy, collective efficacy, and change leadership loaded on separate factors. In the subsequent factor analyses for this study using the sample population, school culture and school climate loaded on the same component as well. This confirms the research regarding the strong relationship between school culture and school climate (Fiore, 2001; Hoy & Hoy, 2003; Van Houtte, 2005). However, although researchers conceptualize the terms separately, teachers view the constructs as the same.

Major Finding Number Three

Of all the constructs in this study, school culture has the strongest relationship with reform.

Conclusion. All subscales of the RSCEQ are strongly correlated with the subscales in the RRS. In fact, of all the correlations among constructs, the strongest correlations occur between school culture and reform. School climate does not correlate as strongly with reform

as school culture did. This affirms research by Allen et al. (1998) and Fullan (2007, 2009), who assert that in order for change to be successful and sustainable, one must address school culture. Furthermore, Wagner et al. (2006) discuss the importance of school culture in systematic thinking when approaching reform for educational organizations. Reform requires a shift in culture.

Major Finding Number Four

Collective efficacy is significantly related to reform, culture, and climate.

Conclusion. Collective efficacy is significantly correlated with school culture, school climate, and reform, with slightly stronger correlations occurring between collective efficacy and school culture. Overall, the Pearson's correlations generally range from .600 to .750. The results from this study support Bandura's (1997) assertion that collective efficacy affects the whole school. Furthermore, Tschannen-Moran et al. (1998) confirm that collective beliefs are an important factor in the school's culture. This study supports these findings. Hoy and Hoy (2003) define collective efficacy as shared beliefs among organizational members, just as culture and climate are said to embody a shared belief system. The researcher did not expect that collective efficacy would be so strongly correlated with change; however, when considering the close relationship among collective efficacy, school culture, and school climate, this should not be surprising.

Major Finding Number Five

Although collective efficacy is related to reform, culture, and climate, it is not as significantly related to teacher efficacy.

Conclusion. Although collective efficacy and teacher efficacy share the same cognitive and behavioral sources: mastery experiences, vicarious experiences, verbal

persuasion, and psychological factors (Bandura, 1997), collective efficacy does not have a strong correlation with teacher efficacy. This is likely due to the emergent properties of groups and the lack of the compounding of individual efficacy of group members, as Bandura (1997) explains in his research. In other words, this study corroborates the idea that a highly efficacious teacher can have a low sense of collective efficacy due to the number of inexperienced or weak faculty members. Or, conversely, a teacher with a low sense of self-efficacy can have a strong belief that his faculty can positively impact student learning, which translates to a high sense of collective efficacy.

Major Finding Number Six

Teacher efficacy is not significantly correlated with reform.

Conclusion. The sixth major finding of this study was surprising to the researcher, and challenges the original conceptual framework. Although teacher efficacy is correlated with reform, the correlations are not strong, only weak to moderate. This may be due to the crux of self-efficacy, which is *self*. Individual's perceptions of himself or herself correlate less with reform than do whole-group constructs, such as culture, climate, and collective efficacy. Few studies explicitly correlate teacher efficacy to reform. Many researchers agree that teacher efficacy is increased with professional development (Bruce, Esmonde, Ross, Dookie, & Beatty, 2010; Goddard, et al. 2000; Klassen & Chiu, 2010; Tschannen-Moran & Johnson, 2011; Tschannen-Moran & McMaster, 2009); however, professional development does not always indicate that true reform is taking place in the classroom or school-wide. Tschannen-Moran et al. (1998) describe highly efficacious teachers as being more willing to implement changes within their classrooms without grumbling. Perhaps this supports the slight correlation with reform in this study.

Discussion and Implications of Major Findings

This section provides a more in-depth discussion of the implications of the major findings concerning each construct and includes a discussion concerning the development of the Reform Readiness Survey. The development of the School Reform Model is also addressed in this section.

This quantitative study is considered important because it offers a model for addressing organizational reform. This study tests the relationship among constructs found in the literature that are related to both student achievement and reform. Although many studies have addressed each construct separately, the researcher has yet to find a study addressing all of the constructs in relation to reform. Furthermore, the Reform Readiness Survey is unlike any other measure that determines organizational readiness for reform in that it addresses all major constructs in the model that can affect student achievement as well as reform: school culture, school climate, teacher efficacy, and collective efficacy.

Relationships Among and Between the Variables

Two major constructs in this study, school culture and school climate, are quite often used in the same context and used interchangeably by practitioners. The researcher provides a comprehensive review of the literature for both constructs separately as well as discusses the nature of the relationship between the two, according to the literature. The RSCEQ, which measures organizational culture, and the OCI, which operationally defined organizational climate in this study, were used due to the robustness of the instruments in measuring the two separate constructs. As expected, the two constructs are highly correlated with one another, with correlations ranging from .527 to .783, with the exception of the OCI subscale attending to Institutional Vulnerability.

Because the original framework of the study presents school culture and school climate as separate constructs, the researcher used the framework and the literature concerning the two when writing the items for the RRS. However, after subsequent factor analyses, the researcher discovered that because culture and climate loaded on the same factor, with remaining constructs loaded as separate factors, teachers view culture and climate as one in the same. This could be partly attributed to the language that practitioners hear when leaders refer to culture and climate as the same idea. However, it could also be attributed to the fact that the constructs are, in fact, conceptually related. This study supports the research regarding school culture and climate (Fiore, 2001; Hoy & Hoy, 2003; Van Houtte, 2005); however, this study is not able to confirm nor deny the notion that climate is a manifestation of school culture. Although the literature supports the theory that school culture is the foundation out of which school climate manifests itself, this theory may continue to be debated by researchers, much like Hoy (1997) and Denison (1997) did.

Collective efficacy is also a construct that can be easily misunderstood. Bandura (1997) explains that collective efficacy is not the average individual efficacy of members in a group or the compounding of individuals' efficacies. Collective efficacy emerges as an independent group attribute, which functions much like self-efficacy but for an entire group. In fact, the four sources of efficacy are the same (Bandura, 1997). This study supports Bandura's findings that collective efficacy is relatively independent from teacher efficacy. Teacher efficacy is not strongly correlated with collective efficacy or the other constructs of the study. Although this study acknowledges the literature concerning the importance of teacher efficacy and collective efficacy in relation to student achievement, the constructs should be delineated for practitioners.

Collective efficacy is strongly correlated school culture and climate, which supports research concerning the relationship between collective efficacy and culture by Tschannen-Moran et al. (1998). Like school culture and climate, collective efficacy is a group attribute. Teaching is performed in a group context, and faculties with a strong sense of collective efficacy are inclined to more productivity if they are dissatisfied with their performance. Therefore, this study aligns with Tschannen-Moran et al.'s (1998) research, which states that collective efficacy plays a vital role in the performance of the school. This study also supports the body of research that ascribes collective efficacy as being an important aspect of school culture and climate (Bandura, 1993, 1997; Berman, 1977; Dembo & Gibson, 1985; Tschannen-Moran et al. 1998; Ware & Kitsantas, 2007).

Conversely, while collective efficacy proves to be more highly correlated with culture, climate, and reform, teacher efficacy is not as highly correlated with the constructs. Olivier (2001) found similar results: "Although the linkage between school culture and teacher self-efficacy was positive, the results of the study supported an even stronger relationship between school culture and *collective efficacy*" (p. 256). It seems that constructs that are ascribed to organizations have stronger correlations with reform than do constructs relating to individuals. Berman (1977) asserts that teacher efficacy can impact *teacher* change. Perhaps the key words are *teacher change.* The essence of self-efficacy is *self,* and although individuals execute reform, the influence of the whole group is stronger that the researcher originally considered. Bandura (1977, 1993) explains that self-efficacy affects motivation and highly efficacious individuals tend to accomplish challenging tasks with greater effort and persistence. This may explain the positive correlation with reform in this study.

Reform positively correlates with school culture, school climate, teacher efficacy, and collective efficacy; however, the strongest correlations exist between school culture and reform. These results offer additional support to previous research noting the strong relationship between school climate and reform (Allen et al., 1998; Fullan, 1993, 2007, 2009; Wagner et al., 2006).

A New Framework for Reform Readiness

The previous framework for the study represented the summation of research on school culture, school climate, teacher and collective efficacy, and reform. The constructs were presented as equally important variables in the reform process, each interacting with the other constructs in equally powerful ways. The relationship between school culture and school climate were pictured as a triangle, emulating Fiore's (2001) iceberg metaphor that describes school culture as being the foundation out of which school climate is manifested. A solid line separated the two constructs, representing the seen and unseen characteristics of the constructs.

After the analysis of data, the researcher discovered that although research has presented the two constructs as theoretically separate, many practitioners view them as one in the same. The new Framework for Reform Readiness will continue to present culture and climate as a triangle, reflecting Fiore's (2001) metaphor, because the data supports the strong relationship among the constructs. However, the constructs are seamlessly related. In other words, there is no distinct line that separates the two constructs. Although they are distinctly important, they overlap in the minds of practitioners. Therefore, the line visually separating the two will become a dotted line, representing the fluidity of the constructs in practitioners' minds. Separation can be recognized due to the actions and behaviors related to climate,

which stems from the beliefs and feelings related to the foundational culture. Though it may not be vital to an organization to distinguish every characteristic of an organization as a manifestation of culture or climate, leaders need to have knowledge of both culture and climate in relation to first- and second-order change. This will be discussed in a subsequent section.

The data analysis also reveals that collective efficacy plays a major role in the reform process and is more closely related to school climate and school culture than previously expected. Collective efficacy and teacher efficacy are not as strongly related as previously thought. Teacher efficacy is focused on self, much like locus of control. Collective efficacy addresses the whole organization or group. If a teacher implemented a reform only within his or her classroom, teacher efficacy would play a more substantial role. However, this model is more focused on organizational reform; therefore, school culture, school climate, and collective efficacy are more influential on the organizational effectiveness of the reform. Teacher efficacy is not quite as influential, although it does have a positive relationship with reform, which supports Berman's (1977) research that claims that teacher efficacy can impact teacher change.

