

An Exploratory Study of Teacher Self-Efficacy Beliefs and
Professional Learning Community

By

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DEDICATION

The paper is dedicated to Rocco A. Romeo, my husband and partner of twelve years, who sacrificed much in order for me to reach my professional goals. Education is a “people” business, and a worthy and rewarding line of work for one’s life. As a professional educator, I am passionate about making a real difference in the lives of the children, my staffs, my schools, and the districts in which I have served and will continue to serve over the course of my career. It has not been an easy road to travel, yet you never discouraged me for doing what I am intrinsically driven to do -- strive for excellence and meaning in my passion for improving schools for children. I fall short of excellence many, many times, and I have certainly wanted to give up on this research paper, but here it is. Thank you for your support and patience over the course of my journey.

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In memory of William D. Harris

1964-1995

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Abstract

The exploratory study sought to examine the relationships between teachers' self-efficacy beliefs and professional learning community. Specifically, this study presents a quantitative analysis of the relationship between teachers' perceptions of self-efficacy and PLC implementation. The Teachers' Sense of Efficacy Scale (TSES) (long form) developed by Megan Tschannen-Moran and Anita Woolfolk Hoy and the School Professional Staff as Learning Community (SPSLCQ) instrument developed by Shirley Hord (1997) were completed by teachers in eight Kansas City suburban elementary schools. All K-6 teachers in each building were invited to participate. Convenience sampling was employed and data was coded by school, participant, and survey instrument. Each respondent completed a demographic information questionnaire and all responses were taken on-line. Quantitative measures of analysis included correlational and descriptive statistics and a total of 163 teachers in eight schools completed the online questionnaire. Results of the study did not find strong, positive correlations between the TSES and SPSLCQ. However, the small, positive correlations found, along with the literature and other recent studies seem to indicate the value of professional learning communities as a positive school reform model. PLCs, paired with deliberate development of positive teacher efficacy, shows potential as a way to increase student achievement in this era of high accountability in education.

CHAPTER 1: INTRODUCTION TO THE STUDY

Introduction

National best-selling author, Jim Collins, makes a simple, but powerful declarative statement about what it takes to be great: “Good is the enemy of great” (2000, p. 1). Collins proclaimed this as one of the central reasons so little in the world is great. “We don’t have great schools, principally because we have good schools” (Collins, 2001, p. 1). Collins used the analogy of a flywheel to make an eloquent point:

The flywheel image captures the overall feel of what it was like inside the companies as they went from good to great. No matter how dramatic the end result, the good to great transformations never happen in one fell swoop. There was no single defining action, no grand program, no one killer innovation, no solitary lucky break, no wrenching revolution. Good to great comes about by a cumulative process—step by step, action by action, decision by decision, turn by turn of the flywheel—that adds up to sustained and spectacular results. (Collins, 2001, p. 165)

A critical question in schooling is whether today’s children should have good schools or great schools. To move education forward, educators must determine what reforms will move schools from good to great.

Schools today face complex demands and overwhelming problems, causing the drumbeat of school reform to be louder than ever. American school reform is not a new concept, but the current climate is particularly pressurized. Johnson (1996, p. 91) called the current era of school reform, “the best of times and the worst of times in public education.” Federal legislation known as the No Child Left Behind (NCLB) Act has increased pressure on schools to find methods that will ensure every child in the United States achieves proficiency in the areas of reading, mathematics, and science. Each state is responsible for identifying essential skills students should master at particular grade

levels, assessing those skills, and identifying students who do and do not meet proficiency standards. As states scramble to meet the mandates of No Child Left Behind, schools feel urgency to identify and implement programs and strategies to bring about comprehensive school improvement.

Overview of the Literature

School Reform

A significant body of circumstantial evidence points to a deep, systematic incapacity of U.S. schools, and the practitioners who work within them, to develop, incorporate, and extend new ideas about teaching and learning in anything but a small fraction of schools and classrooms. (Elmore, 1996, p. 1)

Historically, the United States populace has believed that schools can solve society's problems. Many education policymakers believe the right reform strategy can solve all of our schools' problems. T. C. Hunt (2005) claimed that an examination of the history of education reform might slow the sprint to embrace the next reform panacea. T. C. Hunt pointed out the history of American education is littered with supposed panaceas for the various educational issues of those time periods and warned about the need to learn from past school reform efforts to avoid the search for today's school reform "silver bullet" (p. 89). T. C. Hunt offered a few notable examples from U.S. education history:

- The common school would remove all crime and poverty from American society.
- Bible reading in schools would result in a virtuous America.
- McGuffey readers would instill the right character in students.
- Schools of the early 1900s would make good, loyal Americans out of immigrant children.

- The “Life Adjustment” curriculum of the mid-1900s would prepare all American youths for quality lives as individuals, family members, and citizens.
- Increased funding for math and science by the National Defense Education Act would help the U.S. catch up with the Soviets in the post-Sputnik era and increase rigor in schools.
- School reforms accelerated in the 20th century with the advent of open education, performance contracting, behavioral objectives, modular scheduling, the accountability movement, and site-based education, and similar reforms. (T. C. Hunt, 2005, pp. 84-85)

Hord (1997) discussed the prevalence of a quick-fix mentality in U.S. culture and described it as a “microwave oven” (p. 3) theory of school improvement. Hord maintained that many schools are poorly prepared to implement their change initiatives and often implement them in a cursory manner. Hord recommended a high level of staff collaboration and the implementation of professional learning community practices and philosophies as a way to combat the quick-fix tendencies that often accompany school reform initiatives.

Purkey and Smith (1982, as cited in Saphier & King, 1985) supported the concept that the culture of a school is the foundation for school reform. Purkey and Smith reasoned, “Academically effective schools are distinguished by their structures, processes, and climate of values and norms that channel staff and students in the direction of successful teaching and learning.” (1982, p. 68, as cited in Saphier & King, 1985).

DuFour (2004) emphasized that professional learning communities are a mechanism of reform and increasing student achievement, and he recommended engaging teachers in school improvement efforts. Fullan (2007) supported the same position and stated,

“Educational change depends on what teachers do and think – it’s as simple and complex as that” (p. 129).

DuFour and Eaker (1998) lamented that past efforts to reform school had historically not had the anticipated results for a number of reasons: (a) the complexity of the task, (b) misplaced focus and ineffective strategies, (c) lack of clarity on the intended results, (d) failure to persist, and (e) lack of understanding of the change process (p. 17). However, DuFour and Eaker insisted it was not necessary to give in to despair with regard to school reform. Instead, they maintained increasing evidence has emerged for hope for substantial school improvement through the implementation of professional learning communities.

Professional Learning Communities

“If schools want to enhance their organizational capacity to boost student learning, they should work on building a professional community that is characterized by shared purpose, collaborative activity, and collective responsibility among staff.”
(Newmann & Wehlage, 1995, p. 37)

The prominence of the school improvement model known as the *professional learning community* has grown tremendously in recent years. Increasing student achievement is the ultimate goal of the professional learning community model. The establishment of a professional learning community (PLC) involves a shared, systematic approach to identify and address students’ needs. A learning community makes the most of resources and staff in the school and has the potential to provide teachers with the

professional development and research-based strategies necessary to teach students with varying abilities and to improve student achievement (DuFour, Eaker, & DuFour, 2005).

Louis and Kruse maintained, “A core characteristic of the professional learning community is an undeviating focus on student learning” (as cited in Hord, 2004, p. 19). DuFour, DuFour, and Eaker (2008) discussed three ideas to guide the implementation of PLC. First, the ultimate purpose of the school is to guarantee high levels of learning for all students. DuFour, DuFour, and Eaker (2008) emphasize that in PLCs the focus is on “Was it learned?” rather than “Was it taught?”(p.19). Changing from a focus on teaching to a focus on learning is critical to the work of a PLC.

Second, educators cannot achieve the fundamental purpose of learning if they work in isolation. They must work collaboratively to address the issues with significant impact on student learning, and together, ensure that learning occurs at high levels for each student. Third, educators must continually seek evidence of student learning through systematic monitoring. This monitoring of progress informs instructional decisions and daily classroom practices (DuFour et al., 2008, pp. 18-19).

Even though PLCs are in fashion and most educators generally believe the implementation of PLCs will improve student achievement, the Center for Comprehensive School Reform and Improvement stated, “It can be challenging to show direct relationships between PLCs and student outcomes” (Learning Point Associates, 2009, p. 1). One explanation provided was that the actual existence of a PLC must be shown prior to establishment of a link between the PLC and measurable student

achievement. As noted by Roberts and Pruitt (2003), the term “learning community” has taken on a variety of meanings in the literature.

Doerr (2009) pointed out that “professional learning community” has become a “catchphrase in education” (p. 28). Doerr asserted that asking a variety of individuals to define PLC would likely yield an array of different answers. However, The Center for Comprehensive School Reform and Improvement cited a number of studies that have examined the relationship between professional learning community and student achievement.

Researchers Hughes and Kritsonis (2007, as cited in Learning Point Associates, 2009) selected a sample of schools from a database of schools that were possibly implementing PLCs and that had sent staff to PLC workshops. The mean length of time the sample schools ($N = 64$) reported functioning as a PLC was 2.5 years. During a three-year period, 90.6% of these schools reported an increase in standardized math scores; 81.3% reported an increase in English/language arts scores between 5 points and 26 points.

Case studies of three elementary schools showed that during a five-year period, students from minority and low-income families improved their scores on state achievement tests from less than 50% proficiency to 75% proficiency. Strahan (2003, as cited in Learning Point Associates, 2009) conducted interviews to examine the role of a collaborative professional culture on instructional improvement and found that working collaboratively in PLCs was a characteristic of these schools.

Using multiple sources of data from a four-year evaluation of PLCs in an urban district, Supovitz (2002, as cited in Learning Point Associates, 2009) found that an explicit focus on instructional improvement was necessary for PLCs to have a positive impact on improving teaching and learning. Without such focus, PLCs may have a positive effect on culture and teachers' feelings of well-being, but not necessarily on student achievement. Researchers found similar results in another large urban district (Supovitz & Christman, 2003, as cited in Learning Point Associates, 2009)

Vescio, Ross, and Adams (2006) submitted that the literature “provides modest evidence that professional learning communities impact teaching” (p. 13). In their examination of 10 studies, they found six studies that “attempted to make those connections” (p. 14). Vescio et al. maintained that although few in number, the overall results of these studies put forth evidence that the literature supported the “assumption that student learning increases when teachers participate in professional learning communities” (p. 16). In the current era of high-stakes testing and school accountability, the success or failure of professional learning communities as a reform depends on whether student achievement improves with PLC implementation.

Self-Efficacy and Teacher Efficacy

The construct of self-efficacy has its theoretical underpinnings in Bandura’s social cognitive theory (1977, 1997). Social cognitive theory avows that human behavior is not solely influenced and driven by human biology and environment. Instead, social cognitive theory asserts that humans are complex and act in intentional ways, or exhibit

“agency” (Bandura, 1997, p. 3). Bandura stated, “The power to originate actions for given purposes is the key feature of personal agency” (1997, p. 3).

Bandura put forth that internal and external factors, as well as past and present behaviors, influence humans. He suggested many interrelated factors, which may or may not be within the individual sphere of control, determine human behavior. Fundamental to Bandura’s social cognitive theory, however, is that personal beliefs contribute greatly to life choices, as well as to eventual successes and failures. “People need firm confidence in their efficacy to mount and sustain the effort required to succeed” (Bandura, 1997, p. 11).

Bandura formally defined self-efficacy as “beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments” (1997, p. 3). These beliefs are influential in one’s behavior choices and ability to redirect one’s behavior. Bandura is particularly noted for his model of *triadic reciprocal causation*, which outlines the three critical elements of human agency: (a) external environment, (b) personal behavior, and (c) internal personal factors such as biological events and affective and cognitive processes (Bandura, 1997, p. 6). The three components are multidirectional, and each brings a varying amount of influence at any given time.

Bandura (1997) stated, “A growing body of research in educational psychology suggests that a teacher’s quality of performance and commitment to work is related to his or her level of motivation to influence student learning” (as cited in Ware & Kitsantas, 2007, p. 303). Protheroe (2008) noted the concept of teacher efficacy originated a little over 30 years ago, when the RAND Corporation asked teachers to express their degree of

agreement with two belief statements on their 1976 teacher survey. Since then, research in this area has “suggested powerful effects from the simple idea that a teacher’s belief in his or her ability to positively impact student learning is critical to actual success or failure in a teacher’s behavior” (Henson, 2001, p. 17). Tschannen-Moran, Hoy, and Hoy (1998) stated a teacher’s sense of self-efficacy is “related to teachers’ behavior in the classroom. It affects the effort they put into teaching, the goals they set, and their level of aspiration” (pp. 222-223).

Protheroe (2008) pointed out two important questions related to teacher efficacy:

- How does a teacher’s sense of efficacy affect his or her teaching?
- Can it, through its impact on teaching, affect student achievement? (p. 43).

Protheroe went on to cite the work of Jerald (2007) as providing an overview of important findings related to teachers with a stronger sense of efficacy in his considerable review of the literature. Jerald found that teachers with a stronger sense of efficacy:

- Tend to exhibit greater levels of planning and organization,
- Are more open to new ideas and are more willing to experiment with new methods to better meet the needs of their students,
- Are more persistent and resilient when things do not go smoothly,
- Are less critical of students when they make errors, and
- Are less inclined to refer difficult students to special education.

(Protheroe, 2008, p. 43)

In general, the literature demonstrates two overall findings, as summed up by a study conducted by Ware and Kitsantas (2007). First, teachers who report high self-efficacy

tend to overcome challenges to their teaching, are more optimistic, give greater work effort, and take responsibility for their work. At the other end of the spectrum, teachers who report low self-efficacy are more likely to attribute their results to external factors.

Core Research Questions of the Study

This goal of the current correlational study is to explore the relationship between two variables: attitudes toward professional learning community and teacher self-efficacy beliefs. To this end, the following research questions were explored:

Research Question One:

Is there a relationship between the subscales of the TSES (*Engage*, and *Management*) and the subscales of the SPSLCQ (*Interaction*, *Sharing*, *Improvement*, and *Trust*)?

Research Question Two:

Do school location, gender, grade level/content area taught, total number of years as a professional educator, total number of years working at current school and education level predict subscales of the TSES (*Engage and Management*) and the subscales of the SPSLCQ (*Interaction*, *Sharing*, *Improvement*, and *Trust*)?

Importance of the Study

The goal of this study was to explore the impact of teacher efficacy beliefs on the level of PLC implementation in particular schools. The use of two instruments commonly used to measure the constructs of teacher efficacy and PLC implementation facilitated the research. The instruments utilized in the study were the Teachers' Sense of

Efficacy Scale (long form) (TSES) and the School Professional Staff as Learning Community (SPSLCQ). The TSES is intended to assess whether a teacher believes that student motivation and learning are under the teacher's control. The SPSLCQ (Hord, 1997) is designed to assess whether teachers perceive their school as having a positive learning environment and a supportive learning community. The results of this study add to the general body of school improvement research, and specifically, to the areas of teacher efficacy and professional learning communities.