Reform will remain in the center of the model, represented as a non-shape to demonstrate the complexity and problematic-nature of change. Because the RRS did not differentiate between first-order change and second-order change, these two types of change will not be discretely represented.

Overall, the model is a representation of previous literature and current empirical evidence that supports the relationships among the five constructs: school culture, school climate, teacher efficacy, collective efficacy, and reform.

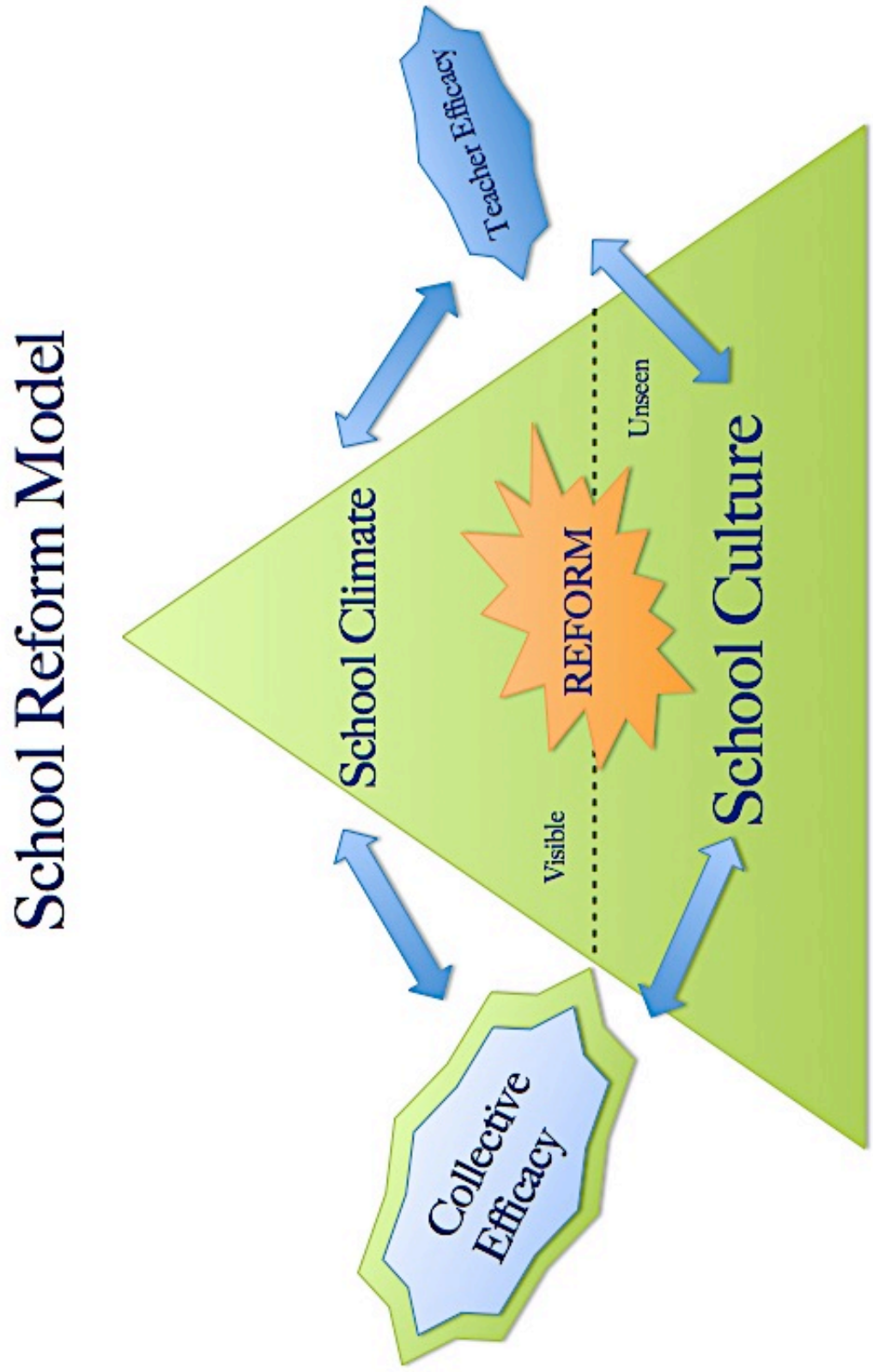

Figure 5. School Reform Model

Implications for Theory, Practice, and Future Research

In the previous sections, the major findings and conclusions concerning the relationships among variables were discussed. The following section addresses the study in a broader sense and discusses implication for theorists, practitioners, and future researchers.

Implications Related to Conceptual and Theoretical Concerns

The research conducted regarding school culture affirms several findings from other researchers, particularly concerning reform. The amount of research concerning school culture had increased exponentially over the last 50 years due to the strong link between school culture and school effectiveness (Van Houtte, 2005). In particular, school culture has been shown to affect student achievement (D'Alessandro & Sadh, 1998; Stolp, 1994). Although this study does not address student achievement directly, it is found that school culture does indeed have a strong relationship with reform, which confirms research by Allen et al. (1998), Fullan (2007, 2009), and Wagner et al. (2006).

According to the correlations in this study, Shared Leadership, a subscale of the RSCEQ, is most strongly related to Collegial Leadership (OCI), and Change Leadership (RRS). These subscales are not only connected because of the leadership factor, but because culture is very strongly related to both climate and reform. Therefore, it can be noted that strong leadership, which is shared and collegial among faculty members, is indeed related to strength of culture. In the review of the literature, the researcher brought out several elements of culture among foundational research. The following studies were noted: Cavanaugh and Dellar (1997); Fyans, Jr. and Maeher (1990); Hongboontri and Keawkhong (2014); Hoy and Hoy (2003); and Olivier (2001). Only two of the studies, Cavanaugh and Dellar (1997) and

Olivier (2001) list leadership as being an essential element of school culture. This study finds that leadership is indeed an element of school culture.

School culture is also highly correlated with collective efficacy (.720, .699, .728). In fact, of all the subscales that are correlated with collective efficacy, the strongest correlations occur with the subscales referring to school culture. This indicates that collective efficacy is strongly related to culture. The nature of the relationship was not assessed in this study.

Concerning the relationship between school culture and school climate, this study draws from research by Fiore (2001), Hoy and Hoy (2003), and Van Houtte (2005) who assert that school climate is a product of school culture. School culture is the foundation upon which school climate is manifested. However, this study asserts that, although school culture and climate are two separate constructs, they are conceptualized by teachers as being one in the same. Van Houtte (2005) asserts, "Climate researchers measure how organization members perceive the organizational climate, while culture researchers look for what members think and believe about themselves" (p. 75). However, when using Likert-type measures, researchers solicit respondents to assess their own perceptions about the topic. Therefore, it would be easy for teachers to perceive their schools to be very similar in school culture and school climate.

Teacher Professionalism, a subscale of the OCI, highly correlated with all subscales in the RSCEQ and the TEBS-C. Although it is apparent that school culture and school climate are closely related, an addition to the research on school climate would be that collective efficacy is highly correlated with school climate. In fact, all subscales of the OCI, with the exception of Institutional Vulnerability, are strongly correlated with collective efficacy. Therefore, collective efficacy is closely related to both school culture and climate.

This corroborates research that states that collective efficacy is an important aspect of school culture and climate (Bandura, 1993, 1997; Berman, 1977; Dembo & Gibson, 1985; Tschannen-Moran et al., 1998; Ware & Kitsantas, 2007).

In reference to Bandura's (1997) work concerning collective efficacy, this study confirms that collective efficacy is a group attribute, not a compounding of individuals' efficacious beliefs. Collective efficacy does not have a strong relationship with teacher efficacy.

However, this study provides further insight into the collective efficacy construct. As stated earlier, collective efficacy has a strong relationship with school culture, school climate, and reform. The strongest relationship with collective efficacy is with school culture. Because of the relationship between school culture and school climate, it is no surprise that collective efficacy is related to both. Bandura (1997) explains that although collective efficacy is not an additive process relating to teacher efficacy, it does share the same sources for efficacy: mastery experiences, vicarious experiences, verbal persuasion, and psychological factors. Group members assess others' strengths and weaknesses when determining their perceptions concerning the efficacy of the group. This study asserts that when teachers are asked to measure their perceptions of culture and climate, they answer questions concerning collective efficacy much the same because they are measuring their perceptions of the group. This is also true of the Reform Readiness Survey. Teachers are asked to determine their perceptions of the group. One must remember, however, that although teachers are measuring perceptions of the whole faculty, the constructs previously mentioned are discrete.

Perhaps the most significant contribution to research concerning the five constructs in this study is that teacher efficacy does not have a strong relationship with reform. Hoy and Hoy (2003) define teacher efficacy as "a teacher's belief that he or she can reach even difficult students to help them learn" (p. 129). According to Tschannen-Moran et al.'s (1998) research, the four sources of efficacy are filtered through the cognitive process of the teaching task, which is related to the culture of the school. Furthermore, highly efficacious teachers persist to overcome difficulties in the classroom and are more likely to embrace new practices (Hoy & Hoy, 2003). These characteristics of efficacious teachers would seemingly impact reform. However, the relationship between teacher efficacy and reform is weak. Although efficacious teachers are more willing to incorporate new practices and support innovation, the strength of the reform is more related to whole-faculty efficacy, or collective efficacy.

One of the foundational elements of reform is culture. If the culture does not support the reform, it will not be sustainable. Allen et al. (1998) and Fullan (2007, 2009) assert that leaders must understand school culture when implementing reform. Reform, particularly second-order change, requires reculturing. This study supports the research concerning the strong relationship between culture and reform.

Another finding that affirms Fullan's (2001, 2005) research concerning change theory is the impact that leaders have on change. This study finds high correlations among subscales addressing change within several constructs, such as culture, climate, and reform. Leadership is an element that permeates almost every aspect of the school, in particular the culture and climate of the school. Although leaders have influence on individual teachers, the

correlations among leadership subscales and teacher efficacy subscales were relatively low, especially in comparison with the other constructs in the study.

In addition to the findings concerning the impact of reform, this study finds that collective efficacy also has a strong relationship with reform. In particular, the researcher submits that collective efficacy is likely more impactful on the success of second-order reform rather than first-order reform. Just as second-order change requires reculturing of schools, second-order change can possibly be more successful with a strong sense of collective efficacy.

Lastly, this study augments research on reform by providing a reliable and valid measure that districts and states can use in order to determine organizational readiness for reform.

Implications for Practicing Educational Leaders

The following section provides implications for leaders at both school and district levels.

School leaders. As many school leaders know, reform itself is not the key to creating high-achieving schools. Furthermore, reforms that are not implemented correctly are usually not sustainable. Badly implemented reforms can cost districts inordinate amounts of time, money, and even personnel. However, research has demonstrated that school culture, school climate, teacher efficacy, and collective efficacy affect student achievement (Bandura, 1997; Cavanaugh & Dellar, 1997; Cohen, Fege, & Pickeral, 2009; D' Alessandro & Sadh, 1998; MacNeil, Prater, & Busch, 2009; National School Climate Council, 2007; Peterson & Deal, 2009; Stolp, 1994; University-Community Partnerships, Michigan State University, 2004). Just as Fullan (1999) asserts the importance of theories of change and theories of education

working together, this study calls for the integration of the following constructs by school leaders and policymakers when considering reform: school culture, school climate, teacher efficacy, and collective efficacy.

This study affirms the strong connection between reform and culture. Ideally, a leader should work to create a strong culture and a positive climate before implementing a second-order change. This is called reculturing. Unfortunately, though, districts and states typically intend to implement reform as soon as possible in order to see more timely results and to save money. Therefore, it is the school leader's responsibility to continually be cognizant of the current school culture and work toward making it stronger. The stronger the school culture is, the easier it will be to implement second-order changes.

School leaders must understand the differences between culture and climate as well as first order and second order change. Reforms that address climate changes are typically first-order changes are visual, incremental, and surface level. Although climate changes may seem insignificant, these first-order changes are extremely valuable to school leaders. First-order changes can be administrative directives to which faculty members must adhere, such as dressing professionally, arriving at school on time, teaching from bell-to-bell, and working collaboratively to plan lessons. First-order changes pave the way to bring about attitudes, traditions, norms and values that affect the overarching culture of the school.

Although having a strong school culture makes second-order change easier, the nature of second-order change will always require the reculturing of a school in order to reach sustainability. Second-order change requires new ways of thinking. It is often complex, problematic, and takes much time and effort to accomplish. If the faculty already emulates

shared leadership, professional commitment, and collegial teaching and learning, then second-order change will likely be easier to initiate, implement, and sustain.

Collective efficacy also proved to be a powerful construct highly correlated with reform as well as culture and climate. Schools can develop a strong sense of collective efficacy and raise student achievement in the process (Bandura, 1993, 1997; Hoy & Hoy, 2003; Moolenaar, Sleegers, & Daly, 2012). In low socioeconomic schools, student achievement is powerfully affected by teachers' decreasing collective efficacy (Bandura, 1997).

Leaders should familiarize themselves with the construct and the four sources of collective efficacy: mastery experiences, vicarious experiences, verbal persuasion, and psychological factors. School leaders can be a source of high efficacious beliefs among faculty members. For instance, mastery experiences are personal experiences of success that the faculty experiences. As the teachers see student success—social, behavior, or academics—the principal can have teachers report the successes to faculty members. As the whole faculty observes their own impact on student learning, the collective efficacy increases. Principals can use every whole-faculty directive or initiative as an opportunity to name the successes that are seen.

Vicarious experiences occur when the faculty observes the success or failure of another faculty when tackling a similar proposed task. Faculty members who are able to observe other schools and the successes they experience with the same programs, types of students, and resources, will experience an increase in collective efficacy. Principals, however, must take time to view the practices of other principals and collaborate with them.

Verbal persuasion can occur at the school level or the district level. Verbal persuasion is simply hearing others confirm the group's abilities or the high expectations of that person for the group. Principals can provide this to their own faculties. District leaders can affirm positive expectations to school faculties. However, the credibility of the persuader can affect the faculty's response to the message.

The last source of efficacy is a bit more difficult for a principal or district leaders to apply. Levels of arousal and how the arousal is cognitively interpreted can explain psychological factors. Hoy and Hoy (2003) explain that psychological arousals, such as anxiousness and worry, can lower efficacy while excitement or energy increase efficacy. Whole-faculty psychological factors may be manifested through the climate at the school. If student behaviors are hindering teachers from teaching, they may experience stress and frustration, which would lower the efficacious beliefs for the faculty.

Although teacher efficacy did not prove to be significantly related to reform, leaders should not forget the impact teacher efficacy has on an individual teacher's classroom achievement (Bandura, 1997; Berman, 1977; Dembo & Gibson, 1985; Goddard et al., 2000; Tschannen-Moran et al., 1998; Tschannen-Moran & Hoy, 2001; Ware & Kitsantas, 2007). Teacher efficacy has an even greater effect on achievement than student socioeconomic status (Bandura, 1993; Goddard et al., 2000). The sources of efficacy are the same, and leaders can raise or lower a teacher's efficacy through verbal persuasion. Leaders should observe teachers and give them constructive feedback. Principals can also give teachers the opportunity to observe one another, which may contribute to an increase in teacher efficacy through vicarious experiences.

Lastly, school leaders can use the results of the Reform Readiness Survey to determine the strengths and weaknesses of the school in terms of culture, climate, collective efficacy, teacher efficacy, and leadership. Looking at practices that enhance and hinder the culture and the collective efficacy of the school is one place to start.

District leaders. Several of the constructs in this study are used in reference to school-level reform. However, whole districts create a culture and climate that also affects reform. A strong district-wide culture is expected to have a positive impact on the schools and the teachers. Just as individual schools create vision statements and goals, districts should do the same and communicate those statements and goals to the schools and the community. If schools perceive the entire district negatively, the community will also perceive the district negatively. A strong culture and a positive climate throughout the district will better prepare schools for reform.

Collective efficacy is a powerful construct that districts can use to increase achievement and prepare for reform. District leaders should understand and use the four sources of efficacy in actions and conversations with principals, whole faculties, and the community. Reforms too often receive negative attention from the community from frustrated teachers. However, if the practitioners in the district believe that the district positively impacts student achievement and can continue to positively impact student achievement, the initial problems that accompany second-order change will be more easily resolved. However, communication by district leaders to schools and the community is key, which leads to the next point.

District leaders must continually reflect on their own actions before and during the initiation of reform. Strong, transformational leadership is essential to all stages of reform.

This study finds that effective leadership is also essential to a strong culture and a positive climate.

Lastly, the Reform Readiness Survey can be used to determine the readiness of schools for reform. Too often districts use the lowest performing schools to test the success of a second-order changes because of the immediacy of the problem and the extra funding available from grants or Title I. However, because low performing schools often have large amounts of teacher turnover, morale issues, negative climates, and toxic cultures, reforms often fail before the district allows other schools to take part in the reform process. The RRS was designed to assist districts in determining which schools are ready for reform. District leaders can initiate the district-wide reform in stages, beginning with the schools that are ready for the reform. During the first stage of reform, schools in which the reform is not being implemented can prepare for the reform by working to strengthen the culture and the collective efficacy of faculty members. This also gives these schools more time to put structures in place as well as observe the implementation of the reform in other schools. The next set of schools will implement the reform during the second stage and so forth.

Although the RRS was created to determine organizational readiness for reform, school leaders and district leaders could possibly use the measure to progress monitor the implementation of the reform in reference to the affects on school culture, school climate, teacher efficacy, collective efficacy, and change leadership.

Implications for Future Research

This study offers multiple implications for future research. Opportunities for future research are presented below:

1. The newly developed Reform Readiness Scale can be further refined by reexamining the confirmatory factor analysis procedures in order to determine the statistical replication of the psychometric structure and strengthen validation.
2. A researcher can explore the capability of the Reform Readiness Survey to monitor the progress of implemented reforms and/or the status of the culture, climate, teacher efficacy, collective efficacy, and change leadership within schools.
3. A large-scale study could determine if the Reform Readiness Survey could be used across several districts to determine whole districts that are ready to implement reform.
4. The Reform Readiness Survey can be further delineated by first-order change and second-order change.
5. Because the subscale, Institutional Vulnerability, in the OCI did not correlate with other subscales, one may explore correlations using a different climate measure.
6. Future studies can explore the level at which collective efficacy impacts student achievement in comparison to teacher efficacy.
7. Researchers can further explore the effect of collective efficacy on the three stages of change: initiation, implementation, and sustainability.
8. Using school performance data, predictive capabilities of the model may be explored using regression analyses.
9. Future studies could use a qualitative component when examining readiness for reform.

10. Because school culture, school climate, and collective efficacy are closely related, future studies could further determine the nature of the relationships, including effects.

Chapter Summary

Chapter 5 gave an overview of the study, including the literature review, conceptual framework, and methodology. Each research question and the hypothesis were reviewed, and the major findings were thoroughly discussed. A new conceptual framework was presented, and implications for theory, practice, and future research were discussed.

Dissertation Summary

This study explores the relationships among the following constructs: school culture, school climate, teacher efficacy, collective efficacy, and reform. An initial conceptual framework was created in reference to the literature concerning each construct, yet a new Framework for Reform Readiness emerged as data were analyzed and the literature was readdressed. Furthermore, this study included the development of the Reform Readiness Survey, a measure which can be used to determine organizational readiness for reform, in which psychometric properties are examined and established.