Research studies have indicated the impact of teacher efficacy beliefs on classroom performance and student achievement (Henson, 2001). Rozenholtz (1989, as cited in Hord, 1997) discovered that teachers with a strong sense of efficacy were more likely to adapt and improve classroom practices and had increased longevity in the profession. Rozenholtz found that teacher workplace factors influenced teacher commitment and effectiveness.

Darling-Hammond (1996) suggested that redesigning the way teachers spend their time and providing collaboration structures for teachers so they could work together might increase teacher satisfaction. Darling-Hammond found a need for restructuring now, more than ever. "Schools are now expected not only to offer education, but to ensure learning" (Darling-Hammond, 1996, p. 5). Most educators in recent years have viewed professional learning communities, as an organizational structure, as an effective model for increasing collegiality among teachers and improving schools.

This correlational study was investigative in nature, with the goal of ascertaining whether a relationship was present between teachers within professional learning

communities and their personal beliefs of self-efficacy in the teaching role. By using Likert-like scales to measure constructs of professional learning community and self-efficacy, the data were treated as continuous variables, which allowed for stronger statistical analyses. The study began with the hope that the results could inform the practices of educational leaders, with the ultimate goal of improving schools to increase student learning and success. Informed leaders are better equipped to meet the needs of teachers and students. The cultivation of strong teacher efficacy and implementation of professional learning communities have the potential to meet the stated goals.

Limitations and Delimitations

The study had a number of limitations. As a result of the sample size, eight schools and 164 teachers, the results are not as generalizable as they might have been with a larger sample size. Most of the respondents were white females, typical of Midwestern elementary school faculties. Study results might have been applicable to more settings, had respondents exhibited greater diversity. Respondents participated on a voluntary basis at the encouragement of their building administrators. It is probable that teachers who responded may generally have had more positive attitudes toward educational research and the larger mission of schooling. In general, teachers who tend to be “systems thinkers” are more likely to arrive early or stay late to participate in optional activities such as this study.

A noted delimitation is that the study addressed only kindergarten through 6th grade regular education and special education teachers in the elementary school setting. All teachers in the participating school had participated in professional development

training in the area of professional learning communities. However, teachers at the various schools had differing amounts of professional experience with regard to years in teaching, years in the district, and degree completion. This may have had an impact on teacher responses to the questionnaires.

Assumptions

This study had three basic assumptions: The self-reported data collected from teachers for this study were assumed to be truthful, as were the candid responses to each questionnaire item; teachers' participation in the study was voluntary; and each teacher had participated in professional learning communities training at his or her building site.

Operational Definitions

Collaboration. This is a systematic process in which teams work together to analyze and impact professional practice in order to improve individual and collective results (DuFour, 2004, p. 2).

No Child Left Behind (NCLB). The NCLB is legislative act passed in 2001 by Congress that defines parameters for public schools. "NCLB is built on four principles: accountability for results, more choices for parents, greater local control and flexibility, and an emphasis on doing what works based on scientific research" (United States Department of Education, 2007, n.p.). This legislation mandates that all students (regular, special education, all demographic groups) score "proficient" in reading/language arts and math by the year 2014 (Northwest Regional Comprehensive Center, n.d.).

Professional learning community (PLC). This is a group of educators committed to working collaboratively in ongoing processes of collective inquiry and action research to achieve better results for the students they serve. Professional learning communities operate under the assumption that the key to improved learning for students is continuous, job-embedded learning for educators (DuFour et al., 2008).

Self-Efficacy. Beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments (Bandura, 1997, p. 3).

Teacher efficacy. Teachers' confidence in their ability to promote students' learning (Hoy, 2000, p. 2).

Summary and Organization of the Study

This study presents a quantitative analysis of the relationship between teacher efficacy and depth of PLC implementation. The Teachers' Sense of Efficacy Scale (TSES) (long form) developed by Megan Tschannen-Moran and Anita Woolfolk Hoy and the School Professional Staff as Learning Community (SPSLCQ) instrument developed by Shirley Hord (1997) was administered to the teachers in eight Kansas City suburban elementary schools. All K-6 teachers in each building were invited to participate. Convenience sampling as defined by Creswell (2002) was employed. Principals and assistant principals assisted with participant completion of the survey instruments by encouraging and reminding teachers to submit the demographic surveys and questionnaires, which were contained in one document to enable ease in responding. Teacher participation was completely voluntary and questionnaires were completed either before or after regular school hours. Data was coded by school, participant, and survey

instrument. Quantitative measures of analysis include correlational and descriptive statistics. Teacher participants were provided an informational statement and Internet Information Statement. All responses were provided on-line.

This study is presented in five parts. Chapter 1 contains a brief overview of relevant literature that supports this study, core research questions, significance of the study, delimitations and limitations, assumptions, and operational definitions of important terms, and a brief conclusion statement.

Chapter 2, the review of literature, includes background information on past and present school reform initiatives in order to set the stage for today's urgent need to improve schools in the United States by increasing student achievement and meeting the needs of the *No Child Left Behind Act*. *Professional learning communities* and its essential elements are discussed as a potential model for meeting the needs of today's schools during this time of extreme accountability. The construct of *teacher efficacy* is reviewed as there is literature to support the notion that teacher attitudes and self-beliefs impact the way they do their job and to what extent they feel they can and do make a difference with regard to student learning. Bandura's (1977, 1986, 1997) social cognitive theory of self-efficacy receives considerable emphasis in this section.

Chapter 3 includes the methodology used in this study including a description of the research population, sampling procedures, questionnaires used, design, and analysis procedures, nature of descriptive statistics collected. Chapter 4 presents a summary of the study results, including factor and reliability analysis, correlation analysis, and a

summary of descriptive statistics for the sample. Chapter 5 contains a discussion of results, implications of results, and future research opportunities.

CHAPTER 2: REVIEW OF RELATED LITERATURE

Introduction

Chapter 2 presents a review of the literature related to the critical elements of this study. Each section of this chapter presents a review of pertinent literature relating to the study. The intent of the literature review is to examine past school reform movements, the professional learning community as a school reform model, and teacher efficacy as an influence on school performance and culture.

Overview of American School Reform

Introduction

Fullan (1997) acknowledged, “These are indeed tough times for public education and public educators” (p. vii). While virtually every school is searching for new and better ways to meet the needs of today’s school children and the mandates of No Child Left Behind (NCLB), Fullan assured, “There is no silver bullet” with regard to school reform (p. vii). From the colonial period to the present, our nation’s citizens have “dreamed of improving, if not perfecting, the nation’s public schools” (Reese, 2000, p. 7). Americans have expected public schools to solve a wide variety of social problems through the reform of the schools. Though the popular issues of school reform may ebb and flow, such issues generally reflect wider national concerns. Periods of great social change often result in calls to reform our nation’s schools. Reese (2000) asserted, “Reforming schools is one prominent way the United States tries to understand and improve itself” (p. 7).

19th Century School Reform

Interest in maintaining a centrally managed public school system had its historical roots in colonial America (Schneider & Keesler, 2007). Governmental entities managed public schools and parents were not obligated to send their children to school. The few compulsory education laws of the colonial period had foundations in religious fervor (Imber & Van Geel, 2004). Students learned to read the Bible to ensure protection against satanic influence. The curriculum focused on the three R's: reading, 'riting, and 'rithmetic, as well as religion and morals (Reese, 2000; Schneider & Keesler, 2007).

Attendance was erratic and teachers did not expect most students to be proficient readers until around the age of 12. Private academies existed in many larger cities and charity schools were established for the urban poor (Reese, 2000). By the late 1700s, American education began to experience a shift from a concentration on religious and moral education to a more "secular, scientific, and functional orientation" (Schneider & Keesler, 2007, p. 199). This shift was a result of European influences and the beginning of national sentiment that education was a "socialization tool" (Schneider & Keesler, 2007, p. 199) for the young democratic nation.

The most significant accomplishment of 19th century school reformers was the establishment of universal, tax-supported public schools (Reese, 2000). Public schools were established in the Northern states before the Civil War and then more slowly in the Southern states after the Civil War. By the 1830s and 1840s, schools across the countryside educated boys and girls living in the immediate areas. These schools were often referred to as "common schools." While not always free, common schools were

accessible to white boys and girls from the neighboring areas. In the cities, reformers worked to abolish charity schools for the poor and slowly moved to integrate all students into the emerging public schools. Many middle and upper class students began attending the new public schools (Reese, 2000).

Though allocation of social and economic resources continued to develop free elementary education in the early 1800s, the push for free secondary schools did not emerge until the 1820s (Schneider & Keesler, 2007). During the mid-1800s, reformers worked to increase the number of teachers, improve teacher training, raise learning standards, and remove older children from the elementary school setting. Influential reformer, Horace Mann, Secretary of the Massachusetts State Board of Education, and other leading reformers continued to advocate for increased public funding for universal public education.

By 1850, most state legislatures had established an office for the state superintendent of education, along with systems to oversee local schools. The public expected American schools of this period to be the primary social agency to join students from divergent cultural backgrounds and to “Americanize” immigrants (Nelson, Palonsky, & Carlson, 2000). Compulsory education and an emphasis on civics, history, and the English language were subjects used to indoctrinate the new American students. While public education in this era was a means of developing democracy and offering opportunities for social movement (Nelson et al., 2000), this visionary ideal did not apply to all individuals. Nearly 100 years passed before all individuals had legal access to

public education, the quality of which varied greatly among populations (Schneider & Keesler, 2007).

Throughout the 1800s, some reformers sought to standardize various aspects of public education. Horace Mann was particularly influential during this era and called for more state control of local districts. Mann also recommended a number of specific innovations such as increasing the number of consolidated schools, the adoption of uniform textbooks, and the creation of more age-graded classrooms. In addition, Mann pushed for opening more free high schools, the hiring of women as elementary teachers, and the adoption of a more standardized curriculum (Reese, 2000).

The movement to create and expand public universities also took root in this era. While the 1800s saw significant growth and innovations in education, not all states hurried to adopt them. The progress toward more state control eventually gained ground and officials adjusted local school practices accordingly. However, the substantial majority of 19th century schoolchildren attended school only for a few brief years (Reese, 2000). With 90% of Americans still living and working on farms, most considered school as a luxury, with only one in ten children attending formal schooling (Schneider & Keesler, 2007).

By the 1890s and early 1900s, reformers were already talking about the concept of the “new education” (Reese, 2000). The new education was a combination of ideas originating in Europe that later made its way to America. Advocates of the new education had a wide variety of philosophical viewpoints about how schools should educate children. One particularly notable movement encouraged the shift from

emphasis on traditional textbooks and recitation to more child-centered teaching strategies. Despite the agenda of the new education, most schools still operated in a traditional manner in the early 1900s.

20th Century School Reform

The transition from the 19th century to the 20th century continued to be a dynamic period in American history, with industrialization, immigration, urbanization, and the continued evolution of American schooling impacting social and economic elements of society. Child labor still existed during this period and many children still did not attend school for more than a few years, if at all, despite the rhetoric about the importance of school in shaping the new democracy. The process of immigration reduced the number of child laborers over time, as adult immigrants took their jobs. African Americans began their migration north as technological improvements in farming reduced the need for human laborers. It was a time of great societal change and the cry for school reform again sounded as a means of improving societal ills.

The drumbeat for school reform echoed through the period between the depression of the 1890s and the end of World War I in 1918 (Reese, 2000). The reformers of this era, the administrative progressives, sought to reform schools by taking their prompt from America's flourishing manufacturing economy (School Communities That Work, 2002). The goal of the administrative progressives was to create a formula or method of running effective schools that would "produce assimilated, productive citizens as efficiently as Ford's factories produced cars" (School Communities That Work, 2002, p. 2).

The administrative progressives were mostly white male, first-generation professionals with similar ideals, interests, and training who served as lifelong educators and held many high-level positions in education (Tyack & Cuban, 1995). This group of reformers shared a common conviction in corporate-style scientific management and a desire to separate schooling from politics (School Communities That Work, 2002). By removing education from politics, experts could make the critical decisions about school management (Tyack & Cuban, 1995). Tyack and Cuban asserted that the administrative progressives “shaped the agenda and implementation of school reform more powerfully from 1900-1950 than any other group has done before or since” (1995, p. 17).

Standardization of inputs rather than outputs was the goal of the administrative progressives (School Communities That Work, 2002). The administrative progressives put forth a business-oriented view of schools. For efficiency in both rural and urban areas, the administrative progressives pushed for consolidated, centralized school systems run by high-salaried experts assumed to serve the interests of all the children (Reese, 2000). Their reforms led to a reduction in local control and smaller school boards, both changes that were unwelcome in many communities. Dissenting groups saw the corporate approach of the administrative progressives as devaluing the importance of neighborhood influence (Reese, 2000).

While the administrative progressives wielded much power, opposition groups and grassroots groups lobbied for other changes in schooling. Many of these groups insisted on more social services in schools and they supported the implementation of breakfast programs, construction of more playgrounds, and increased usage of schools as

community centers (Reese, 2000). Those opposing the approach taken by administrative progressives maintained that little consideration was paid to the developmental needs of individual students and “students were seen more as products to be shaped than as active contributors to their own learning” (Stoskopf, 2002).

The administrative progressives of the first half of the 20th century were the “chief American architects of reform and arbiters of educational progress,” according to Tyack and Cuban (1995, p. 17). This dynamic period in the history of schooling saw the introduction and implementation of many features of modern public education. More children had access to public education, children attended school more often and for longer periods of time, school funding increased, and the structures of current day elementary and secondary schools were solidified. The role of the high school changed rapidly with diversification of the curriculum and addition of extracurricular activities. The impact of the administrative progressives remains significant in today’s schools, as evidenced by the continuation of the structures first promoted by the administrative progressives (School Communities That Work, 2002, p. 2).

One of the most prominent educational reform movements of the 1920s and 1930s was the concept of progressive education (Schneider & Keesler, 2007). Supporters of progressive education espoused a more active learning style, improved student-teacher interactions, and recognition of individual differences. By the 1940s and 1950s, the pendulum swung back the other way, with more traditional methods, schedules, and routines. By the late 1960s and early 1970s, more progressive methods were again

fashionable, only to drift away once again after the publication of *A Nation at Risk* in 1983 (Schneider & Keelsler, 2007).

Though school consolidation and centralization was rapid and extensive by midcentury, school districts varied from one to the next, and often schools varied within the same district (Reese, 2000). While comprehensive high schools were standard, elite private schools existed in larger cities, contributing to ongoing issues of racial and social class segregation. Reformers and citizens in general continued to view the primary purpose of schools as ensuring an educated, democratic populace, but equal opportunities still did not exist for all.

In both urban and rural areas, racial segregation continued to be commonplace, even more so in the South. Issues of unequal educational opportunity moved to the forefront of educational reform in the 1950s. The 1954 U. S. Supreme Court decision of *Brown v. Board of Education* struck down the longstanding “separate but equal” doctrine of *Plessy v. Ferguson* and declared that “in the field of public education, the doctrine of ‘separate but equal’ has no place” (Imber & Van Geel, 2004, p. 213).

The actual dismantling of racially identifiable schools was a sluggish process, and not until the Civil Rights Act of 1964 did the federal government possess a means for forcing racial desegregation in public schools (Schneider & Keesler, 2007). The Act, which prohibited allocation of federal monies to schools that discriminated on the basis of race, provided an effective sanction for schools that did not comply with desegregation.

School reform after 1945 moved into a new realm (Reese, 2000). America emerged as a world power after World War II, experienced rapid growth and prosperity, and sought to maintain its competitive edge on the world stage. The Cold War with the Soviet Union overtook the relatively peaceful time after WWII, and the Soviet's launch of the Sputnik space satellite propelled the Soviets into a scientific leadership position (Schneider & Keesler, 2007). Many education reformers responded with calls to reform school math and science programs to ensure America's ability to maintain its competitive edge. Many of the math and science programs launched post-Sputnik remain in effect today.

Student enrollment continued to grow in the 1960s, along with the economy (Reese, 2000). Disparate funding among urban and suburban school districts, as well as those in the North and South, contributed to unequal educational opportunities for poor and Black students (Schneider & Keesler, 2007). Race relations were often tense in this period and Whites moved to the suburbs as cities deteriorated. Faith in the prospect of progress fueled both protest and federal legislation, according to Tyack and Cuban (1995). The federal government responded with several pieces of legislation in response to the obvious inequalities.

The Johnson administration declared a War on Poverty and created two federal programs to assist low-income children (Schneider & Keesler, 2007); Head Start for preschool students, and Job Corps for adolescents. Later, the Nixon administration enacted the Elementary and Secondary Education Act, mandating educational services for poor children (Tyack & Cuban, 1995). The federal role in schools had grown

significantly since WWII, having increased to about 9% of all education spending by this time (Reese, 2000).

The 1960s and 1970s was a period in which the struggle for equity in education continued. School desegregation and compensatory education programs for at-risk students were important educational issues. Integration efforts had taken hold and new teaching practices such as open classrooms, more student choice in course offerings, flexible scheduling, magnet schools, and alternative schools were common (Reese, 2000; Schneider & Keesler, 2007). Conservatives asserted that these recent developments in education had a negative effect on schools, as they cited removal of prayer from schools, decreasing test scores, and the decline of student discipline. As the economy weakened in the 1970s, Republicans gained prominence and took the lead in school reform (Reese, 2000).

The late 1970s and early 1980s ushered in a period of high criticism of America's schools. The 1983 federal report, *A Nation at Risk*, authored by the National Commission of Excellence in Education, called for sweeping educational reform (Good & Braden, 2000). The report claimed that the public schools of the 1960s and 1970s had "lost their intellectual rigor" and that America was losing its prominence in the areas of "commerce, industry, science, technology, and innovation" (as cited in Good & Braden, 2000, p. 34). The report was a "landmark indictment" of the nation's schools (Schneider & Keesler, 2007, p. 202) and called for a return to an emphasis on academic excellence (Reese, 2000).

The report contained specific recommendations in five major areas: content, standards and expectations, time, teaching, and leadership and fiscal support (Good & Braden, 2000). Shortly after *A Nation at Risk* (National Commission on Excellence in Education, 1983), Gallop polls indicated only 31% of those polled gave public schools a grade of A or B, demonstrating a fairly consistent drop in public confidence (Tyack & Cuban, 1995). In response, state legislatures throughout the 1980s required local districts to increase standards, extend the school year, assign more homework, and implement other measures to increase educational rigor (Reese, 2000; Schneider & Keesler, 2007).

A Nation at Risk had a lasting effect on how Americans viewed public schools. After *A Nation at Risk*, reformers set out on one of the most pervasive school reform efforts in American history, a movement that continues today (Schneider & Keesler, 2007). States promulgated more educational laws and regulations in the mid-1980s than had been produced in the previous 20 years (Tyack & Cuban, 1995). Toch (as cited in Schneider & Keesler, 2007) estimated there were 3000 separate school reform measures enacted in the 1980s. State-level task forces were numerous in the 1980s and the trend continued into the 1990s. More than a quarter century has passed since the *A Nation at Risk* report, and it remains controversial today (Ravitch, 2008).

As a result of *A Nation at Risk*, school reform and the role of school leaders began to change in the 1980s and did not take a linear path to *No Child Left Behind*, but rather moved in “fits and starts” (J. W. Hunt, 2008, p. 581). Hunt outlined three of the most substantial reform movements of the 1980s and 1990s: The excellence movement, the restructuring movement, and the standards movement. The excellence movement sought

to increase standards for teachers and students and typically recommended changes in the structures of teaching, such as schedules, calendars, requirements, and assessments. In this era, advocates held up business models as possible solutions for the ills of schooling.

The restructuring movement at the end of the 1980s focused on district-level changes with heavy endorsement of site-based management, leading to a great deal of support from teachers and building administrators. During the restructuring movement, teachers and principals received encouragement to try creative new approaches. District and building level administrators enjoyed support for sharing control and fostering teacher leadership. This was also a time when stakeholders began expecting improved student achievement results.

J. W. Hunt (2008) named the standards movement as the third movement resulting from *A Nation at Risk*. The federal legislation of Goals 2000 and No Child Left Behind have had profound impacts on schools, with directives to improve student achievement through sweeping mandates and funding muscle. Subject-area standards and a focus on assessment are hallmarks of the standards movement and influence how schools operate today.

No Child Left Behind

Finn (2002) asserted, “Accountability may be the hottest word in primary and secondary education nowadays” (p. 85). The hallmark of this accountability movement is the federal statute known as the *No Child Left Behind Act* (NCLB). NCLB is the 2001 amendment of the Elementary and Secondary Education Act, which Congress initially passed in 1965. A multifaceted piece of legislation, NCLB combines the former Title I

grant program; a new assessment, accountability, and reform system; and a number of provisions that impact school operations (Imber & Van Geel, 2004).

Finn and Hess (2004) maintained NCLB is “driven by two main pistons: imposing systematic testing on schools and districts, and imposing forceful remedies on weak schools” (p. 39). Schneider and Keesler (2007) contended that NCLB has regressed from a standards-based approach to one of “testing and accountability, whereby schools now receive the brunt of sanction, should their students fail to reach specified performance criteria” (p. 206). School districts across the nation are scrambling to meet the mandates of NCLB. School leaders are searching for ways to improve practices and increase student achievement.

The essential goal of *No Child Left Behind* is to transport all students to a state-specified level of proficiency by 2014 (Imber & Van Geel, 2004). NCLB represents a substantial expansion of federal control over public education, and encouraging reform in underperforming, high-poverty schools. However, Finn and Hess (2004) stated that NCLB “has grand ambitions, but its means are meager” because federal funds amount to pennies on the public school dollar, thus giving Congress “limited fiscal leverage” (p. 39). Nevertheless, NCLB is an ambitious legal mandate with a specific set of requirements. Imber and Van Geel (2004, pp. 105-106) outlined key aspects of the assessment and accountability aspects of NCLB:

- Adopt “challenging academic content standards” and “challenging student academic achievement standards” regarding what children are to know and be able to do.

- Establish “annual yearly progress” (AYP) objectives for all students and separate measurable annual objectives for disadvantaged students, students from major racial and ethnic groups, students with disabilities, and students with limited English proficiency.
- Administer tests “aligned” with the state’s standards annually to all students in grades 3-8 and at least once during high school to assess AYP in mathematics and reading or language arts. Schools must also test science at least once during grades 10-12. The assessment of any student who has attended school in the United States for three or more consecutive years must be in English. On a case-by-case basis, individual students may be exempted from this requirement. Schools must annually assess the English proficiency of students of limited English speaking ability.
- Issue various reports detailing assessment results, including a report on each student for parents and teachers; assessment results disaggregated by gender, major racial and ethnic groups, English proficiency, migrant status, disability, and status as economically disadvantaged; and school, school district, and state report cards.
- Continue to participate in the biennial National Assessment of Education Progress of reading and math for students in the fourth and eighth grades.

No Child Left Behind is “clearly the most ambitious educational initiative in American history,” as evidenced by its impact on all aspects of schooling, according to DuFour, DuFour, and Eaker (2008). *NCLB* has shifted public focus to the building level

and to how individual and groups of students perform academically (J. W. Hunt, 2008). With mandated annual increases in the percentage of students achieving proficiency on state assessments until 2014, educators at all levels are feeling the strain of *NCLB*. School administrators are seeking and implementing school improvement initiatives in hopes of meeting the 2014 deadline, when the legislation expects all students to be proficient in reading and in math. One prominent school improvement initiative in recent years is professional learning communities (PLCs). DuFour and Eaker (1998, p. xi) maintained that PLCs are “the most promising strategy for sustained, substantive, school improvement.”

Reforming Schools Through Professional Learning Communities

In recent decades, the American public and education professionals alike have sought new practices and programs to improve public education (Hord, 1997). Reform advocates recognize that educators must embrace change in order to achieve systematic improvement. “Educational leaders’ work is further complicated by current needs for the fundamental and systematic change required for dramatically increasing student learning and achievement” (Helsing, Howell, Kegan & Lahey, 2008, p. 438). Driven by the demands of teaching and learning within a climate of increasing accountability, school improvement efforts are in overdrive to improve student achievement and meet the demands of *No Child Left Behind*. One school improvement model that has emerged to meet these demands is that of professional learning communities.

Historically, school reform has often been the mechanism for improving society in general, but change comes slowly. According to Tyack and Cuban (1995), “For over a

century and a half, Americans have translated their cultural anxieties and hopes into dramatic demands for educational reform” (p. 1). Tyack and Cuban asserted the “structures, rules, and practices” (1995, p. 8) that impact instruction have changed little in the last century and a half, though innovators periodically challenge the status quo. Tyack and Cuban stated that one common theme for innovation over the years has been the call for teachers to work in teams rather than function in isolation (1995, p. 87).

Teacher collaboration is a critical attribute of the school improvement model known as professional learning communities. Purposeful dialogue can have an important impact on schools (Sparks, 2005). DuFour (2004), a major advocate of PLCs, suggested educators “must work together to achieve their collective purpose of learning for all” (p. 9) and “create structures to promote a collaborative culture” (p. 9). Such learning communities connect individuals in collective work and bring them into contact with other educators and ideas. Collaborating as a PLC encourages “teachers to reflect critically on their practice, thus creating new knowledge and beliefs about teaching and learning” (Hord, 1997). DuFour (2004) believed that, despite compelling evidence about the effectiveness of teacher collaboration, teachers in many schools continue to work in isolation, to the detriment of school improvement.

The professional learning community model differs greatly from the factory model of the late 19th and early 20th centuries (DuFour & Eaker, 1998). The post-industrial world of today requires a significant paradigm shift. Factory model education no longer works in this technological and knowledge-based world. Today’s educators are responsible for equipping students with knowledge and skills differing greatly from those

of generations past. Students must be empowered to be learners, thinkers, and communicators. DuFour and Eaker (1992) suggested an educational organization must be willing to “renew itself—to seek and find better ways of fulfilling its mission” in order to meet the needs of today’s learners (p. 8). The professional learning community provides a model for school improvement that fosters adult learning and a focus on continuous improvement.

Essential Elements of Professional Learning Communities

In their book *Revisiting Professional Learning Communities at Work: New Insights for Improving Schools*, DuFour et al. (2008) defined a professional learning community as follows:

We define a professional learning community as educators committed to working collaboratively in ongoing processes of collective inquiry and action research to achieve better results for the students they serve. Professional learning communities operate under the assumption that the key to improved learning for students is continuous, job-embedded learning for educators. (p. 14)

The PLC is a conceptual school improvement model aimed at increasing student achievement by building the capacity of school personnel to create and sustain conditions that promote high levels of student and adult learning. According to DuFour, Dufour, Eaker, and Karhanek (2004), the “fundamental purpose of school is learning, not teaching—an enormous distinction” (p. 2). Key aspects of this initiative include shared purpose, collaborative activity, and collective responsibility for results. The four critical questions of learning that are emphasized within a PLC are:

1. What is it we want all students to learn—by grade level, by course, and by unit of study?
 2. How will we know when each student has acquired the intended knowledge and skills?
 3. How will we respond when students experience initial difficulty so that we can improve upon current levels of learning?
 4. How will we respond when students already know the curriculum?
- (DuFour et al., 2004, pp. 2-3)

In a high-functioning PLC, these questions guide the daily work, decisions, and conversations of every staff member and the school in general.

In an effective PLC, the four critical questions drive the selection of learning objectives, curriculum, and assessment methods. PLC schools systematically plan intervention strategies for struggling and accelerated students, and allocate time and financial resources to provide quality educational programs for each student.

The term “professional learning community” first surfaced in the literature of organizational theory as early as the 1960s; the concept presented an alternative to the isolation in which teachers often worked. Senge (1990), whose primary focus was on corporations rather than schools, nevertheless influenced the field of education with his advocacy to move toward becoming a learning organization by striving for continuous renewal. Senge’s image of a learning organization was a place where “people continually expand their capacity to create the results they truly desire, where new and expansive

patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together” (Senge, 1990, p. 3).

Senge promoted the establishment of a supportive culture that enabled a high level of staff collaboration and an effort toward unified goals. Senge outlined five learning disciplines that must be in place to ensure an effective learning organization: (a) personal mastery, (b) mental models, (c) team learning, (d) building shared vision, and (e) systems thinking (as cited in Roberts & Pruitt, 2003, p. 3). Senge’s five learning disciplines have had obvious impact on today’s PLC culture, as evidenced in the discussion of Hord’s research.

Even more recently, teacher collaboration and the PLC model has gained wider acceptance among educators. By the mid-1990s, the ideas advocated by Senge had been recognized in the educational community under the concept of professional learning communities. In her extensive 1997 research report entitled *Professional Learning Communities: Communities of Continuous Inquiry and Improvement*, Hord suggested Professional Learning Communities shared five common attributes: (a) supportive and shared leadership, (b) collective creativity, (c) shared values and vision, (d) supportive conditions, and (e) shared personal practice (pp. 14-20). Hord maintained that while a major goal of school reform is to provide an optimal learning environment for students, teachers thrive professionally when the five preceding attributes are present.

Hord (1996) developed the School Professional Staff as Learning Community Questionnaire (SPSLC) as a tool to examine teachers’ perceptions about their school’s staff and structures and the extent to which they perceive their school to exhibit each of

the five conceptual dimensions of a professional learning community. Though much of the research examining schools as professional learning communities is qualitative, the SPSLC collects quantitative data and will be used in the present study to explore the relationship between two variables, attitudes toward professional learning community and self-efficacy beliefs. The descriptors of Hord's five PLC dimensions from the SPSLC follow.