Four research questions and one hypothesis were established to guide the research methodology and the study's overarching question: what is the relationship or impact of school culture, climate, and collective efficacy on reform movements? The study uses a large school district in Louisiana that encompasses 46 schools, grades K-12. Only teachers were administered the survey, which includes five measures, each operationally defining the five constructs. Data analyses includes descriptive statistics and demographics for the sample, descriptive statistics for each item, factor analyses of the Reform Readiness Survey, inter-

item correlations for the RRS, reliability analyses for the RRS as well as factored subscales of the RRS, and bivariate correlations among all subscales of each measure.

Major findings of the study indicate that: (1) the Reform Readiness Survey developed for use in this study to assess the readiness of organizational change demonstrates satisfactory psychometric qualities (validity and reliability); (2) school culture and school climate, although two discrete constructs, are perceived by teachers to be similar and/or one in the same; (3) school culture indeed has a strong relationship with reform; (4) collective efficacy is significantly related to reform, culture, and climate; (5) although collective efficacy is related to reform, culture, and climate, it is not as significantly related to teacher efficacy; (6) teacher efficacy is not significantly correlated with reform.

These major findings have several implications for theory, practice, and future research. The Reform Readiness Survey can be used as a tool for districts to determine organizational readiness by essentially measuring school culture and climate in relation to reform, teacher efficacy in relation to reform, collective efficacy in relation to reform, and change leadership. Although reform itself is not the key to increasing student achievement, by bridging the educational theories that have proven to raise student achievement, such as school culture, climate, teacher efficacy, and collective efficacy, and change theories, school and district leaders will be able to use reform to create positive changes for the future generations.

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APPENDIX A:

DISTRICT DEMOGRAPHICS

A.1 School Demographic Data

A.2 School Performance Data

Appendix A

School Demographic Data

Site Code	Total Enrollment	Race		English Proficiency		Economically Disadvantaged
		White	Minority	Fully Proficient %	Limited English Proficient %	Percent
1	252	<10	≥250	>95%	<5%	>95%
2	428	≥20	≥400	>95%	<5%	93.93%
3	1278	≥650	≥620	>95%	<5%	50.08%
4	325	≥270	≥50	>95%	<5%	67.08%
5	904	≥620	≥280	>95%	<5%	51.44%
6	555	≥150	≥390	>95%	<5%	66.85%
7	947	≥400	≥540	>95%	<5%	65.47%
8	444	≥60	≥380	>95%	<5%	93.47%
9	479	≥470	<10	>95%	<5%	55.95%
10	1099	≥1070	≥20	>95%	<5%	44.49%
11	662	≥280	≥370	92.80%	7.30%	70.09%
12	652	≥390	≥260	92.60%	7.40%	75.92%
13	336	≥260	≥60	>95%	<5%	66.37%
14	206	<10	≥190	>95%	<5%	>95%
15	316	<10	≥300	>95%		>95%

Site Code	Total Enrollment	Race		English Proficiency		Economically Disadvantaged
		White	Minority	Fully Proficient	Limited English Proficient	
				%	%	Percent
16	445	<10	≥430	>95%	<5%	92.13%
17	214	<10	≥210	>95%	<5%	>95%
18	366	<10	≥350	>95%	<5%	92.08%
19	685	≥390	≥280	93.40%	6.60%	69.20%
20	283	≥10	≥260	>95%	<5%	94.70%
21	803	≥760	≥40	>95%	<5%	57.41%
22	556	≥350	≥190	>95%	<5%	70.50%
23	564	<10	≥550	>95%	<5%	85.64%
24	438	≥180	≥250	>95%	<5%	47.03%
25	321	≥70	≥240	95.00%	5.00%	92.21%
26	1376	≥860	≥510	>95%	<5%	46.22%
27	665	≥340	≥310	>95%	<5%	61.80%
28	279	≥240	≥30	>95%	<5%	73.84%
29	362	≥240	≥110	>95%	<5%	72.10%
30	391	≥170	≥210	94.60%	5.40%	69.57%
31	154	≥20	≥130	>95%	<5%	90.26%
32	212	<10	≥200	>95%	<5%	>95%
33	333	≥60	≥270	>95%	<5%	77.48%

Site Code	Total Enrollment	Race		English Proficiency		Economically Disadvantaged
		White	Minority	Fully Proficient %	Limited English Proficient %	Percent
34	386	≥20	≥360	>95%	<5%	55.44%
35	333	≥30	≥290	>95%	<5%	91.29%
36	214	<10	≥210	>95%	<5%	92.52%
37	396	≥170	≥220	>95%	<5%	88.38%
38	245	<10	≥240	>95%	<5%	>95%
39	634	≥500	≥120	>95%	<5%	69.72%
40	945	≥560	≥380	>95%	<5%	68.15%
41	589	≥340	≥240	>95%	<5%	73.85%
42	415	≥210	≥190	66.30%	33.70%	77.35%
43	72	≥40	≥20	>95%	<5%	93.06%
44	753	≥410	≥330	>95%	<5%	81.81%
45	392	≥380	≥10	>95%	<5%	55.87%
46	597	≥370	≥220	>95%	<5%	34.67%
47	312	≥270	≥40	>95%	<5%	39.74%
*	110	≥50	≥50	>95%	<5%	66.36%

Appendix A

School Performance Data

Site Code	School Type (Elementary, Middle, High, Combination)	2014 Letter Grade	2014 Annual SPS	2013 Letter Grade	2013 Annual SPS	2014 Assessment Index Grades 3-8*	2014 Assessment Index End-of-Course Exams*	2014 Assessment Index ACT*	Cohort Graduation Rate (Actual Graduation Rate)*** (2012-13 Cohort)
1	Elementary/Middle School	C	74.1	D	67.9	64.1			
2	Elementary/Middle School	F	47.3	F	46.8	43.7			
3	High School	B	87.1	C	83.4		77.1	71.9	79.9
4	Elementary/Middle School	B	99.9	B	90.1	90.9			
5	Elementary/Middle School	A	104.2	A	101.0	94.2			
6	High School	C	75.9	C	77.4		80.3	83.4	57.3
7	Elementary/Middle School	C	79.7	B	86.7	76.6			
8	Elementary/Middle School	D	50.4	D	66.2	50.4			
9	Elementary/Middle School	B	98.5	B	94.5	93.7			
10	Combination School	B	93.9	B	98.4	86.5	80.9	77.4	72.7
11	Elementary/Middle School	B	91.7	B	91.3	83.6			
12	Combination School	B	95.9	C	73.0	78.8	86.7	66.3	82.9
13	Elementary/Middle School	B	94.5	B	86.7	90.4			
14	Elementary/Middle School	C	73.7	D	57.5	64.4			
15	Elementary/Middle School	C	74.7	F	47.3	64.7			

Site Code	School Type (Elementary, Middle, High, Combination)	2014 Letter Grade	2014 Annual SPS	2013 Letter Grade	2013 Annual SPS	2014 Assessment Index Grades 3-8*	2014 Assessment Index End-of-Course Exams*	2014 Assessment Index ACT*	Cohort Graduation Rate (Actual Graduation Rate)*** (2012-13 Cohort)
16	Elementary/Middle School	D	55.4	F	44.8	46.2			
17	Elementary/Middle School	D	49.9	F	46.3	45.5			
18	Elementary/Middle School	D	60.1	D	55.2	56.8			
19	Elementary/Middle School	C	82.9	C	70.9	78.8			
20	Elementary/Middle School	D	68.6	D	55.1	59.1			
21	Combination School	B	91.6	B	87.9	85.0	80.1	56.0	75.4
22	Elementary/Middle School	B	92.7	B	91.6	87.4			
23	High School	D	47.6	D	52.0		40.2	30.9	52.5
24	Elementary/Middle School	A	105.4	A	112.5	105.4			
25	Elementary/Middle School	D	59.9	D	56.2	56.0			
26	High School	C	83.6	B	88.0		77.9	83.9	72.1
27	Elementary/Middle School	C	80.2	C	78.5	70.8			
28	Combination School	C	77.3	D	63.5	66.9	63.3	46.6	81.3
29	Elementary/Middle School	A	100.0	A	103.3	93.1			
30	Combination School	D	69.5	B	90.4	54.0	71.6	69.8	67.6
31	Elementary/Middle School	D	55.3	D	60.9	55.3			
32	Elementary/Middle School	F	48.6	D	57.6	48.6			
33	Elementary/Middle School	A	112.7	B	94.1	102.7			

Site Code	School Type (Elementary, Middle, High, Combination)	2014 Letter Grade	2014 Annual SPS	2013 Letter Grade	2013 Annual SPS	2014 Assessment Index Grades 3-8*	2014 Assessment Index End-of-Course Exams*	2014 Assessment Index ACT*	Cohort Graduation Rate (Actual Graduation Rate)*** (2012-13 Cohort)
34	Elementary/Middle School	A	101.6	B	90.7	96.0			
35	Elementary/Middle School	C	70.3	C	77.3	62.9			
36	Elementary/Middle School	D	54.8	F	47.8	51.7			
37	Elementary/Middle School	C	71.0	C	73.2	63.1			
38	Elementary/Middle School	F	39.8	D	53.9	39.8			
39	Elementary/Middle School	B	88.5	B	94.4	84.7			
40	High School	C	81.3	C	82.1		75.8	66.1	75.3
41	Elementary/Middle School	C	76.6	C	80.0	66.8			
42	Elementary/Middle School	B	91.9	C	83.9	84.3			
43	Combination School	F	15.0	F	22.4	40.3	5.6	~	<5
44	Combination School	C	77.0	C	71.1	59.9	73.4	27.9	78.6
45	Elementary/Middle School	B	98.5	B	94.5	93.7			
46	Elementary/Middle School	A	119.5	A	118.3	119.5			
47	Elementary/Middle School	A	112.3	A	105.0	106.6			

APPENDIX B:

COVER LETTERS

B.1 Superintendent's Letter

B.2 Principal's Letter

B.3 Teachers' Letter

Appendix B.1

Date

(Field), Superintendent
(Field) Parish School System
(Field)
(Field)

Dear (Field),

I am requesting your professional support and assistance to allow the elementary and secondary schools within (Field) Parish School System to participate in a research study that is being conducted on school reform.

As a doctoral candidate at the University of Louisiana Lafayette, and a teacher leader in your area, I have been studying the effects of school culture, school climate, teacher efficacy, and collective efficacy on school reform.

As you have experienced, policymakers and educational leaders have sought to improve education through reform efforts. However, it is evident that reform efforts thrive in some schools; while in other schools, the reform is ineffective. Research suggests that educational theories must work in conjunction with change theory for school districts to improve student achievement. That is what I hope to accomplish with this study.

Participation in the study would involve all elementary and secondary brick-and-mortar schools. These teachers would be asked to complete an online questionnaire that would require approximately 20 minutes. Although teacher participation is voluntary and anonymous, I would appreciate your encouraging their participation in order for the study to be unbiased and to ensure accurate perceptions.

In return for your district's participation, at the completion of this study, I will provide a report to you, which includes summative data for your district as well school level data. I will also be available to verbally present the information to your district leaders or school board members.

Reform is meant to stimulate academic achievement, but without the appropriate methods, it can become a hindrance. It is believed that this study offers an opportunity and a potential benefit to gather pertinent data on schools within your district because the results will provide you with next steps for specific schools regarding the initiation and implementation of reform efforts, which will increase student achievement within your district.

Your support and assistance is greatly appreciated! You may contact my research supervisor or me if you have any questions or concerns regarding this study.

Thank you for your contribution towards excellence in education.
Sincerely,

Erin Willie Stokes, M.A.T., Doctoral Candidate—University of Louisiana at Lafayette
Phone: 318.308.0384
Email: erin.stokes1@gmail.com
Dr. Dianne F. Olivier, Research Supervisor
Phone: 337.482.6408
Email: dolivier@louisiana.edu

Appendix B.2

(Field), Principal
Address

Dear (Field),

Your superintendent has given permission and endorsement for elementary and secondary schools within the district to participate in an important research study regarding school reform efforts. This study examines the influence of school culture, school climate, teacher efficacy, and collective efficacy on reform efforts.

As you have experienced, policymakers and educational leaders have sought to improve education through reform efforts. However, it is evident that reform efforts thrive in some schools; while in other schools, the reform is ineffective. Research suggests that educational theories must work in conjunction with change theory for school districts to improve student achievement. That is what I hope to accomplish with this study.

Teachers within your school will be asked to complete the School Reform Readiness Survey. The survey is in the form of an electronic survey, and data collection efforts have been contracted through an online survey company. Your teachers can be assured that their responses are anonymous and confidential. Although participation in this study is voluntary and anonymous, your school's participation is strongly encouraged in order to gain a more comprehensive view of perceptions throughout the district.

The survey takes approximately 20 minutes to complete, and all teachers are requested to participate in the survey, regardless of the grade level or content taught. You may request that teachers complete the survey on their own time, or for more complete returns, you may have the teachers complete the survey during a designated faculty meeting. However, teacher participation is entirely voluntary, and any teacher may withdraw consent and terminate participation at any time without consequence.

Reform is meant to stimulate academic achievement, but without the appropriate methods, it can become a hindrance. It is believed that this study offers an opportunity and a potential benefit to gather pertinent data concerning your school within your district because the results will provide you with next steps regarding the initiation and implementation of reform efforts, which will increase student achievement for your school.

Your support and assistance is greatly appreciated! You may contact my research supervisor or me if you have any questions or concerns regarding this study.

Thank you for your contribution towards excellence in education.

Sincerely,

Erin Willie Stokes, M.A.T., Doctoral Candidate—University of Louisiana at Lafayette
Phone: 318.308.0384
Email: erin.stokes1@gmail.com
Dr. Dianne F. Olivier, Research Supervisor
Phone: 337.482.6408
Email: dolivier@louisiana.edu

Appendix B.3

Dear Colleague,

I am requesting your professional assistance with a vital part of my dissertation research—data collection. As a Teacher Leader and a doctoral student at the University of Louisiana at Lafayette, I have had an interest in how school culture, school climate, teacher efficacy, and collective efficacy impacts school and district reform.

As you well know, policymakers use reform as a tool to increase student achievement, and sometimes, it is not always successful. As a classroom teacher for many years, and now a Teacher Leader, I understand the frustration of top-down mandates that yield few results. Therefore, I am seeking to create a tool for districts to use that enables leaders to better prepare schools for reform using research grounded in school culture, climate, and efficacy.

Your professional opinion is highly valued. I am humbly asking that you please complete and submit an online survey, which should only take about 10 to 20 minutes of your time. You can do this in the privacy of your own home or as a school activity. Your participation is voluntary and anonymous and you may withdraw consent and terminate participation at any time without consequence.

Please understand that your responses are non-traceable and anonymous; therefore, do not be afraid to voice your honest perceptions. All data collected in this study remains confidential.

Your personal opinion is indeed valued and should be voiced through the survey. This study offers an opportunity and a potential benefit to gather pertinent data on schools within your district that may help us increase student achievement.

Your support and assistance are greatly appreciated! You may contact my research supervisor or me if you have any questions or concerns regarding the study.

Sincerely,

Erin Stokes, M.A.T., Doctoral Candidate—University of Louisiana at Lafayette
Phone: 318.308.0384
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Dr. Dianne F. Olivier, Research Supervisor
Phone: 337.482.6408
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APPENDIX C:

STUDY INSTRUMENTS

C.1 Revised School Culture Elements Questionnaire

C.2 Organizational Climate Index

C.3 Teachers' Sense of Efficacy Scale

C.4 Teacher Efficacy Belief Scale - Collective Efficacy

C.5 Reform Readiness Survey - Expert Panel Review

C.6 Reform Readiness Survey Literature Alignment

C.7 Reform Readiness Survey: Post-Factor Analyses

Revised School Culture Elements Questionnaire

Directions: This questionnaire contains a number of statements about things which occur in some schools. After reading each of the statements carefully, you are asked to judge each response according to how you and your school actually are. You are to indicate the extent to which you agree or disagree with each of the statements.

STRENGTH OF CULTURE ELEMENTS SCALE:

1 = *Strongly Disagree* (SD) in our capabilities
2 = *Disagree* (D) in our capabilities
3 = Somewhat *Disagree* (SD) in our capabilities
4 = *Somewhat Agree* (SA) in our capabilities
5 = *Agree* (A) in our capabilities
6 = *Strongly Agree* (SA) in our capabilities

	STATEMENTS	VSD	SD	D	A	SA	VSA
1.	Administrators provide visible, ongoing support for new school programs and ideas.	1	2	3	4	5	6
2.	Teachers are willing to help each other when problems arise.	1	2	3	4	5	6
3.	Teachers give priority to helping their students develop higher order thinking skills.	1	2	3	4	5	6
4.	Administrators are sympathetic with problems and difficulties encountered by teachers in their work.	1	2	3	4	5	6
5.	Teacher share classroom experiences with each other to improve their understanding of students' learning.	1	2	3	4	5	6
6.	Teachers incorporate the findings of educational research into their own teaching and learning practices.	1	2	3	4	5	6
7.	Administrators work to ensure the cooperation of teachers.	1	2	3	4	5	6
8.	Teachers openly share problems with each other.	1	2	3	4	5	6
9.	Teachers believe that all students can learn.	1	2	3	4	5	6
10.	Administrators visibly encourage teachers to be the best that they can be in the classroom.	1	2	3	4	5	6

	STATEMENTS	VSD	SD	D	A	SA	VSA
11.	Teachers professionally share and learn from one another.	1	2	3	4	5	6
12.	Teachers are committed to professional growth to improve teaching and learning.	1	2	3	4	5	6
13.	Teachers and administrators work cooperatively in developing new school programs and policies.	1	2	3	4	5	6
14.	Teachers encourage each other to use professional judgment when making decisions.	1	2	3	4	5	6
15.	Teachers adequately plan teaching and learning activities to accommodate individual differences among students.	1	2	3	4	5	6
16.	Teachers receive the assistance they need from administrators and colleagues to enhance the quality of teaching and learning in their classrooms.	1	2	3	4	5	6
17.	Teachers feel comfortable in providing suggestions to colleagues about ways in which to improve teaching and learning in their classrooms.	1	2	3	4	5	6
18.	Teachers spend time in professional reflection about their work.	1	2	3	4	5	6
19.	Leadership roles are equally shared by teachers and administrators.	1	2	3	4	5	6
20.	Teachers spend time together informally discuss ways to improve the school.	1	2	3	4	5	6

Organizational Climate Index

Directions: The following are statements about your school. Please indicate the extent to which each statement characterizes your school from **Never Occurs** to **Always Occurs**.

CLIMATE SCALE:

1 = *Never Occurs*
2 = *Rarely Occurs*
3 = *Sometimes Occurs*
4 = *Frequently Occurs*
5 = *Very Frequently Occurs*
6 = *Always Occurs*

	STATEMENTS	N	R	S	F	V	A
1.	The principal explores all sides of topics and admits that other opinions exist.	1	2	3	4	5	6
2.	A few vocal parents can change school policy.	1	2	3	4	5	6
3.	The principal treats all faculty members as his or her equal.	1	2	3	4	5	6
4.	The learning environment is orderly and serious.	1	2	3	4	5	6
5.	The principal is friendly and approachable.	1	2	3	4	5	6
6.	Select citizens groups are influential with the board.	1	2	3	4	5	6
7.	The school sets high standards for academic performance.	1	2	3	4	5	6
8.	Teachers help and support each other.	1	2	3	4	5	6
9.	The principal responds to pressure from parents.	1	2	3	4	5	6
10.	The principal lets faculty know what is expected of them.	1	2	3	4	5	6
11.	Students respect others who get good grades.	1	2	3	4	5	6
12.	Teachers feel pressure from the community.	1	2	3	4	5	6
13.	The principal maintains definite standards of performance.	1	2	3	4	5	6
14.	Teachers in this school believe that their students have	1	2	3	4	5	6

the ability to achieve academically.