1. Supportive and shared leadership: School administrators participate democratically with staff sharing power, authority, and decision-making.
2. Shared values and vision: staff members share visions for school improvement that have an undeviating focus on student learning, and are consistently referenced for the staff's work.
3. Collective learning and the application of that learning: Staff members' collective learning and application of the learnings (taking action) create high intellectual learning tasks and solutions to address student needs.
4. Shared practice: Peers review and give feedback based on observing each other's classroom behaviors in order to increase individual and organizational capacity.
5. Supportive conditions: School conditions and capacities support the staff's arrangement as a professional learning organization. (Hord, 1996)

Doerr (2009) acknowledged that professional learning community has become an educational catchphrase that can elicit many different responses when individuals or organizations define the term. However, the PLC research base supports the importance of the basic key elements of professional learning communities. Doerr (2009) asserted having an exact definition or model of a PLC is not important because individual schools must meet the needs of their own cultures, but key practices of learning communities improve teaching performance and student achievement. These practices include (a)

establishment of a clearly identified problem around which the learning team can come together, (b) meetings that focus on the problem, (c) dedication of time to meet consistently, (d) sharing and appropriately differentiating responsibility as well as mutual accountability, and (e) establishment of a climate of trust where teachers can be open about their concerns and weaknesses (pp. 28-29). Schmoker (2004) observed “It is stunning that for all this evidence and consensus of expert opinion, such collaboration—our most effective tool for improving instruction—remains exceedingly, dismayingly rare” (p. 431).

Self-Efficacy and Teacher Efficacy as Constructs of Social Cognitive Theory

Self-efficacy and teacher efficacy are important constructs of social cognitive theory. Bandura (1997) defined self-efficacy as, “beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments” (p. 3). Dembo and Gibson (1985) defined teacher efficacy more simplistically as, “The extent to which teachers believe they can affect students’ learning” (p. 173). While a variety of factors impact the effectiveness of classroom teachers, Ashton (1984) noted:

No other teacher characteristic has demonstrated such a consistent relationship to student achievement...and...a potentially powerful paradigm for teacher education can be developed on the basis of the construct of teacher efficacy beliefs.” (p. 28)

Researchers from the RAND Corporation initiated the investigation of teacher efficacy by adding two items to an extensive questionnaire administered to teachers in 1976, and the concept of teacher efficacy was born (Tschannen-Moran, Woolfolk, &

Hoy, 1998). One of the questions measured general teaching efficacy (GTE), while the other measured personal teaching efficacy (PTE) (Koehler, 2006). General teaching efficacy is one's belief in the power of teaching to overcome external student factors. Personal teaching efficacy refers to teachers' beliefs in their personal teaching abilities.

Self-Efficacy

Psychologist and Stanford University professor, Albert Bandura, is well-recognized as the originator of the theory of self-efficacy within the field of psychology known as social cognitive theory (Henson, 2001, Pajares, 2004). Bandura published *Social Foundations of Thought and Action* in 1986, which offered a view of human behavior that imparts a “central role to cognitive, vicarious, self-regulatory, and self-reflective processes in human adaptation and change” (Pajares, 2004, p. 1). Believers in this theory view people as proactive rather than solely reactive in nature. Bandura asserted that people can and do learn both directly and indirectly by observing behaviors and the consequences of those behaviors (Gibson, 2004).

In social cognitive theory, “Human agency operates within in an interdependent causal structure involving triadic reciprocal causation” (Bandura, 1986). The term *agency* refers to “acts done intentionally” (Bandura, 1997, p. 3). The theory suggests that a combination of behavioral, cognitive, and environmental factors influence behavior. Bandura (1997) maintained that in this “transactional view of self and society, internal personal factors in the form of cognitive, affective, and biological events; behavior; and environmental events all operate as interacting determinants that influence one another

bidirectionally” (p. 6). The relative influence of the three major elements of the model is circumstantial and not necessarily of equal strength at any one time.

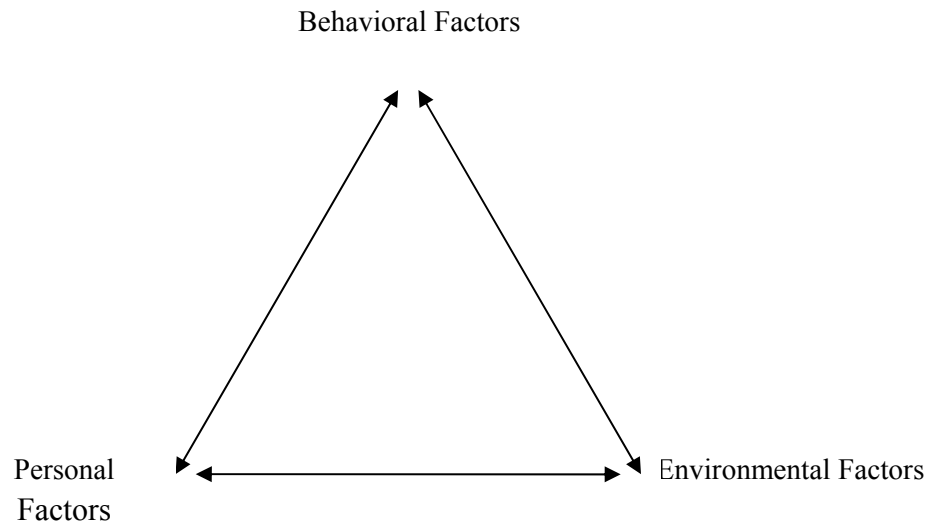


Figure 1. Bandura’s (1997) Triadic Reciprocal Causation Model

Bandura’s social cognitive theory contrasts with theories of human functioning that largely emphasize the factors of environment and biology (Pajares, 2004). In social cognitive theory, individuals are agents in their own development and can make things occur as a result of their chosen actions. Bandura (1986) suggested, “What people think, believe, and feel affects how they behave” (p. 25). Bandura (1986) believed, “A theory that denies that thoughts can regulate actions does not lend itself readily to the explanation of complex human behavior” (p. 15).

As a social cognitive theorist, Bandura suggested that individuals hold beliefs that enable them to maintain a level of control over their thoughts, emotions, motivation and

acts. Individuals have the ability to perceive, regulate, and evaluate their own behaviors, which is influenced by both self-beliefs and environmental sources. The process of environmental factors interacting with personal factors such as behavior and cognitive abilities is known as *reciprocal determinism* (Bandura, 1997).

Essential to Bandura's beliefs is the notion that humans are not just products of their environment and biology (Henson, 2001). Social cognitive theory maintains that current and past behaviors affect humans, as does the interplay between internal and external influences. Bandura was critical of theorists who regarded the mind and body as separate entities (Henson, 2001).

A central concept of Bandura's social cognitive theory is that of self-efficacy. As stated previously, Bandura (1997) defined self-efficacy as "Beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (p. 3). The essential premise of self-efficacy is that an individual's self-belief is key to his or her actions, resiliency, motivation, and performance, taking into account one's environment (Bandura, 1997).

Tschannen-Moran et al., (1998) pointed out that self-efficacy has to do with self-perception of competence rather than actual competence. When individuals overestimate or underestimate their genuine abilities, it may influence the amount of effort put forth on a task or the course of action taken. Bandura (1997) maintained, "A capability is only as good as its execution. The self-assurance with which people approach and manage difficult tasks determines whether they make good or poor use of their capabilities. Insidious self-doubts can easily overrule the best of skills"(p. 35). In the school setting,

individual self-efficacy beliefs influence both teachers and students. Teachers who feel they can truly make a positive difference in students' lives are likely to put forth more effort in meeting student needs. As well, students who believe they can complete a task are more likely to put forth effort than students who do not have high self-efficacy in that particular area. Tschannen-Moran et al. (1998) stated, "Slightly overestimating one's actual capabilities has the most positive effect on performance" (p. 211).

Teacher Efficacy

Research in the area of educational psychology indicates that teacher performance and dedication to work is related to the personal level of motivation to influence achievement (Bandura, 1997). Teacher motivation can be assessed through the construct of teacher efficacy (Ware & Kitsantas, 2007). The definition of teacher efficacy is "Teachers' confidence in their ability to promote students' learning" (Hoy, 2000). The concept was introduced approximately 30 years ago when the RAND corporation conducted a teacher study. Teachers indicated their level of agreement with the following two items:

- "When it comes right down to it, a teacher really can't do much because most of a student's motivation and performance depends on his or her home environment."
- "If I try really hard, I can get through to even the most difficult or unmotivated students" (Armor et al., 1976, as cited in Protheroe, 2008, p. 42).

Protheroe (2008) alluded to the idea that this work set the stage for what is now well understood about teacher efficacy and that a teacher's belief in his or her power to impact student learning can determine the level of success that teacher is able to achieve with students. Koehler (2006) pointed out that in the years following the RAND study, numerous researchers investigated teacher efficacy and developed longer instruments to assess teacher efficacy. Koehler also stated that research has shown teacher efficacy is important with regard to teacher retention, stress reduction for teachers, and student achievement.

According to Bandura (1977), teacher efficacy is a form of self-efficacy and a cognitive process in which beliefs about an individual's aptitude to perform at a given level of accomplishment are constructed. Resiliency in the face of difficulty, effort exerted, and persistence are all impacted by self-efficacy (Bandura, 1997). Bandura (1977) maintained that both efficacy expectations and outcome expectations affect efficacy. Efficacy expectations are an individual's beliefs about his or her own capability to achieve a certain level of mastery in a given situation. Outcome expectations are those judgments an individual makes about the probable consequences of specific behaviors in a situation.

Researchers believe a variety of variables at the school level influence teachers' sense of efficacy. Hoy, Hoy, and Tschannen-Moran (1998) indicated that teacher isolation, lack of clarity, and alienation could erode teacher efficacy beliefs. However, greater opportunity for collaboration with colleagues, a supportive environment, and feedback given and received from professional observations can increase teacher efficacy beliefs. Additionally, principal leadership,

shared decision-making, and school culture can influence teachers' sense of efficacy. Kohm and Nance (2009) stated,

Teachers who work in schools with strong collaborative cultures behave differently from those who depend on administrators to create the conditions of their work. In collaborative cultures, teachers exercise creative leadership together and take responsibility for helping all students learn. (p. 67).

Teachers who benefit from collaboration and thus feel more efficacious may likely impact student learning to a higher degree. Kohm and Nance (2009) also asserted that principals could cultivate collaborative cultures to build the confidence teachers need to succeed.

Bandura (1997) emphasized that teachers' experience, or performance accomplishments, shape teachers' sense of efficacy. Teachers who have experienced the success of enabling their students to master concepts and skills are likely to be more efficacious. Hoy (2000) suggested that as early as student teaching, teachers begin to develop a lasting sense of efficacy. This has certain implications for principals as they design induction programs for new teachers.

Appropriate training and support for new teachers can increase new teachers' sense of efficacy, which will likely have long lasting effects on the learning and achievement of their future students. Principals face countless challenges, but helping to ensure that teachers have the instructional skills and the professional confidence they need to teach their students effectively is one of the most critical challenges (Brinson &

Steiner, 2007). Consciously working to build efficacy can provide leaders a means to achieve this goal.

Henson (2001) stated, “Clearly, the study of teacher efficacy has borne much fruit” (p. 5), but went on to describe obstacles concerning its meaning and measure.

Henson illuminated the two central concerns regarding the issue:

- Due to the theoretical nature of the self-efficacy construct, the argument has been made that it is most appropriate to measure it within context of specific behaviors.
- Construct validity of scores from the primary instruments purporting to measure teacher efficacy has been questioned. (2001, p. 5)

Koehler (2006) asserted that while educators have learned much through teacher efficacy research, “The measurement of this construct has been problematic due to the unstable psychometric properties of the instruments used” (p. 1).

Summary

The foregoing information was a review of the literature related to Bandura’s theory of efficacy beliefs and the influence that teacher self-efficacy and a professional learning community can have on teaching and learning. While a positive belief of efficacy motivates individuals to endeavor harder and longer, a weak perception of efficacy contributes to decreased motivation (Bandura, 1977, 1986, 1997). The review covered the framework of professional learning communities, as many researchers and educators believe these contribute to teachers’ self-efficacy. Chapter 3 outlines the design of this study.

CHAPTER 3: METHODOLOGY

Overview

Chapter 3 presents the design and analysis of the study. Special attention is given to participants in the study, the way participants were selected, a description of the instruments used and the statistical analyses. The study sought to explore the relationships between variables and whether predictors could be identified. The following research questions were posed by the study

RQ1: Is there a relationship between the subscales of the TSES (*Engage*, and *Management*) and the subscales of the SPSLCQ (*Interaction*, *Sharing*, *Improvement*, *Trust*)?

RQ2: Do school location, gender, grade level/content area taught, total number of years as a professional educator, total number of years working at current school and education level predict subscales of the TSES (*Engage and Management*) and the subscales of the SPSLCQ (*Interaction*, *Sharing*, *Improvement*, and *Trust*)?

Research Design

The study utilized a descriptive survey research design (Creswell, 2005) where “you administer a survey or questionnaire to a small group of people in order to identify trends in attitudes, opinions, behaviors, or characteristics of a large group of people” (p. 52). Though generalizability of results may be somewhat limited due to sample size and homogeneity increased knowledge of teacher efficacy beliefs and their impact on PLCs, a proven school improvement model, has the potential to positively impact student

learning, according to the literature. In addition this study may serve to encourage future research on this area.

Quantitative survey data was collected to investigate the relationships between variables pertinent to the study questions. Surveys or questionnaires allow for the fairly easy collection of data from a wide variety of sources in a timely and concise manner (Dillman, 2000). Various methods of survey data collection include personal interviews, telephone interviews, mailed questionnaires, and directly administered questionnaires (Ary, Jacobs, & Razavieh, 2002). Regardless of the method chosen, the six basic steps involved in conducting survey design research are planning, defining the population, sampling, constructing the instrument, conducting the survey, and processing the data (Ary, et al., 2002).

Population and Sample

The population of interest for this study is certified elementary teachers in the suburban Kansas City area. In order to solicit an adequate sample size of certified elementary teachers, the researcher elected to approach a large school district in suburban Kansas City with a total K-12 student enrollment of 17,300 students. The district encompasses an area of 117 square miles and has 3 high schools, 3 middle schools and 18 elementary schools. The researcher set up a meeting with key decision makers of the district and completed the district's Application to Conduct Research (Appendix A). The superintendent's cabinet reviewed the Application to Conduct Research and approved the application. The researcher then spoke to all 18 elementary building principals about the research project at the monthly principals' meeting and sent a follow-up email inviting all

18 principals to recruit faculty members as potential survey participants. Eight of the 18 schools opted to participate in the study. Ten principals declined participation with several citing the end of the school year as a difficult time for teachers to complete extra projects. One principal declined his building's participation stating his teachers had already participated in several studies during the 2009-2010 school year.

Faculty members from the eight elementary schools were asked by their building administrators to complete the questionnaires, Teachers' Sense of Efficacy Scale and School Professional Staff as Learning Community, on a voluntary basis. The researcher requested that principals or their assistant principals facilitate administration of the questionnaires, with most principals opting to administer the surveys just prior to regularly scheduled faculty meetings. All certified K-6 teachers in the participating schools were encouraged by their building administrators to complete the online questionnaires. Teachers were clearly instructed participation was voluntary, with no consequences for opting out. A total of 163 teachers completed the online questionnaires. There were varying levels of participation at each school site, perhaps some building principals may encouraged their staff to participate more than other principals. It should also be noted the number of faculty at each school varies and corresponds with the variance in the total number of questionnaires completed at each school.

There were approximately 40 certified teachers per building with three to four sections of each K-6 grade level. All K-6 regular classroom, art, music, physical education, and special education teachers were encouraged to participate in the study. Most respondents were female, which reflects the typical demographic of elementary

teachers as a whole. All respondents were asked to indicate their gender, ethnicity, teaching area, years of teaching experience, years of teaching in their current building, and highest degree completed.