	STATEMENTS	N	R	S	F	V	A
15.	Students seek extra work so they can get good grades.	1	2	3	4	5	6
16.	Parents exert pressure to maintain high standards.	1	2	3	4	5	6
17.	Students try hard to improve on previous work.	1	2	3	4	5	6
18.	Teachers accomplish their jobs with enthusiasm.	1	2	3	4	5	6
19.	Academic achievement is recognized and acknowledged by the school.	1	2	3	4	5	6
20.	The principal puts suggestions made by the faculty into operation.	1	2	3	4	5	6
21.	Teachers respect the professional competence of their colleagues.	1	2	3	4	5	6
22.	Parents press for school improvement.	1	2	3	4	5	6
23.	The interactions between faculty members are cooperative.	1	2	3	4	5	6
24.	Students in this school can achieve the goals that have been set for them.	1	2	3	4	5	6
25.	Teachers in this school exercise professional judgment.	1	2	3	4	5	6
26.	The school is vulnerable to outside pressures.	1	2	3	4	5	6
27.	The principal is willing to make changes.	1	2	3	4	5	6
28.	Teachers "go the extra mile" with their students.	1	2	3	4	5	6
29.	Teachers provide strong social support for colleagues.	1	2	3	4	5	6
30.	Teachers are committed to their students.	1	2	3	4	5	6

Teacher Self-Efficacy Scale

Directions: Please indicate your opinion about each of the questions below by marking any one of the six responses in the columns on the right side, ranging from (1) *None At All* to (6) *A Great Deal* as each represents a degree on the continuum.

Please respond to each of the questions by considering the combination of your current ability, resources, and opportunity to do each of the following in your present position.

STRENGTH OF SELF EFFICACY BELIEFS SCALE:

1 = *None At All (N)*
2 = *Very Little (VL)*
3 = *Little (L)*
4 = *Some Degree (SD)*
5 = *Quite A Bit (QB)*
6 = *A Great Deal (GD)*

		N	VL	L	SD	QB	GD
1.	How much can you do to control disruptive behavior in the classroom?	1	2	3	4	5	6
2.	How much can you do to motivate students who show low interest in school work?	1	2	3	4	5	6
3.	How much can you do to calm a student who is disruptive or noisy?	1	2	3	4	5	6
4.	How much can you do to help your students value learning?	1	2	3	4	5	6
5.	To what extent can you craft good questions for your students?	1	2	3	4	5	6
6.	How much can you do to get children to follow classroom rules?	1	2	3	4	5	6
7.	How much can you do to get students to believe they can do well in school work?	1	2	3	4	5	6
8.	How well can you establish a classroom management system with each group of students?	1	2	3	4	5	6
9.	To what extent can you use a variety of assessment strategies?	1	2	3	4	5	6

		N	VL	L	SD	QB	GD
10.	To what extent can you provide an alternative explanation or example when students are confused?	1	2	3	4	5	6
11.	How much can you assist families in helping their children do well in school?	1	2	3	4	5	6
12.	How well can you implement alternative teaching strategies in your classroom?	1	2	3	4	5	6

Teacher Efficacy Belief Scale

Collective Efficacy

Directions: This survey requests that you make judgments about the **collective strength of beliefs of faculty members at your school** in their capabilities to organize and successfully carry out work tasks. Assess the strengths of faculty beliefs; consider the faculty's *collective* abilities within the context of your ***current*** school. Consider job roles and responsibilities, available resources and support, current policies, help from colleagues and so on. Considering the faculty in your school as a whole, for each item, use the scale provided below and circle one of the corresponding numbers that best reflects your view.

STRENGTH OF FACULTY COLLECTIVE BELIEFS SCALE:

1 = *Very Weak Beliefs* (VWB) in our capabilities:
2 = *Weak Beliefs* (WB) in our capabilities:
3 = *Somewhat Weak Beliefs* (SWB) in our capabilities:
4 = *Somewhat Strong Beliefs* (SSB) in our capabilities:
5 = *Strong Beliefs* (SB) in our capabilities:
6 = *Very Strong Beliefs* (VSB) in our capabilities:

The strength of our faculty's *collective beliefs* in our capabilities to . . .	VWB	WB	SWB	SSB	SB	VSB
1. carry out decisions and plans designed for school wide improvement.	1	2	3	4	5	6
2. produce high levels of learning with our students.	1	2	3	4	5	6
3. create ways to improve the school environment.	1	2	3	4	5	6
4. maintain effective communication with parents and the larger community.	1	2	3	4	5	6
5. support each other in addressing new policies, rules, and regulations.	1	2	3	4	5	6
6. maintain a school environment in which students feel good about themselves.	1	2	3	4	5	6
7. provide input in making important school decisions.	1	2	3	4	5	6

		VWB	WB	SWB	SSB	SB	VSB
8.	effectively communicate with the school administration.	1	2	3	4	5	6
9.	work with disadvantaged and troublesome students.	1	2	3	4	5	6
10.	manage student misbehavior.	1	2	3	4	5	6

Reform Readiness Survey - Expert Panel Review

The Reform Readiness Survey (RRS) is an assessment designed to determine the current status of schools concerning the domains of culture, climate, teacher efficacy, collective efficacy, and change research, before embracing reform.

Directions:
This questionnaire assesses your perceptions about your school in relation to change. This questionnaire contains a number of statements about your perception of yourself, your faculty, and your administrators. Read each statement and then use the scale below to select the scale point that best reflects your personal degree of agreement with the statement. Be certain to select only one response for each statement. Comments after each dimension section are optional.

Please consider the school in which you currently work when selecting responses. This survey is completely anonymous, so please be candid with your responses.

Key Terms:
- Administrators = Principals and Assistant Principals
- School Leaders = Principals, Assistant Principals, Lead Teachers, Leaders among the faculty
- District Administrators = All central office staff directly associated with curriculum, instruction, and assessment of students (superintendent, assistant superintendent, department coordinators, curriculum coordinator, instructional strategists)
- Faculty or School Staff = All professional staff directly associated with curriculum, instruction, and assessment of students

Scale: 1 = Strongly Disagree (SD)
2 = Disagree (D)
3 = Somewhat Disagree (SWD)
4 = Somewhat Agree (SWA)
5 = Agree (A)
6 = Strongly Agree (SA)

Expert Panel Review Members:

Please read each statement and use the scale provided to rate each item in terms of its *relevance* and *importance* for inclusion in an assessment designed to assess perceptions about school culture, school climate, teacher efficacy, collective efficacy, and change within schools.

Ratings for Relevance/Importance:

H = High level of importance/relevance to a reform readiness instrument

M = Medium level of importance/relevance to a reform readiness instrument

L = Low level of importance/relevance to a reform readiness instrument

Please read each statement and use the scale provided to rate each item in terms of its *clarity* for an assessment designed to assess perceptions about school culture, school climate, teacher efficacy, collective efficacy, and change within schools.

Ratings for Clarity:

H = High level of clarity for a reform readiness instrument

M = Medium level of clarity for a reform readiness instrument

L = Low level of clarity for a reform readiness instrument

Statements		**Relevance Rating**				**Clarity Rating**		
School Culture in Relation to Change		H	M	L		H	M	L
1.	Each member of my school staff is vital in our efforts for school reform.							
2.	My school's reform efforts motivate our faculty to create new goals for school improvement.							
3.	Reform efforts at my school result in change in current teaching practices.							
4.	Our school efforts for reform are strengthened when working collaboratively.							
5.	Teachers at this school view change as an opportunity to increase student achievement.							
6.	Staff members at my school focus on a common purpose during reform.							
7.	My school's norms remain the same as our policies change.							
8.	My school's values remain the same as our policies change.							

9.	Traditions at my school enhance the implementation of new ideas.							
10.	Teachers at my school willingly adopt change.							
11.	Teachers at my school readily accept new administrative directives.							
12.	Our teachers believe student learning is most important.							
13.	Our teachers are motivated to change instructional practices.							

Statements		**Relevance Rating**				**Clarity Rating**		
School Climate in Relation to Change		H	M	L		H	M	L
1.	In the initial stages of reform, faculty members at my school remain positive.							
2.	Teacher-to-teacher relationships remain strong through policy changes.							
3.	Teacher-to-student relationships remain strong through policy changes.							
4.	The actions of my administrators foster a healthy school climate throughout major changes.							
5.	School improvement efforts influence my school's climate.							
6.	Teachers at my school are collegial, rather than competitive.							
7.	Mandates positively influence morale at my school.							
8.	Teachers at my school support one another when faced with change.							
9.	Teachers at my school are optimistic about state reform efforts.							

10.	Teachers at my school are optimistic about district reform efforts.							
11.	Students at my school feel valued.							
12.	Students at my school have a sense of belonging.							
13.	Our school embraces reform as an avenue to improve student performance.							
14.	Teachers at this school have a positive attitude toward administrators' reform efforts.							

Statements		**Relevance Rating**				**Clarity Rating**		
Teacher Efficacy in Relation to Change		H	M	L		H	M	L
1.	I believe I can implement changes in my classroom to increase student performance.							
2.	I am provided with the necessary resources to implement reform.							
3.	I believe I have the capability to implement reform.							
4.	I believe that I can implement new initiatives while teaching difficult students.							
5.	I believe that I can positively impact learning while implementing mandates.							
6.	I am able to maintain my creativity while implementing mandates.							
7.	I am capable of implementing curricular changes due to reform efforts.							
8.	I am confident in my ability to manage difficult students.							
9	I am confident in my ability to teach what my students need to know despite policy changes.							

10.	I am motivated to change my own classroom practices.							
11.	My successes in teaching contribute to my confidence in implementing reform.							
12.	My administration exhibits confidence in my abilities to implement changes in my classroom.							

Statements		**Relevance Rating**				**Clarity Rating**		
Collective Efficacy in Relation to Change		H	M	L		H	M	L
1.	Teachers at my school willingly implement new strategies.							
2.	Our faculty believes they can impact student performance in the face of varying reform efforts.							
3.	Our faculty is capable of utilizing reform to achieve higher levels of performance.							
4.	Our faculty is capable of addressing challenging reform efforts.							
5.	Our faculty is able to address barriers in order to successfully accomplish the designated task.							
6.	Our faculty's high level of efficacy contributes to student success.							
7.	Our faculty's high level of efficacy contributes to teacher success.							

Statements		**Relevance Rating**				**Clarity Rating**		
Change Leadership		H	M	L		H	M	L
1.	School leaders view me as a change agent.							
2.	Our school's vision is either assessed or revisited							

	during times of change.							
3.	During reform, administrators actively problem solve.							
4.	School leaders maintain focus on the purpose of reform.							
5.	Our faculty uses conflict to enhance reform efforts.							
6.	School leaders address anxiety associated with change.							
7.	School administrators seek to coordinate current and new initiatives.							
8.	District administrators consider each school's needs during reform efforts.							
9.	School administrators increase their level of support as the change process becomes more complex.							
10.	In advocating for reform, district leaders offer support throughout the process.							

Reform Readiness Survey Literature Alignment

Survey Item	Code	Rationale
Each member of my school staff is vital in our efforts for school reform.	CU	The community members commit to the shared purposes of the school. Each member is valued and plays an integral role in working toward shared goals (Friedman, 1991).
My school's reform efforts motivate faculty to create new goals for school improvement.	CU	The community members commit to the shared purposes of the school. Each member is valued and plays an integral role in working toward shared goals (Friedman, 1991).
Reform efforts at my school result in change in current teaching practices.	CU	Culture gives individuals within the organization identity and influences their behavior toward one another, reinforcing only the behavior acceptable to the group. Changing culture can be problematic to leaders because it requires a change in tacit assumptions, and consequently, a change in the behavior of individuals (Schein, 2010).
Our school efforts for reform are strengthened when working collaboratively.	CU	Research by Olivier (2001) provided empirical support for professional school culture as a multiple dimensional construct with three identified dimensions of culture: shared leadership, collegial teaching and learning, and professional commitment.
Teachers at this school view change as an opportunity to increase student achievement.	CU	A focus on teaching and learning is one element of culture (Fyans, Jr. & Maeher, 1990.) Furthermore, the community members commit to the shared purposes of the school. Each member is valued and plays an integral role in working toward shared goals (Friedman, 1991).
Staff members at my school focus a common purpose during reform.	CU	When describing culture, researchers commonly use the phrases *shared norms and values* (Cavanaugh & Dellar 1997; D'Alessandro & Sadh, 1998; Hoy & Hoy, 2003; Stolp, 1994), *traditions and rituals* (Hongboontri & Keawkhong, 2014; Peterson & Deal, 1998; Stolp, 1994), and *common purpose* (Cavanaugh

		& Dellar 1997; D'Alessandro & Sadh, 1998; Stolp, 1994).
My school's norms remain the same as our policies change. My school's values remain the same as our policies change.	CU	When describing culture, researchers commonly use the phrases *shared norms and values* (Cavanaugh & Dellar 1997; D'Alessandro & Sadh, 1998; Hoy & Hoy, 2003; Stolp, 1994), *traditions and rituals* (Hongboontri & Keawkhong, 2014; Peterson & Deal, 1998; Stolp, 1994), and *common purpose* (Cavanaugh & Dellar 1997; D'Alessandro & Sadh, 1998; Stolp, 1994).
Traditions at my school enhance the implementation of new ideas.	CU	When describing culture, researchers commonly use the phrases *shared norms and values* (Cavanaugh & Dellar 1997; D'Alessandro & Sadh, 1998; Hoy & Hoy, 2003; Stolp, 1994), *traditions and rituals* (Hongboontri & Keawkhong, 2014; Peterson & Deal, 1998; Stolp, 1994), and *common purpose* (Cavanaugh & Dellar 1997; D'Alessandro & Sadh, 1998; Stolp, 1994).
Teachers at my school willingly adopt change.	CU	According to Peterson and Deal (1998) school culture "influences everything that goes on in schools: how staff dress, what they talk about, their willingness to change, the practice of instruction, and the emphasis given on student and faculty learning" (p. 28).
Teachers at my school readily accept new administrative directives.	CU	Each school has a spoken and unspoken code of conduct to which members yield (Hoy & Hoy, 2003).
Our teachers believe student learning is most important.	CU	Tacit assumptions are similar to deep-seeded beliefs that people hold and to which people are not always conscious (Hoy & Hoy, 2003).
Our teachers are motivated to change instructional practices.	CU	Peterson and Deal (2009) explain that school culture affects levels of motivation among staff, which can influence student motivation.
In the initial stages of reform, faculty members at my school remain positive.	CL	Climate is defined as the "general concept that refers to teachers' perceptions of the school's work environment" (Hoy & Hoy, 2001, p. 283).

Teacher-to-teacher relationships remain strong through policy changes.	CL	One element that comprises school climate is relationships. The teaching and learning process is based upon relationships. The types of student-student relationships and teacher-student relationships can have a profound effect on student achievement (Thapa et al., 2012).
Teacher-to-student relationships remain strong through policy changes.	CL	One element that comprises school climate is relationships. The teaching and learning process is based upon relationships. The types of student-student relationships and teacher-student relationships can have a profound effect on student achievement (Thapa et al., 2012).
The actions of my administrators foster a healthy school climate throughout major changes.	CL	One element of school climate is the process of school improvement, in particular, improving school climate (Thapa et al., 2012). Included in the norms for a school should be continuous assessment and improvement of school climate.
School improvement efforts influence my school's climate.	CL	One element of school climate is the process of school improvement, in particular, improving school climate (Thapa et al., 2012). Included in the norms for a school should be continuous assessment and improvement of school climate.
Teachers at my school are collegial, rather than competitive.	CL	An unhealthy school climate breeds frustration on all levels. Students are not motivated to learn and have negative attitudes toward subject matter, as well as teachers. Principals experience high turnover rates among teachers. Teachers often feel competitive, suspicious, and defensive (Hoy & Hoy, 2003).
Mandates positively influence morale at my school.	CL	Morale is one of the seven patterns of behavior concerning school climate according to Hoy and Hoy (2003).
Teachers at my school support one another when faced with change.	CL	The nature of teacher relationships impacts the climate of a school. An open school climate is characterized by supportive behavior from the principal and collegial behavior among teachers

		(Halpin & Croft, 1962).
Teachers at my school are optimistic about state reform efforts. Teachers at my school are optimistic about district reform efforts.	CL	Morale is one of the seven patterns of behavior concerning school climate according to Hoy and Hoy (2003).
Students at my school feel valued. Students at my school have a sense of belonging.	CL	Research indicates that the students' perceptions of connectedness are predictors of academic outcomes and adolescent health (Thapa et al., 2012). Student should feel they are valued and belong.
Our school embraces reform as an avenue to improve student performance.	CL	One element of school climate is the process of school improvement, in particular, improving school climate (Thapa et al., 2012).
Teachers at this school have a positive attitude toward administrators' reform efforts.	CL	The type of climate a school experiences is often characterized by the relationships among administrators and teachers (Hoy & Hoy, 2003).
I believe I can implement changes in my classroom to increase student performance.	TE	Hoy and Hoy (2003) define teacher efficacy as "a teacher's belief that he or she can reach even difficult students to help them learn" (p. 129), despite unforeseen challenges that may arise.
I am provided with the necessary resources to implement reform. I believe I have the capability to implement reform.	TE	Perception of the teaching task is a teacher's assessment of the resources available and the teaching context. The teaching context can include students' abilities, availability of instructional resources, access to technology, leadership of the principal, and the culture of the school (Tschannen-Moran et al., 1998).
I believe that I can implement new initiatives while teaching difficult students.	TE	Highly efficacious teachers persist despite negative interactions with difficult students. Said individuals hold strong in their beliefs in themselves as well as their students (Hoy & Hoy, 2003).
I believe that I can positively impact learning while implementing mandates.	TE	Hoy and Hoy (2003) define teacher efficacy as "a teacher's belief that he or she can reach even difficult students to help them learn" (p. 129), despite