Informed Consent

The study used a consent procedure to inform voluntary participants of the study. Participants were informed of the purpose of the research, the time involved, assessment of minimal risk and benefits to participants, contact for questions about the research, and contact for questions about their rights as a research participant. This information was addressed in a cover letter to all participants and was Internet based (see Appendix B). Survey respondents were asked to indicate their consent prior to completing the survey.

Confidentiality

Every research participant in a study has a right to privacy and the expectation the data was kept confidential at all times. The right to privacy and confidentiality was disclosed to research participants prior to the start of a study. Research participants have a right to expect respect for autonomy, trust, scientific integrity, and fidelity. Every research participant has the right to expect there will be no chance of being identified by name at any time, before, during, or after the study. No personally identifying information or data was collected. Data was only reported in an aggregated format. Each survey form was provided with a randomly selected identification number and a cover letter explained privacy and ethical issues to participants as well as explaining their participation is voluntary. Creswell (2003) suggested the fundamental role for ethical research is to do no harm, including physical, psychological, social, economic, or legal

harm. At the completion of the study any paper data was shredded, encrypted, and kept in a secure electronic format for a period of three years. Participants were also informed they had the option not to complete the survey however, their participation would be appreciated and make an addition to the study. All data will be stored for a period of three years in a separate locked file in the researcher's office. After a period of three years, the data will be shredded in a crosscut shredder along with the electronic data compact disc.

Instruments

This study consisted of three separate instruments for respondents to complete: the School Professional Staff as Learning Community Questionnaire (SPSLCQ) (Hord, 1997) the Teachers' Sense of Efficacy Scale (TSES) Long Form (Tschannen-Moran & Woolfolk Hoy, 2001) A demographic instrument was also used to collect educational and personal information from each respondent. Each instrument is described and the properties of the instrument articulated as follows.

SPSLCQ

The SPSLCQ (Hord, 1997) was selected to assess whether teachers consider their school as having a positive learning environment and a supportive learning community. Permission to use the instrument was obtained from the authors (Appendix D) The SPSLCQ is purported to consist of consists of five dimensions of learning communities as identified in research literature. The five dimensions include: 1) shared leadership; 2) shared vision; 3) collective learning; 4) peer review; and 5) supportive conditions/capacities. The SPSLC utilizes a 5 point Likert scale ranging from a low level of agreement or alignment with the elements of a professional learning community (1) to

a high level of agreement or alignment with the elements of a professional learning community (5).

The Southwest Educational Development Laboratory (SEDL) (1996) conducted a pilot test on the SPSLC. However, there were only 28 participants in completing the pilot test. SEDL asserts the sample represented the general school population including students, teachers, and parents. SEDL reported it was important to determine the reliability of an instrument and pointed out “there are two types of reliability: internal consistency (e.g., Cronbach’s Alpha) and stability (test-retest)”. Results found the Cronbach’s alpha reliability was $\alpha=.92$, with .75 or higher generally viewed as an appropriate level of internal consistency (SEDL). The test-retest reliability of the instrument for the pilot test was $\alpha=.94$ for the 15 matched respondents. While the pilot test yielded promising results, a field test was recommended.

The Southwest Educational Development Laboratory (SEDL) field test of the SPSLCQ sought to:

1. assess the reliability of the SPSLCQ
2. assess the validity of the SPSLCQ
3. draw conclusions about use of the SPSLCQ in educational improvement efforts at the school level

Conclusions from the SPSLCQ field test indicated the usability, reliability, and validity of the SPSLCQ appear to meet expectations. “Based on factor analysis results, it appears that the 17-item instrument represents a unitary construct of a professional learning community within schools.” (SEDL, n.d.)

TSES

The second instrument used in the study was Teachers' Sense of Efficacy Scale (TSES), Long Form (Tschannen-Moran & Woolfolk Hoy, 2001). Permission was obtained from the authors to use the scale (Appendix E). The TSES consists of 24 items purported to address 3 subscales or construct as follows: *Efficacy of Student Engagement* (7 items), 2) *Efficacy in Instructional Strategies* (8 items), and *Efficacy in Classroom Management* (8 items). Tschannen-Moran & Woolfolk and Hoy asserted conducting factor analysis was important and the factors or subscales were moderately correlated. The TSES asked respondents to use a 9 point Likert type response scale of *No Means of Self Agency* (1) to a "*Great Deal*" of *Self-Efficacy* (9) in the circumstances provided in the stimulus questions.

It is well documented in the literature teacher efficacy research has been hindered by both construct validity and measurement problems (Henson, 2001). As discussed previously in this study, both locus of control theory (RAND,) and social cognitive theory (Bandura, 1986) are foundational to the study of teacher efficacy and instrumentation. While the *Teacher Self-Efficacy Scale* (TSES) (Gibson & Dembo, 1984) was the dominant instrument in the study of teacher efficacy for many years, the instrument was criticized for both factor and discriminant validity issues. Tschannen-Moran and Woolfolk Hoy (2001) developed the TSES utilizing an unpublished teacher efficacy instrument developed by Bandura to improve on the weaknesses of the TSES.

Tschannen-Moran & Woolfolk Hoy (2001) emphasized the importance of conducting factor analysis on the TSES to ascertain how study participants would

respond to individual items. They maintained three moderately correlated factors have been consistently found in the TSES but stated the scales can vary somewhat. The subscales include: *Student Engagement*, *Instructional Practices*, and *Classroom Management*. Subscale scores were computed using unweighted means (Tschannen-Moran & Woolfork Hoy) and reliability coefficient alphas were reported to be $\alpha=.87$, $\alpha=.91$ and $\alpha=.90$ respectively for the subscales.

Demographic Form

Study participants were also asked to complete a demographic form to obtain descriptive data to be used in the analysis and to describe study participants. Participants were asked to identify their school, gender (male/female), and grade level/content area (grades K-6, Art/Music/PE, and special education). Study participants were also asked their ethnic group (Asian, Black, Hispanic, White, or Other) and total number of years as a professional educator (less than 1 year, 1-3 years, 4-5 years, 6-10 years, 11-20 years, 21-30 years, and 31+ years). Educators also provided the total number of years of working at their current school (less than 1 year, 1-3 years, 4-5 years, 6-10 years, 11-20 years, 21-30 years, and 31+ years) and their highest level of educational completion (Bachelor, Masters, Master plus 30, Specialist, and PhD/EdD). This data was numerically coded and used in further analysis.

Data Collection Procedures

After receiving approval from the school district and principals of the eight participating schools, teachers opting to participate at each school site received an electronic questionnaire packet including the three instruments described above, along

with the Informed Consent Form and Internet Information Statement (Appendix B). The website, www.surveymonkey.com, was used to collect data for all teachers. The electronic delivery method known as SurveyMonkey was employed. Arrangements were made for teachers to access the website through the computers at their schools. Once teachers access the link to the website and the survey, they were taken to the survey content. All data was collected through the website and remained anonymous and confidential at all times. After four weeks of data collections, the data was downloaded into an Excel spreadsheet and uploaded to SPSS for analysis.

Validity and Reliability

In descriptive survey research where there is no treatment and control or comparison group, it was still important to consider the validity and reliability of the study. Study validity can be thought of as internal or external. External validity refers to the generalizability of the findings of a study or would the same result be found with another group of participants, in another setting, or at another time. To what other populations, settings, or measurement variables could the findings of the study be generalized? Ary et al. (2007) identified three types of external validity: population, ecological, and external validity of operations. Population external validity concerns identifying other populations to which the findings of a study are generalizable. Population validity addresses how the subjects were selected for a study. The study used volunteers and this does present a problem. Volunteers may have special characteristics not typical of the population and no one knows how or why non-volunteers would have answered the items on the surveys or why they did not volunteer (Ary et al., 2002).

Ecological validity is concerned with the generalizing of the findings to other situations. Before generalizing the findings, care needs to be taken to consider the environment in which the research was done; threats to ecological validity (pretesting, novelty effect of a new treatment, or attitudes developed over the course of the study) do not present problems in the study. There is no pretesting, there is no treatment, and the study is of short enough duration to not affect the attitudes and perceptions of the participants. External validity of operations addressed how the study was conducted with specific operational definitions. Would the same results be expected with different investigators using different operational definitions or measurement procedures?

Campbell and Stanley (1963) distinguished between research designs in terms of internal validity, defining internal validity as the extent to which extraneous variables are controlled by the researcher. Extraneous variables are those variables that may affect the outcomes of a study. The eight factors related to internal validity (history, maturation, testing, instrumentation, statistical regression, differential selection, experimental mortality, and selection maturation interaction) are concerning in the study. History might present a problem, as there might be some occurrence within the organization or in the world at large that might affect how study participants would answer the items on the surveys included in the study. The occurrence of outside events (organizational or world) is beyond the control of the researcher; however, any occurrence was noted in the study if necessary. Maturation may not be a problem due to the short time line for the study and the participants being adults whose developmental sequence is not as rapid as in young children. Testing may not be a problem as there was no pretesting involved in the study.

Instrumentation might be a problem as the instruments selected for the study have not been used extensively in prior research. However, they measure the constructs selected for the study. Since there are no repeated measures, statistical regression to the mean does not present a problem; however, differential selection could be problematic as the study used volunteers and volunteer schools. Selection maturation interaction is also not a problem as the study's participants are all adult and not liable to change over the short time period of the study. Experimental mortality or subjects dropping out of a study might be a problem. There is a possibility a participant might start a survey but not complete it or the response rate might be very low.

Data Analysis

The study was exploratory in nature and sought to determine whether a relationship existed between teachers in professional learning communities and their self-efficacy beliefs in the teaching role. Prior to addressing the research questions posed by the study, it was necessary to describe the study participants using descriptive statistics (frequency and percentages) and to assess the properties of the TSES and SPSLCQ. A principal components factor analysis using a direct oblimin rotation and Cronbach alpha were used to identify useful and meaningful subscales contained within the TSES and SPSLCQ. The two instruments have been used in research previously but are fairly new and were administered to a fairly large group in a unique setting. The group used in this study may differ from previous study. Validity and reliability can be person and situation specific (Ary et al., 2002). Ascertaining the psychometric properties of any instrument is important in any research because of the differences in different study groups. Data will

also be checked to make ensure it meets the assumptions of the statistical tests proposed for the study. Upon completing the factor and reliability analysis to identify viable, useful, and meaningful subscales or factors, subscale scores were accomplished by summing across the responses for each individual for the items in each subscale to create subscale or factor scores.

Research Question 1

The first research question asked if there was a relationship between the subscales of the TSES and the SPSLCQ. The question was as follows:

RQ1: Is there a relationship between the subscales of the TSES (*Engage*, and *Management*) and the subscales of the SPSLCQ (*Interaction*, *Sharing*, *Improvement*, *Trust*)?

The statistical procedure used to answer this question was a Pearson Product Moment correlation. A correlation assesses the strength of a relationship between two variables and can be positive or negative. A correlation coefficient can arrange from -1.00 to +1.00. In a positive correlation, as one variable goes up the second variable goes up correspondingly. In a negative correlation, as one variable goes up the second variable goes down. A probability level of $p=.05$ or less will be used as a guiding criteria for interpreting the correlations.

Research Question 2

The second question posed by the study asked whether the descriptive demographic were predictors of the subscales of the TSES and SPSLCQ. The research question is as follows:

RQ2: Do school location, gender, grade level/content area taught, total number of years as a professional educator, total number of years working at current school and education level predict subscales of the TSES (*Engage and Management*) and the subscales of the SPSLCQ (*Interaction, Sharing, Improvement, and Trust*)?

There are two groupings of advanced multivariate statistical techniques available addressing differences between groups and those addressing and testing the existence of predictable relationships between a set of variables. Simple linear regression and multiple regressions serve to answer predictive types of questions. Simple linear regression or simple regression involves a single independent variable (IV) and a single DV. The goal of simple regression is to create a linear equation predicting the value of the DV if there is a value for the IV. The idea behind simple regression is to obtain the best fitting line through a series of points. The regression analysis is the means to develop the best fitting line also called a regression line. In multiple regression a set of predictor variable are selected (IVs) as potential predictors of a dependent variable as is the case in the study. Multiple regressions are an extension of simple linear regression involving more than one predictor variable. It is used to predict the value of a single DV from a weighted linear combination of IVs.

One problem with multiple regressions may be the existence of multicollinearity. Multicollinearity is a problem arising when there are moderate to high intercorrelations between predictor variables. The problem lies with the possibility there may be two or more variables that are measuring essentially the same information (Tabachnick & Fidell,

2007). Not only do you not gain much by adding variables to a regression analysis that are measuring the same thing but multicollinearity can cause real problems with the analysis itself. Stevens (1992) points out three reasons why multicollinearity can cause problems. They include: (a) multicollinearity limits the size of the R since the IVs are going after much the same variability in the DV; (b) multicollinearity can cause difficulty because individual effects are confounded when there is overlapping information; and (c) multicollinearity tends to increase the variances of the regression coefficients resulting in unstable prediction equations. The simplest method of diagnosing multicollinearity is to investigate high intercorrelations between the IV predictor variables. A second method is to inspect the variance inflation factor (VIF) which is an indicator of the relationships between predictors (Stevens, 1992). Stevens also notes VIF values greater than 10 are generally cause for concern. The data for all regression analyses was checked to ensure multicollinearity does not present a problem in the analysis. If multicollinearity does exist, a variable may be deleted or variables may be combined to create a single construct.

The data for the regression analysis was also checked to ensure compliance with the assumptions of regression. The assumptions of regression include: (a) the independent variables are fixed (the same values would be found if the study were replicated), (b) the IVs are measured without error, (c) the relationship between the IVs and the DV is co-linear, (d) the mean of the residuals for each observation on the DV is zero, (e) errors on the DV are independent, (f) errors are not correlated with the IV, (g) variance across all values of the IV is constant, and (h) errors are normally distributed (Mertler & Vannata,

2001). The assumptions were inspected through examination of residual scatter plots, assessment of linearity, inspection of normality through skewness, kurtosis, and Kolmogorov –Smirnov statistics, and inspection of the Box’s test for homosecdasticity (Mertler & Vannata, 2001). Multiple regressions served as the statistical analysis for the second research questions posed by the study and is appropriate for use in predictive studies.

Summary

Chapter 3 included population, sampling, instrumentation, and design and data analysis methods employed to answer both research questions. The research questions of this study determined the analytic methods used in this solely quantitative study. Multiple correlations and descriptive statistics were utilized to examine study results. Chapter 4 presents a summary of the findings of this study.

CHAPTER 4: PRESENTATION OF THE RESULTS

Overview

Chapter 4 presents the findings of the study. The purpose of the study was to determine whether or not there was a relationship between the subscales of the TSES and the subscales of the SPSLCQ. The study participants are described and the instruments used in the study are presented. Factor and reliability analysis were conducted to add to the validity and reliability of the instruments. The results of the analysis of the data to address the questions posed by the study are presented and the chapter ends with a summary. The research questions posed by the study are as follows:

RQ1: Is there a relationship between the subscales of the TSES (*Engage, and Management*) and the subscales of the SPSLCQ (*Interaction, Sharing, Improvement and Trust*)?

RQ2: Do school location, gender, grade level/content area taught, total number of years as a professional educator, total number of years working at current school and education level predict subscales of the TSES (*Engage and Management*) and the subscales of the SPSLCQ (*Interaction, Sharing, Improvement, and Trust*)?

It should be noted, not all of the study participants completed each item; however, missing data was random and was subsequently treated as missing data and not included in descriptive data or in further analyses.

Study Participants

A total of 163 teachers participated in the study by completing the survey instruments. All of the participants were educators in one school district and represented 8 elementary schools within the district. Table 1 presents the distribution of study participants across the 8 schools. The study participants consisted of males ($n=7$, 4.5%) and females ($n=148$, 96.5%). The participants were predominately Caucasian ($n=157$, 98.1%) and also included African Americans ($n=2$, 1.3%) and Hispanics ($n=1$, .6%). Participants were fairly evenly distributed across the grad/subject levels found in the typically elementary school. However, there were more special education teachers ($n=34$, 21.3%) than in any particular grade level and fifth grade teachers constituted the largest group of classroom teachers ($n=19$, 11.9%). Table 2 presents the distribution of educators across grade/subject levels.

Table 1

Distribution of Participants Across Schools

School	<i>N</i>	%
1	14	8.6
2	19	11.7
3	21	13.0
4	16	9.9
5	29	17.9
6	22	13.6
7	18	11.1
8	23	14.2

Table 2

Distribution of Participants Across Grade/Subject Levels

School	<i>N</i>	%
Grade 1	13	8.1
Grade 2	18	11.3
Grade 3	17	10.6
Grade 4	17	10.6
Grade 5	19	11.9
Grade 6	13	8.1
Art/Music/PE	14	8.8
Special Education	34	21.3
Kindergarten	15	9.4

Educators had spent between 1 and 31+ years teaching with the majority of the teachers having taught between 11 and 20 years ($n=60$, 37.3%). It was interesting to note there were 14 educators with between 1 and 3 years of experience (8.7%); however, there were fewer educators with between 4 and 5 years of experience ($n=95$, .6%). Table 3 presents the distribution of teacher by total years of experience in the classroom.

Educators had also been employed at their present school between less than 1 year to 31+ years. Sixty-three of the teachers had been at their present school for between 1 and 3 years (38.9%) and 2 teachers had been at their present school 31 or more years (1.2%).

Table 4 presents the distribution of teachers by years at their present school.

Table 3

Distribution of Participants by Years as an Educator

	<i>N</i>	<i>%</i>
1-3 years	14	8.7
4-5 years	9	5.6
6-10 years	37	23.0
11-20 years	60	37.3
21-30 years	36	22.4
31+ years	5	3.1

Table 4

Distribution of Participants by Years at Current School

	<i>N</i>	<i>%</i>
Less than 1 year	1	.6
1-3 years	63	38.9
4-5 years	16	9.9
6-10 years	38	23.5
11-20 years	37	22.8
21-30 years	5	3.1
31+ years	2	1.2

Educators had completed a wide range of educational degrees ranging from a Bachelor's degree to a Doctoral degree. The majority of the participants had completed a Master's degree ($n=91$, 56.5%) or had a Master's degree plus 30 hours ($n=46$, 28.2%)

Table 5 present the educational attainment of educators participating in the study.

Table 5

Educational Completion for Study Participants

	N	%
Bachelor	17	10.6
Master	91	56.5
Master + 30	46	28.6
Specialist	6	3.7
Doctoral	1	.6

Instruments

The instruments used in the study included the TSES (Tschannen-Moran, M., & Woolfolk Hoy, A. (2001), the SPSLCQ (Hord, 1997), and a demographic questionnaire. The TSES and SPSLCQ were purported to contain subscales and it was deemed necessary to conduct a factor and reliability analysis of the instruments with this particular group of respondents. Factor analysis lends to the validity of the instruments and reliability is an indicator of the internal consistency of the instrument. A principal components factor analysis using an oblique rotation was used to analyze the instruments and a Cronbach alpha was used to assess the internal consistency or reliability of the

instruments. The object of a factor analysis is to reduce the number of items or variables to meaningful and useful subscales or factors. Viable subscales were identified and scores were created by summing across all of the items in the subscale. The reliability analysis indicated it was not necessary to reverse code any of the items as all of the items had positive item to total correlations.

TSES

The TSES consists of 24 items utilizing a 9 point Likert type response scale of Nothing (1) to A Great Deal (9). In exploratory factor analysis the goal is to describe and summarize the data by grouping items measuring an underlying construct. The oblique/direct oblimin rotation results in factors being correlated with each other. The interpretation of the factors is based on the pattern matrix with each item loading on one factor providing evidence of unique relationships with no overlap among factors (Tabachnick & Fidell, 2007). The Kaiser-Meyer-Olin statistic indicated the data was appropriate for factor analysis ($KMO=.937$) and the Bartlett's test of sphericity was non-significant ($X^2(276) = 2175.817, p < .001$). The analysis of the TSES indicated there were 2 factors or subscales contained within the scale accounting for 59.34% of the variance and providing useful and meaningful subscales to be used in further analysis. The reliability for the total scale was $\alpha=.953$. The first subscale consisted of 16 items measuring the construct of how teachers engage and instruct students in the classroom and was labeled *Engage*. The calculated Cronbach alpha for the Engaged subscale was $\alpha=.933$. The second subscale consisted of 8 items and measured the construct of how teacher manage their classrooms. The subscale was named *Management* and had a

calculated Cronbach alpha of $\alpha=.903$. The component matrix indicate the correlation between the two subscales was $r=.655$ or there was a moderate relationship between the two factored subscales.

The factor analysis identified different subscales from the original pilot study; however, the current study had a substantially larger group of participants than the pilot study and all items loaded on one and only one subscale with factor loadings between .430 and .849 well above an arbitrary cut off point of a factor loading of .30. It was not necessary to remove any items from the analysis. It is interesting the factor analysis did not identify a separation between student engagement and instructional strategies and several iterations of the factor analysis were attempted to determine whether or not the items would separate into instruction and engagement; however, separate viable subscales were not identified and the two subscales identified were used in further analysis. The reliability for the two subscales was also higher than other arrangements of items. Table 6 presents the factor loadings for the TSES subscales and Table 7 presents the descriptive data for the *Engaged* and *Management* subscales.

Table 6

Factor Loadings for TSES Subscales – Engage and Management

Item	Engage Loading	Management Loading
Engage		
2 How much can you do to help your students think critically?	.849	-.157
23 How well can you implement alternative strategies in your classroom?	.843	-.093
12 How much can you do to foster student creativity?	.772	-.064
11 To what extent can you craft good questions for your students?	.770	.000
6 How much can you do to get students to believe they can do well in school work?	.766	-.066

22 How much can you assist families in helping their children do well in school?	.739	-.034
20 To what extent can you provide an alternative explanation or example when students are confused?	.660	.125
24 How well can you provide appropriate challenges for very capable students?	.648	.146
10 How much can you gauge student comprehension of what you have taught?	.644	.084
14 How much can you do to improve the understanding of a student who is failing?	.643	.188
7 How well can you respond to difficult questions from your students?	.638	.001
4 How much can you do to motivate students who show low interest in school?	.617	.105
9 How much can you do to help your students value learning?	.587	.146
17 How much can you do to adjust your lessons to the proper level for individual students?	.492	.268
18 How much can you use a variety of assessment strategies?	.464	.329
1 How much can you do to get through to the most difficult students?	.430	.254
Management		
13 How much can you do to get children to follow classroom rules?	-.007	.773
3 How much can you do to control disruptive behavior in the classroom?	.041	.762
16 How well can you establish a classroom management system with each group students?	.150	.716
8 How well can you establish routines to keep activities running smoothly?	-.135	.701
15 How much can you do to calm a student who is disruptive or noisy?	.179	.651
19 How well can you keep a few problem students from ruining an entire lesson?	.252	.611
5 To what extent can you make your expectations clear about student behavior?	.148	.577
21 How well can you respond to defiant students?	.433	.457

Table 7

Measurement Properties of the TSES

	No of Items	Cronbach Alpha	Mean	SD	Range
Engage	16	.933	122.11	12.77	82-144
Management	8	.903	63.55	6.36	40-72

SPSLCQ

The SPSLCQ consists of 17 items utilizing a 9 point Likert type response scale of Rarely (1) to Regularly (9). The response scale was the same for all of the items but the working was changed to match the content of the individual items. Exploratory factor analysis was used to describe and summarize the data by grouping items measuring an underlying construct. The oblique/direct oblimin rotation was used and results in factors being correlated with each other. The interpretation of the factors is based on the pattern matrix with each item loading on one factor providing evidence of unique relationships with no overlap among factors (Tabachnick & Fidell, 2007). The Kaiser-Meyer-Olin statistic indicated the data was appropriate for factor analysis ($KMO=.830$) and the Bartlett's test of sphericity was non-significant ($X^2(136) = 1077.225, p < .001$). The analysis of the SPSLCQ indicated there were 4 factors or subscales contained within the SPSLCQ scale accounting for 61.21% of the variance and provided useful and meaningful subscales to be used in further analysis. The reliability for the total scale was

$\alpha=.873$. The first subscale consisted of 4 items measuring the construct of how staff interact and communicate. The first subscale was named *Interactions*. The calculated Cronbach alpha for the *Interactions* subscale was $\alpha=.669$. The second subscale consisted of 4 items and measured the construct of how teacher share skills and knowledge. The subscale was named *Shared* and had a calculated Cronbach alpha of $\alpha=.774$. The third subscale consisted of 5 items and measured improvement in vision and learning. The subscale was named *Improvement* and had a calculated Cronbach alpha of $\alpha=.780$. The fourth subscale consisted of 4 items and addressed trust in the school. The underlying construct was defined as the trust within the school including caring, collaboration, and relationships. The fourth subscale was named *Trust* and had a calculate Cronbach alpha of $\alpha=.727$. The component matrix indicate the correlations between the 4 subscales ranged from $r=-.364$ to $r=.219$ indicating there were low negative and positive relationships between the 4 subscales. The component correlation matrix for the 4 factored subscales can be found in Table 8.

Table 8

Component Correlation Matrix for SPSLCQ

	Interaction	Sharing	Improvement	Trust
Interaction	1.00			
Sharing	.210	1.00		
Improvement	-.114	-.364	1.00	
Trust	.160	.294	-.448	1.00

The factor analysis identified different subscales from the original pilot study; however, the current study had a substantially larger group of participants than the pilot study and all items loaded on one and only one subscale with factor loadings between .880 and - .862, well above an arbitrary cut off point of a factor loading of .30. *It was not necessary to remove any items from the analysis, though the complex nature of interpreting negative signs of coefficients was considered.* The reliability for the two subscales was also higher than other arrangements of items. Table 9 presents the factor loadings for the TSES subscales and Table 10 presents the descriptive data for the 4 subscales of the *SPSLCQ*.

Table 9

SPSLCQ Factor Loadings for Interaction, Sharing, Improvement, and Trust Subscales

	Interact.	Share	Improve	Trust
INTERACTIONS				
3e The staff debriefs and assesses the impact of their actions and makes revisions.	.513	.288	-.168	.188
1b Administrators involve the whole staff.	-.493	.332	-.448	.236
3c The staff discusses the quality of their teaching and students' learning.	.493	.171	-.298	.213
5a Time is arranged and committed for whole staff interactions.	.399	.192	-.107	.355
SHARING				
4a Staff members regularly and frequently visit and observe one another's classroom teaching.	-.028	.975	.114	-.101
4b Staff members provide feedback to one another about teaching and learning based on their classroom observations.	.009	.931	.079	-.128
3b The staff meets regularly and frequently on substantive student centered educational issues.	.241	.473	-.164	.196
3a The entire staff meets to discuss issues, share information and learn with and from one another.	-.042	.351	-.150	.255

IMPROVEMENT				
2b Visions for improvement are always focused on students, teaching, and learning.	-.022	-.075	-.862	-.022
2a Visions for improvement are discussed by the entire staff such that consensus and a shared vision result.	-.031	-.001	-.862	-.096
2c Visions for improvement target high-quality learning experiences for all students	.168	.000	-.786	-.058
3d The staff, based on their learning, makes and implements plans that address students' needs, more effective teaching, and more successful student learning.	.461	.058	-.466	.111
1a Although there are some legal and fiscal decisions required of the principal, school administrators consistently involve the staff in discussing and making decisions about school issues.	-.403	.007	-.445	.428
TRUST				
5e Caring, collaborative, and productive relationships exist among all staff members.	-.033	-.082	.087	.880
5d Trust and openness characterize all of the staff members.	-.154	-.013	.011	.868
5b The size, structure, and arrangements of the school facilitate staff proximity and interaction.	.180	-.022	.068	.665
5c A variety of processes and procedures are used to encourage staff communication.	.224	.072	-.084	.469

Table 10

Measurement Properties of the SPSLCQ

	No of Items	Cronbach Alpha	Mean	SD	Range
Interaction	4	.699	16.92	2.08	8.00-20.00
Sharing	4	.774	14.36	2.80	8.00-20.00
Improvement	5	.780	22.52	2.55	12.00-25.00

Trust	4	.727	16.95	2.36	8.00-20.00
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Findings

Research Question 1

The first research question and null hypothesis posed by the study asked if there was a relationship between the subscales of the TSES and the SPSLCQ. The research question and hypothesis are as follows:

RQ1: Is there a relationship between the subscales of the TSES (*Engage and Management*) and the subscales of the SPSPLCQ (*Interaction, Sharing, Improvement, and Trust*)?

HO₁: There will be no relationship between the subscales of the TSES (*Engage and Management*) and the subscales of the SPSPLCQ (*Interaction, Sharing, Improvement, and Trust*)?

A Pearson Product Moment correlation was used to test the hypothesis for the strength of the relationships between the 6 subscales of the TSES and SPSLCQ. A correlation is a measure of the strength of the relationship between two variables and can be positive or negative. In a positive correlation as one variable goes up, the second variable also increases. In a negative correlation as one variable increases, the other variable decreases. Values for a Pearson correlation can range from -1.00 to +1.00 and the closer the correlation coefficient is to 1.00, positive or negative the stronger the relationship. While it is the strength of the relationship that is important rather than the probability of obtaining that relationship, the probabilities are also reported. The Hopkins

scaling of correlation coefficients was used as method for interpreting the calculated correlation coefficients. The Hopkins scaling can be found in Table 11.

Table 11

Hopkins Scaling of Correlation Coefficients (2001)

Correlation Coefficient	Descriptor
0.0 - 0.1	trivial, very small insubstantial tiny, practically zero
0.1 - 0.3	small, low, minor
0.3 - 0.5	moderate, medium
0.5 - 0.7	large, high, major
0.7 - 0.9	very large, very high, huge
0.9 - 1.0	near, practically, or almost perfect, distinct, infinite

The findings of the correlation analysis indicated there were statistically significant; however, many of the relationships between the subscales were small or moderate. There was a large relationship between the Management and Engage subscales of the TSES, $r=.748$. The relationship between the Management and Engage subscales and the Interaction, Sharing, Improvement, Trust was small or moderate. The correlations between the subscales of the SPSLCQ were moderate to small. All of the relationships were positive indicating as one variable went up the second variable went up correspondingly. The correlation coefficients can be found in Table 12.