I am able to maintain my creativity while implementing mandates.		unforeseen challenges that may arise.
I am capable of implementing curricular changes due to reform efforts.	TE	Teacher efficacy is found to influence teachers' willingness to implement new strategies as well as their stress levels (Klassan & Chiu, 2010; Tschannen-Moran, et al. 1998). Allinder (1994) asserts that efficacious teachers are associated with incorporating innovative methods.
I am confident in my ability to manage difficult students.	TE	Highly efficacious teachers persist despite negative interactions with difficult students. Said individuals hold strong in their beliefs in themselves as well as their students (Hoy & Hoy, 2003).
I am confident in my ability to teach what my students need to know despite policy changes.	TE	Efficacious teachers can persevere by finding some element of control (Bandura, 1993). Teachers gain a greater sense of self-efficacy from experiencing successes with their own students and by participating in professional development and shared practices (Hoy & Hoy, 2003).
I am motivated to change my own classroom practices.	TE	Efficacious teachers can persevere by finding some element of control (Bandura, 1993). Teachers gain a greater sense of self-efficacy from experiencing successes with their own students and by participating in professional development and shared practices (Hoy & Hoy, 2003).
My successes in teaching contribute to my confidence in implementing reform.	TE	Efficacious teachers can persevere by finding some element of control (Bandura, 1993). Teachers gain a greater sense of self-efficacy from experiencing successes with their own students and by participating in professional development and shared practices (Hoy & Hoy, 2003).
My administration exhibits confidence in my abilities to implement changes in my classroom.	TE	People have the most and easiest access to verbal persuasion (Bandura, 1977). Verbal persuasion is simply hearing others confirm their high expectations or encouragement for a person. Verbal persuasion can also come in the form of specific feedback (Hoy & Hoy, 2003).
Teachers at my school willingly implement new strategies.	CE	Teacher efficacy impacts the willingness of teachers to change and the overall

		success of the initiated change. Teacher efficacy is found to influence teachers' willingness to implement new strategies as well as their stress levels (Klassan & Chiu, 2010; Tschannen-Moran, et al. 1998).
Our faculty believes they can impact student performance in the face of varying reform efforts.	CE	Collective efficacy is a group attribute. The strength of a group's efficacy affects how much the group achieves, and conversely, the achievements of the group affect the collective efficacy beliefs (Bandura, 1997).
Our faculty is capable of utilizing reform to achieve higher levels of performance.	CE	Some schools have a strong sense of collective efficacy, which translates a positive atmosphere. Other faculties may have a low collective efficacy, blaming outside forces or policies as being the reasons why they have little impact on student achievement (Bandura, 1993). Schools can develop a strong sense of collective efficacy and raise student achievement in the process (Bandura, 1993, 1997; Hoy & Hoy, 2003; Moolenaar, Sleegers, & Daly, 2012).
Our faculty is capable of addressing challenging reform efforts. Our faculty is able to address barriers in order to successfully accomplish the designated task. Our faculty's high level of efficacy contributes to student success.	CE	Some schools have a strong sense of collective efficacy, which translates a positive atmosphere. Other faculties may have a low collective efficacy, blaming outside forces or policies as being the reasons why they have little impact on student achievement (Bandura, 1993). Schools can develop a strong sense of collective efficacy and raise student achievement in the process (Bandura, 1993, 1997; Hoy & Hoy, 2003; Moolenaar, Sleegers, & Daly, 2012).
School leaders view me as a change agent.	CH	Individuals are the most powerful catalysts for change. Fullan (1999) identifies those who are conscious of the change process and the nature of change as "change agents" (p. 12).
Our school's vision is either assessed or revisited during times of change.	CH	Shared vision takes time. Additionally, individual and shared visions continue to develop during the change process. They are shaped and reshaped due to reform, and this encourages the members to have

		ownership of the change process (Fullan, 1993).
During reform, administrators actively problem solve.	CH	Problems must be embraced according to the third lesson from Fullan. (1993). The culture of the organization should expect to encounter problems, foresee potential problems, and tackle the problems as they come.
School leaders maintain focus on the purpose of reform.	CH	Individual moral purpose must be interconnected with a shared group purpose, which in turn, is usually associated with a broad, societal purpose (Fullan, 1993).
Our faculty uses conflict to enhance reform efforts.	CH	Without conflict, many organizations would never experience innovative breakthroughs. Although conflict and problem solving are messy processes, generally groups that experience this form relationships with everyone in the organization (Fullan, 1999).
School leaders address anxiety associated with change.	CH	Anxiety often has a negative connotation, but Fullan (1999) argues that, if properly contained, members of organizations can function at high levels despite the anxiety. Organizations must not deny or ridicule anxiety; it can be addressed through emotional intelligence.
School administrators seek to coordinate current and new initiatives.	CH	Schools and districts must proactively tackle disjointedness. A district will make speedier achievement gains if the programs coordinate and compliment one another (Fullan, 1999).
District leaders consider each school's needs during reform efforts.	CH	Each organization possesses its own unique variables; therefore, leaders and members must be consumers of research, critically analyzing the impact of new programs or initiatives (Fullan, 1999).
School administrators increase their level of support as the change process becomes more complex.	CH	Leaders must expect that large-scale reform or more complex reforms take more time to initiate and sustain. The implementation gap can also be expected (Fullan, 2001). More time and energy of leaders and change agents will be required for major reform.
In advocating for reform, district leaders offer support throughout the	CH	Fullan (2007) lists advocacy of central administrators as one factor associated

process.		with initiating change. The fate of a reform depends on the support and advocacy of the reform.

Codes: CU = *Culture*; CL = *Climate*; TE = *Teacher Efficacy*; CE = *Collective Efficacy*; CH = *Change*

Reform Readiness Survey: Post Factor Analyses

	SD	D	SWD	SWA	A	SA
1. I believe I can implement changes in my classroom to increase student performance.	1	2	3	4	5	6
2. I am capable of implementing curricular changes due to reform efforts.	1	2	3	4	5	6
3. I believe I have the capability to implement reform.	1	2	3	4	5	6
4. I believe that I can positively impact learning while implementing mandates.	1	2	3	4	5	6
5. I believe that I am capable of successfully implementing new initiatives while teaching difficult students.	1	2	3	4	5	6
6. I am confident in my ability to manage difficult students during reform.	1	2	3	4	5	6
7. I am confident in my ability to teach what my students need to know despite policy changes.	1	2	3	4	5	6
8. As a member of my school staff, I believe I am vital in our efforts for school reform.	1	2	3	4	5	6
9. My successes in teaching contribute to my confidence in implementing reform.	1	2	3	4	5	6
10. I able to maintain my creativity while implementing mandates.	1	2	3	4	5	6
11. I am motivated to change my own classroom practices.	1	2	3	4	5	6
12. Teachers at my school are optimistic about state reform efforts.	1	2	3	4	5	6
13. Reform mandates positively influence morale at my school.	1	2	3	4	5	6

14. Teachers at my school are optimistic about district reform efforts.	1	2	3	4	5	6
15. Our school embraces reform as an avenue to improve student performance.	1	2	3	4	5	6
16. In the initial stages of reform, faculty members at my school remain positive.	1	2	3	4	5	6
17. Teachers at my school readily accept new administrative directives related to reform.	1	2	3	4	5	6
18. Teachers at this school view change as an opportunity to increase student achievement.	1	2	3	4	5	6
19. My school's reform efforts motivate faculty to create new goals for school improvement.	1	2	3	4	5	6
20. Teachers at this school have a positive attitude toward administrators' reform efforts.	1	2	3	4	5	6
21. Teachers at my school willingly adopt change.	1	2	3	4	5	6
22. Teachers are provided with the necessary resources to implement reform.	1	2	3	4	5	6
23. District leaders offer helpful support throughout reform processes.	1	2	3	4	5	6
24. School administrators increase their level of support as the change process becomes more complex.	1	2	3	4	5	6
25. During reform, administrators actively problem solve.	1	2	3	4	5	6
26. The actions of my administrators foster positive transitions throughout major changes.	1	2	3	4	5	6
27. School leaders maintain focus on the purpose of reform.	1	2	3	4	5	6

28. School leaders address anxiety associated with change.	1	2	3	4	5	6
29. School administrators seek to coordinate current and new initiatives.	1	2	3	4	5	6
30. Our school's vision is either assessed or revisited during times of change.	1	2	3	4	5	6
31. Our faculty uses conflict to enhance reform efforts.	1	2	3	4	5	6
32. Teachers at my school are capable of supporting one another when faced with change.	1	2	3	4	5	6
33. Our faculty believes they can impact student performance in the face of varying reform efforts.	1	2	3	4	5	6
34. Our faculty's high level of efficacy contributes to teacher success during reform changes.	1	2	3	4	5	6
35. Our faculty's high level of efficacy contributes to student success during reform changes.	1	2	3	4	5	6
36. Teachers at my school are capable of changing instructional practices.	1	2	3	4	5	6
37. Our faculty is able to address barriers in order to successfully accomplish the designated task.	1	2	3	4	5	6
38. Our faculty is capable of addressing challenging reform efforts.	1	2	3	4	5	6
39. Our faculty is capable of utilizing reform to achieve higher levels of performance.	1	2	3	4	5	6
40. Professional relationships among faculty members enhance the implementation of new reform policies.	1	2	3	4	5	6

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Dissertation Director: Dr. Dianne F. Olivier
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ABSTRACT

Reform is a common tool used by policymakers to increase student achievement. Unfortunately, reform efforts are not always successful. However, researchers have demonstrated that school culture and climate both impact student achievement (Cavanaugh & Dellar, 1997; Cohen, Fege, & Pickeral, 2009; D' Alessandro & Sadh, 1998; MacNeil, Prater, & Busch, 2009; National School Climate Council, 2007; Peterson & Deal, 2009; Stolp, 1994; University-Community Partnerships, Michigan State University, 2004). The overarching question explores the relationships among school culture, school climate, teacher efficacy, and collective efficacy and their impact on reform movements. Secondary questions are: what is similar and contrasting among the constructs; how are the constructs interrelated; and in what ways can these constructs impact school reform efforts? For the purposes of this study, school climate is viewed as a manifestation of school culture, with teacher and collective efficacy as part of the cycle that impacts reform efforts.

BIOGRAPHICAL SKETCH

Erin Willie Stokes was born on May 16, 1984 to Robert and Melodye Willie, both Louisiana natives. On May 6, 2006, she married Andrew Stokes, and later had two daughters, Ellington and Emery Stokes.

Erin graduated in 2002 from Grant High School, located in Dry Prong, Louisiana. She holds a bachelor of science in elementary education, grades 1-6 and special education, grades 1-12, which she received from Louisiana Tech University. She later attained a Master of Arts in Teaching from Louisiana College.

Erin has been employed with the Grant Parish School System since 2006, and has served in a number of professional positions. She has been a classroom teacher, both regular and special education, and an instructional coach. She later moved to Rapides Parish School System, and she currently serves as a Title I Instructional Coordinator. Erin has worked in numerous schools, providing support to principals and professional development for teachers of all grade levels. She has presented papers at local and regional research conferences.

The degree of Doctor of Education was conferred during Spring Commencement on May 13, 2016.