Table 12

Pearson Correlation Coefficients for TSES and SPSLCQ Subscales

	Manage	Engage	Interaction	Sharing	Improve	Trust
Management	1.00					
Engage	$r=.748$ $p<.<.001$	1.00				
Interaction	$r=.269$ $p=.001$	$r=.368$ $p<.<.001$	1.00			
Sharing	$r=.042$ $p=.596$	$r=.227$ $p=.004$	$r=.587$ $p<.<.001$	1.00		
Improvement	$r=.276$ $p<.<.001$	$r=.308$ $p<.<.001$	$r=.669$ $p<.<.001$	$r=.385$ $p<.<.001$	1.00	
Trust	$r=.252$ $p<.001$	$r=.263$ $p=.001$	$r=.695$ $p<.<.001$	$r=.423$ $p<.<.001$	$r=.516$ $p<.<.001$	1.00

Research Question 2

The second research question and null hypothesis posed by the study was as follows:

RQ₂: Do school location, gender, grade level/content area taught, total number of years as a professional educator, total number of years working at current school and education level predict subscales of the TSES (*Engage* and *Management*) and the subscales of the SPSLCQ (*Interaction*, *Sharing*, *Improvement*, and *Trust*)?

HO₂: School location, gender, grade level/content area taught, total number of years as a professional educator, total number of years working at current school and education level will not be predictors of the subscales of the TSES (*Engage* and *Management*) and the subscales of the SPSLCQ (*Interaction*, *Sharing*, *Improvement*, and *Trust*)?

A multiple linear regression was used to test this. The dependent variable was the TSES subscales (*Engage* and *Management*). A separate regression was completed for each dependent variable. The predictor variables were school, gender, grade level/content area taught, total number of years as a professional educator, total number of years working at current school and education level. Prior to completing each regression, it was necessary to dummy code some of the variables. Dummy variables take the place of the original categorical variables in the analysis and coded as $k-1$ where k is the number of levels of the original variable. Gender was dummy coded as female=1 and male=0. School was also dummy coded into 7 groups (8 schools-1). Grade level was also dummy coded into 8 dummy variables (9 types of classroom teacher -1). Other descriptive variables (years in school, years as an educator, and educational level were not dummy coded for this analysis. A probability level of $p=.05$ was used as the criteria for evaluating each regression. The data was assessed to ensure it met the assumptions of regression and was found to be satisfactory.

Regression is a statistical technique that allows a researcher to predict an individual's score on one variable based on his or her score on one or more additional variables. A multiple linear regression using *Management* as the dependent variable and school, grade level/content area taught, total number of years as a professional educator, total number of years working at current school, education level, *Interaction*, *Sharing*, *Improvement*, and *Trust* as the independent or predictor variables was conducted. The regression model accounted for 16.5% of the variance, $R = .406$, $R^2 = .165$, $R^2_{adj} = .077$, $F(15, 142) = 1.869$, $p = .031$. *Sharing* and *Trust* approached being statistically significant

but did not reach the strict criteria of $p=.05$ or less. The coefficients can be found in Table 13.

Table 13

Model Coefficients for Management

	<i>B</i>	β	<i>t</i>	<i>p</i>
Interaction	.269	.460	.583	.561
Sharing	-.454	.235	-1.933	.055
Improvement	.249	.293	.847	.398
Trust	.595	.312	1.907	.059
Grade Level	.049	.202	.245	.807
Years Educator	.614	.524	1.173	.243
Years Current School	.204	.503	.405	.686
Highest Degree Completed	-.214	.788	-.271	.787
School 1	.762	2.147	.355	.723
School 2	-.171	2.032	-.084	.933
School 3	.068	2.083	.033	.974
School 4	-3.575	2.044	-1.749	.083
School 5	-.139	1.972	-.071	.944
School 6	-2.403	1.947	-1.235	.219
School 7	-.303	2.087	-1.45	.885

A second multiple linear regression using *Engage* as the dependent variable and school, grade level/content area taught, total number of years as a professional educator, total number of years working at current school, education level, *Interaction*, *Sharing*, *Improvement*, and *Trust* as the independent or predictor variables was conducted. The regression model accounted for 19.6% of the variance, $R = .443$, $R^2 = .196$, $R^2_{adj} = .111$, $F(15, 142) = 2.312$, $p = .006$. Years as a professional educator was a statistically significant predictor of *Engagement*. *Interaction* approached being a statistically significant predictor but did not reach the strict criteria of $p = .05$ or less. The coefficients can be found in Table 14.

Table 14

Model Coefficients for Engagement

	<i>B</i>	β	<i>t</i>	<i>p</i>
Interaction	1.716	.283	1.903	.059
Sharing	-.019	-.004	-.041	.967
Improvement	-.162	-.032	-.283	.778
Trust	.424	.079	.693	.489
Grade Level	.089	.018	.226	.821
Years Educator*	2.254	.218	2.198	.030
Years Current School	-.722	-.078	-.733	.464
Highest Degree Completed	-.488	-.028	-.316	.752
School 1	2.299	.052	.547	.585
School 2	3.254	.084	.818	.415

School 3	3.763	.097	.923	.358
School 4	-1.437	-.034	-.359	.720
School 5	1.868	.057	.484	.629
School 6	-4.135	-.111	-1.085	.280
School 7	-.091	-.002	-.022	.982

Summary

Chapter 4 presented the findings for the data collected on this study of professional learning communities. The study participants were described and found to be predominately Caucasian, female, with 11-20 years of experience as educators. The TSES and SCSLCQ were submitted to factor analysis and useful, meaningful, and viable subscales were identified with acceptable internal consistency and reliability. The correlations between the subscales of the TSES and SPSLCQ were statistically significant but low to moderate in strength of the relationship. Descriptive variables were used to predict the subscale scores of the TSES and SPSLCQ. Each model identified accounted for a different amount of variance and different variables were predictors. Chapter 5 will review the findings and relate the findings of the study to previous literature as well as address implications for practice and future research.

CHAPTER 5: DISCUSSION, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Overview

This chapter contains information about the major findings of the study, including a discussion of possible explanations for such findings, overall implications of the study, limitations of the study, and ideas for future research.

Factor Analysis

Factor and reliability analysis were conducted to enhance the reliability and validity of the instruments. Both the TSES (Tschannen-Moran & Woolfolk Hoy, 2001) and SPSPLCQ (Hord, 1997) have been tested previously and were purported to consist of several subscales. However, reliability and validity are person and situation specific. What may be valid and reliable for one group may not be valid and reliable for another and it was deemed necessary to assure the instruments were used appropriately for this unique group of educators (Thorndike & Thorndike-Christ, 2009). It is important to assess the validity and reliability of any instrument with the unique group of individuals participating in the study. It is possible the previous studies had been conducted using similar but different individuals than the participants of this study. Factor and reliability analysis did find the items in the TSES and SPSPLCQ were different but from the subscale previously proposed. The subscales identified from this analysis provided useful and meaningful information on the educators participating in the study and were used in further analysis.

The analysis of the TSES identified 2 factors or subscales within the scale accounted for 59.34% of the variance and assisted in meaningful analysis. Reliability for

the total scaled was found to be $\alpha = .953$. The first subscale consisted of 16 items and was labeled *Engage*. The second subscale consisted of 8 items and was labeled *Management*. The component matrix indicated the correlation between the two subscales was $r = .655$; a moderate relationship between the two subscales. It was not necessary to reverse code any of the items and it was not necessary to remove any items due to low factor loading. The item arrangement makes sense and may be a viable and reliable alternative to previously reported subscales of the TSES.

Factor analysis of the SPSLCQ identified 4 factors or subscales within the scale accounting for 61.21% of the variance and assisted in improved analysis. Reliability for the total scaled was found to be $\alpha = .873$. It was interesting the factor analysis of the SPSLCQ also identified different subscales than those previously proposed. The first subscale consisted of 4 items and was labeled *Interactions*. The second subscale consisted of 4 items and was labeled *Shared*. The third subscale consisted of 5 items and was named *Improvement*, while the fourth subscale consisted of 4 items and was named *Trust*. The component matrix indicated the correlation between the 4 subscales ranged from $r = -.364$ to $r = -.219$, resulting in low negative and positive relationships among the four factored subscales. The current study had a considerably larger number of respondents and study participants may be intrinsically different, have different working conditions, and different perceptions than participants in the pilot study. It was not necessary to reverse code any of the items and all items loaded on one and only one subscale.

The factors or subscale identified through the factor analysis for the TSES and the SPSLCQ differed from what had originally been proposed adding credence to checking the subscales and reliability whenever an instrument is used. Measurement is an inexact science and the properties of any instrument can change depending upon the individuals taking an assessment or survey of any kind. The subscales identified through this process of factor and reliability analysis proved to be useful and meaningful and may prove to be viable when the TSES and SPSPLCQ are used again in future research

Correlation Analyses

The first research questions asked “Is there a relationship between the subscales of the TSES (*Engage and Management*) and the subscales of the SPSLCQ (*Interactions, Sharing, Improvement, and Trust*)?”. A Pearson Product Moment correlation was used to test the strength of the relationships between the 6 subscales of the instruments. This parametric test was appropriate to use because it is a robust test. The results of the correlation analysis were found to be statistically significant, though small or moderate in strength.

The largest relationship was determined to be between the *Management* and *Engage* subscales. While an exact causal relationship is not established through correlation analysis, social cognitive theory asserts that the way individuals feel about their abilities can affect their view of student performance such as student engagement. Perhaps the larger correlation between the *Management* and *Engage* in the Pearson Product Moment correlation can be explained in that teachers who perceive their students to be engaged, also perceive they are so engaged as a result of their student management

skills. Previous research has shown that teacher efficacy is related to teacher confidence about their performance of certain specific teaching skills (Ashton, 1984). Tschannen-Moran, Woolfolk Hoy, and Hoy (1998) define teacher efficacy as “the teacher’s belief in his or her capacity to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context” (p. 233).

The second question asked “Do school location, gender, grade level/content area taught, total number of years working at current school and education level predict subscales of the TSES (*Engage and Management*) and the subscales of the SPSLCQ (*Interaction, Sharing, Improvement, and Trust*)?”. Multiple linear regression was used to test the null hypothesis. A separate regression was run for each dependent variable. A probability level of .05 was used to determine rejection or acceptance of the null hypothesis for the individual regressions.

Two multiple linear regressions were run to evaluate the correlation between teachers’ perceptions of efficacy and professional learning community. The first multiple linear regression used *Management* as the dependent variable and school, grade level/content area taught, total number of years as a professional educator, total number of years working at current school, education level, *Interaction, Sharing, Improvement, and Trust* as the independent or predictor variables. *Sharing* ($p=.055$) and *Trust* ($p=.059$) approached being statistically significant but did not reach the strict criteria of $p=.05$ or less. While strict criteria of $p=.05$ for statistical significance was not met, the correlations are suggestive, given the exploratory nature of this study and the number of respondents. The findings point toward a positive association between the efficacy of teacher

respondents and the level and their perceptions of trust sharing and trust among fellow teachers. This lends credence to the importance of teacher collaboration in professional learning community.

The second multiple linear regression used *Engagement* as the dependent variable and school, grade level/content area taught, total number of years as a professional educator, total number of years working at current school, education level, *Interaction*, *Sharing*, *Improvement*, and *Trust* as the independent or predictor variables. An interesting caveat of the *Engagement* regression is that only years as a professional educator ($p=.030$) was a statistically significant predictor of *Engagement*. *Interaction* ($p=.059$) approached being a statistically significant predictor but did not reach the strict criteria of $p=.05$ or less. The findings of this regression suggest that teacher participants in this study perceive that there is a positive relationship between their level of efficacy regarding student engagement and the degree and nature of interactions in their school. This finding again seems to support the elements of professional learning community. However, the most interesting finding of the Engagement regression is that teachers' number of years as an educator showed statistical significance at $p=.030$. It is a frequent perception that teachers who have been in the profession the longest are more cynical about student engagement and student behaviors. This belief is not supported by the results obtained with group of respondents. Among these teachers, the most experienced apparently have high levels of self efficacy regarding student engagement.

Discussion and Implications of the Study

The concluding sections of Chapter 5 are an effort to relate results, conclusions, implications, and to suggest topics for related future research.

Overall findings are disappointing but not surprising. Though it was hoped a stronger, positive relationships might be found it is likely the size of the sample of the study impacted the findings. Note too the variability in response rates whereby respondents failed to answer one or more of the items in one or both instruments.

Another possible explanation why the relationships were not stronger could be the considerable difference in the size of the response scales for the respective instrument. The TSES used a 1-5 Likert-like scale. It is likely this helped respondents better differentiate between their answers unlike the SPSLC scale. This instrument used a 1-9 point Likert-like scale. Measurement construction holds that the number of possible response items should be dictated by the clarity the scales adds to differentiating from one response item to another. It could be that respondents were not able to confidently select the “best” answer because there were too many options. Additionally, items 2,4,6 and 8 provided no adjective or descriptor upon which to base an answer. Such an open-ended scale may have caused some subjective interpretations which in the end caused confusion, lack of confidence in the answers, frustration in not having clear guidance when answering.

The review of related literature suggests that schools organized as learning communities, rather than bureaucracies, are more apt to exhibit academic success. The implementation of PLCs have implications not only for student learning, but also for

staff. Hord (1997) summarizes her research findings related to positive staff outcomes when schools organize themselves as learning communities. For staff, the positive implications include:

- reduction of isolation of teachers
- increased commitment to the mission and goals of the school and increased vigor in working to strengthen the mission
- shared responsibility for the total development of students and collective responsibility for students' success
- powerful learning that defines good teaching and classroom practice, that creates new knowledge and beliefs about teaching and learners
- increased meaning and understanding of the content that teachers teach and the roles that they play in helping all students achieve expectations
- higher likelihood that teachers will be well informed
- more satisfaction and higher morale, and lower rates of absenteeism
- Significant advances into making teaching adaptations for students, and changes for learners made more quickly than in traditional schools
- Commitment to making significant and lasting changes
- Higher likelihood of undertaking fundamental, systematic change (pp. 33-34)

As seen through Hord's research, teachers can benefit in many ways from being part of a learning community. As Hord points out, teachers who participate in a learning community demonstrate higher morale and job satisfaction. Hord's work links with

Bandura's theories of teacher self-efficacy. Bandura (1997) contended that "The task of creating learning environments conducive to development of cognitive competencies rests heavily on the talents and self-efficacy of teachers" (p. 240). Bandura (1997) suggested that teacher's beliefs in their own abilities has a definite impact on their ability to cope with their teaching role.

The researcher had hoped that the study findings would indicate a clear, positive correlation between teacher self-efficacy beliefs and teacher beliefs about professional learning community implementation at their school site. While the results may be somewhat disappointing, there may be a number of factors that impacted the findings, yet were not part of the research design. One factor could have been the type and quality of the professional development culture within each school building. Though unknown, different buildings may have instituted PLC supports differently, or operationalized those communities differently, thus accounting for some differences in answers.

In addition, the style, strengths, and weaknesses of building leadership may impact the way teachers view their own capabilities and their power to influence school matters. Certainly, all teachers bring with them a myriad of lifelong personal experiences and attitudes that undoubtedly influence their teaching efficacy as well. Again, no responses were analyzed to determine differences between specific groups, i.e., years of teaching, grade level, etc.

In summary, though this study did not find strong, positive correlations between the TSES and SPSPLC, the small, positive correlations found along with the literature and other recent studies seem to indicate the value of professional learning communities

as a positive school reform model. PLCs, coupled with intentional development of positive teacher efficacy, shows promise as a way to meet the needs of today's learners and the amped up level of accountability that all educators feel today.

Limitations of the Study

There are several limitations to the study, beyond the disappointing findings. The over representation of females to males is not surprising given the population frame, elementary school teachers. However, it would have been interesting to determine if an adequate sample size of males respondents might answer questions differently, so too with the over representation of caucasian respondents. Again, the sample frame, schools in the suburban Midwest, are likely to have an under representation of teachers of color. Thus their particular take on learning communities was not ascertained as would have been ideal.

A larger response rate would have been much preferred. The original goal of survey participation of all 18 district elementary schools was not met for a variety of reasons. Data analysis from the larger sample would have been helpful in determining meaningful trends and beliefs among teachers. One could speculate that attitudes and efficacy beliefs of the building administrators in each of the 8 participating buildings may have had some immeasurable impact on teacher responses from each particular building. Perhaps the schools that elected to participate generally have a higher level of PLC implementation as a result of phased-in implementation of the model. A related factor might be that having a relatively small set of respondents, and then losing respondents through their failure to answer items, may have impacted results. If there had been a

larger response rate it would have allowed for the examination of a research area addressed by the authors of the TSES. The authors of the TSES looked at responses from beginning teachers. A large response rate having nearly equal respondents across the levels of academic training might have proven worthwhile. The inability to disaggregate between respondent's level of education may have caused a loss of important data.

As referenced above, the potential lack of precision in the SPSLC from the 9-point Likert scale exists. Though not done in this study, the scale could have been statistically reduced to a smaller number of items or the instrument could have been modified from the beginning and respondents offered a smaller number of items from which to choose.

Future Research

The subsequent recommendations for future research are based on the results and limitations of this study. In a related study, a researcher could modify the School Professional Staff as Learning Community questionnaire and offer respondents fewer response items, present this alternate form to a group of teachers, and then a short time later administer the long form to the same group of teachers. The researcher could then compare the results from the long form and the sort forms of the SPSLC to determine if the responses differed significantly from each other.

In order to determine whether teaching experience impacted one's sense of self-efficacy as a teacher, the Teachers' Sense of Efficacy Scale questionnaire could be administered to first year teachers at the beginning of the school year and then at the end of the school year to see what growth, if any occurred. This study could be further

refined by working with schools who have PLC in place and those that do not, if any exist.

Another recommendation would be to devise a correlational study that seeks to discover whether students in higher teacher self-efficacy schools show higher levels of student achievement. Bandura (1997) states that in efficacious schools “teachers maintain a resilient sense of instructional efficacy and accept a fair share of responsibility for their students’ academic progress” (p. 242). Deeper analysis in the area of teacher efficacy and student achievement could prove to be a fruitful endeavor.

Concluding Thoughts

In this time of high-stakes testing and high standards for students, teacher efficacy as a paradigm has the potential to make the difference for students. Teachers who believe they can meet the needs of all students are more apt to persevere and demonstrate the effort and teaching behaviors necessary to succeed. Research has shown that teachers who work in schools that are organized as professional learning communities can feel a reduced sense of isolation, increased support, higher morale, and other characteristics that potentially have a positive impact on the learning environment. In closing, the words of Peter Senge seem appropriate:

“People with high levels of personal mastery...cannot afford to choose between reason and intuition, or head and heart, any more than they would choose to walk on one leg or see with one eye.” (Senge, 1990, p.)

In his own way, it seems that Senge may have been trying to convey one of today’s common themes....do whatever it takes! These are certainly words for all educators to live by in these tough educational times.

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FOOTNOTES

1 Examination of the negative factor loading of item 1b (-.493) in the SPSLCQ prompted the researcher to conduct an additional factor analysis withholding this item. The new output rendered three underlying constructs, rather than the four constructs identified in this study. Due to the inter-relatedness of items and the complex nature of rotational dynamics, negative signs are complicated to interpret. For the purposes of this study, the determination was made to retain item 1b. The importance of this item is evidenced by its retention in three out of the four constructs of the original results.

APPENDIX A

Document Provided to Intended Researcher by:

Signature _____

Date: _____

(Building Principal for District Employee
or SLC Staff for Out-of-district Researchers)

INSTRUCTIONAL OPERATIONS TEAM

Lee's Summit R-7 School District

301 NE Tudor Rd.

Lee's Summit, Missouri 64086

**REQUEST FOR PERMISSION TO CONDUCT RESEARCH/GATHER DATA
IN THE LEE'S SUMMIT R-7 SCHOOLS
TO MEET A COURSE REQUIREMENT**

DIRECTIONS: The applicant should complete this form, obtain the necessary approval and signatures, and return to:

Associate Superintendent of Instruction & School
Leadership
Lee's Summit R-7 School District
301 NE Tudor Rd.
Lee's Summit, Missouri 64086

It may take up to three weeks for requests to be processed; please plan accordingly in order to meet course deadlines.

1. Please describe concisely the basic concepts and goals of your proposed project, and include an explanation of how the project meets a course requirement within the field of education.

The proposed study is to fulfill the requirements of my Doctorate in Educational Policy and Leadership at the University of Kansas. The purpose of the study is to explore the characteristics of and interrelationships between teachers' self-efficacy and professional learning community. Specifically, this study will present a quantitative analysis of the relationship between teacher efficacy and depth of PLC implementation in a particular school.

2. List the names of all data collection instruments you intend to use and enclose a copy of each with this application. Also, enclose a copy of each parent/student consent form. Please describe in detail the distribution, implementation, and collection methods you intend to use in your data collection.

The proposed study is to fulfill the requirements of my doctorate in Educational Policy and Leadership at the University of Kansas. The purpose of the study is to explore the characteristics of and interrelationships between teachers' self-efficacy beliefs and professional learning community. Specifically, this study will present a quantitative analysis of the relationship between teacher efficacy and depth of PLC implementation in a particular school. The Teachers' Sense of Efficacy Scale (long form) developed by Megan Tschannen-Moran and Anita Woolfolk Hoy and the School Professional Staff as Learning Community (SPSLCQ) instrument developed by Shirley Hord (1997) will be administered to the teachers in nine Lee's Summit School District elementary schools. All K-6 teachers in each building will be invited to participate. Convenience sampling as defined by Creswell (2002) will be employed. Principals and assistant principals will assist with participant completion of the survey instruments by encouraging and reminding teachers to submit questionnaires. Teacher participation is completely voluntary and questionnaires will be completed either before or after regular school hours. Data will be coded by school, participant, and survey instrument. Quantitative measures of analysis will include correlational and descriptive statistics. Teacher participants will be provided an informational statement and Informed Consent Form. Additionally, each participant will complete a demographic information questionnaire. All responses will be taken on-line.

3. Give the names of the Lee's Summit R-7 School District public school(s), you intend to involve to meet the project requirements. Are there certain demographics required for the project (ie: grade level, gender, etc.)

All kindergarten through sixth grade teachers at the following LSSD elementary schools will be invited to participate in the surveys. Schools will only be identified by code in the published dissertation.

Cedar Creek

Greenwood Elementary

Hawthorn Hill Elementary

Hazel Grove Elementary

Trail Ridge Elementary

Sunset Valley Elementary

West View Elementary

4. What amount of time would be required of staff or students in the R-7 schools in order to meet project requirements?

Approximately 25 minutes to complete all portions.

5. Are there any other school records you would require (for example, achievement test scores or attendance?). If so, please provide a detailed explanation of your process to code such records to ensure confidentiality.

No other records required.

6. Give the name of each person who will enter the schools. For nondistrict employees, please provide existing background checks for individuals or a plan to ensure background checks are in place prior to entry in schools.

Surveys will be facilitated by building principals and/or assistant principals.

7. What is the date you wish to begin? Week of May 17-21.
8. By what date do you anticipate being finished? Survey completions week of May 17-21. Intended degree completion by August 31, 2010.
9. Please obtain the signature of your instructor responsible for this assignment and attach a copy of the assignment guidelines.

Signature: (Signature pending approval by Human Subjects Committee – week of May 10-14)

Position:

John L Rury

Professor of Education (ELPS)

University of Kansas

423 JR Pearson Hall

1122 West Campus Rd

Lawrence, KS 66045

jrury@ku.edu

785-864-9697 (p)

785-864-4697 (f)

University/College/School/Department/Division:
Professor of Education (ELPS)
University of Kansas

10. Name of applicant (please print)

Susan M. Romeo
Principal
Sunset Valley Elementary School
2404 SW Regency Drive
Lee's Summit, MO 64082
(816) 529-4773

May 5, 2010

CRITERIA FOR APPROVAL OR DISAPPROVAL

The approval or disapproval of requests will be made within the following general guidelines.

1. The only projects which will generally be approved are those which:
 - a) contribute to the improvement of education in the Lee's Summit R-7 Schools;
 - b) contribute to the improvement of education in general.
2. Even within the above categories, studies will generally be disapproved if they:
 - a) appear to infringe on the privacy of pupils, parents, or staff members;
 - b) present a burden to pupils or staff members;
 - c) threaten school-community relations in any way.
3. Research solely for a course requirement will be considered only for Lee's Summit R-7 School District staff.
4. At any point in the research process, R-7 staff can terminate the study if determined necessary for any reason.
5. The R-7 School District reserves the right to access any results or product created as a result of projects conducted using R-7 students, staff, or facilities.

PARTICIPATION OF THE SCHOOLS

Generally, participation in any research study conducted by an outside agency or individual will be completely voluntary on the part of the principals, teachers, pupils and any other personnel involved.

APPENDIX B: HUMAN STUDIES INTERNET INFORMATION STATEMENT

Internet Information Statement

Approved by the Human Subjects Committee University of Kansas, Lawrence Campus (HSCL). Approval expires one year from 5/21/2010. HSCL #18762

The Department of Educational Leadership and Policy Studies at the University of Kansas supports the practice of protection for human subjects participating in research. The following information is provided for you to decide whether you wish to participate in the present study. You should be aware that even if you agree to participate, you are free to withdraw at any time without penalty.

We are conducting this study to better understand the relationship between professional learning community implementation and teachers' self-efficacy beliefs. This will entail your completion of a questionnaire. The questionnaire packet is expected to take approximately 15-20 minutes to complete.

The content of the questionnaires should cause no more discomfort than you would experience in your everyday life. Although participation may not benefit you directly, we believe that the information obtained from this study will help us gain a better understanding of the research gathered should be helpful in providing insight into leadership in the area of school culture and PLC implementation. Your participation is solicited, although strictly voluntary. Your name will not be associated in any way with the research findings. It is possible, however, with internet communications, that through intent or accident someone other than the intended recipient may see your response.

If you would like additional information concerning this study before or after it is completed, please feel free to contact us by phone or mail.

Completion of the survey indicates your willingness to participate in this project and that you are at least age eighteen. If you have any additional questions about your rights as a research participant, you may call (785) 864-7429, write the Human Subjects Committee Lawrence Campus (HSCL), University of Kansas, 2385 Irving Hill Road, Lawrence, Kansas 66045-7563, or email mdenning@ku.edu.

Sincerely,

Susan M. Romeo

Principal Investigator
2404 SW Regency Drive
Lee's Summit, MO 64082
(816) 529-4773

John L Rury
Faculty Supervisor
Professor of Education (ELPS)
University of Kansas
423 JR Pearson Hall
1122 West Campus Rd
Lawrence, KS 66045
(785) 864-9690

APPENDIX C: DEMOGRAPHIC SURVEY

Current School Location:

- Cedar Creek (0)
- Greenwood (1)
- Hawthorn Hill (2)
- Hazel Grove (3)
- Trailridge (4)
- Sunset Valley (5)
- Westview (6)
- Pleasant Lea (7)

Total number of years as a professional educator:

- 0
- 1-3
- 4-5
- 6-10
- 11-20
- 21-30
- 31-over

Gender:

- Male
- Female

Total number of years working at your current school:

- 0
- 1-3
- 4-5
- 6-10
- 11-20
- 21-30
- 31-over

Ethnicity:

- Asian
- Black
- Hispanic
- White
- Other

Highest degree completed:

- Bachelor
- Masters
- Masters + 30
- Specialist
- PhD/EdD

Grade level / content area in which you are currently teaching:

- Kindergarten
- First Grade
- Second Grade
- Third Grade
- Fourth Grade
- Fifth Grade
- Sixth Grade
- Art/Music/PE
- Special Education

APPENDIX D: SCHOOL PROFESSIONAL STAFF AS LEARNING COMMUNITY QUESTIONNAIRE (SPSLC)

School Professional Staff as Learning Community Questionnaire

Directions: This questionnaire concerns your perceptions about your school staff as a learning organization. There are no right or wrong responses. Please consider where you believe your school is in its development of each of the five numbered descriptors shown in bold-faced type on the left. Each sub-item has a five-point scale. On each scale, circle the number that best represents the degree to which you feel your school has developed.

Date: _____

Name: _____

School: _____

1. School administrators participate democratically with teachers sharing power, authority, and decision making.	1a.	5 _____ 4 _____ 3 _____ 2 _____ 1 _____	Although there are some legal and fiscal decisions required of the principal, school administrators consistently involve the staff in discussing and making decisions about school issues.	Administrators invite advice and counsel from staff and then make decisions themselves.	Administrators never share information with the staff nor provide opportunities to be involved in decision making.
	1b.	5 _____ 4 _____ 3 _____ 2 _____ 1 _____	Administrators involve the entire staff.	Administrators involve a small committee, council, or team of staff.	Administrators do not involve any staff.

2. The staff shares visions for school improvement that have an undeviating focus on student learning, and these visions are consistently referenced in the staff's work.	2a.	5 _____ 4 _____ 3 _____ 2 _____ 1 _____	Visions for improvement are discussed by the entire staff such that consensus and a shared vision result.	Visions for improvement are not thoroughly explored; some staff members agree and others do not.	Visions for improvement held by the staff members are widely divergent.
	2b.	5 _____ 4 _____ 3 _____ 2 _____ 1 _____	Visions for improvement are always focused on students, teaching, and learning.	Visions for improvement are sometimes focused on students, teaching, and learning.	Visions for improvement do not target students, teaching, and learning.
	2c.	5 _____ 4 _____ 3 _____ 2 _____ 1 _____	Visions for improvement target high-quality learning experiences for all students.	Visions for improvement address quality learning experiences in terms of students' abilities.	Visions for improvement do not include concerns about the quality of learning experiences.

3. The staff's collective learning and application of the learnings (taking action) create high intellectual learning tasks and solutions to address student needs.	3a.	5	4	3	2	1
		The entire staff meet to discuss issues, share information, and learn with and from one another.		Subgroups of the staff meet to discuss issues, share information, and learn with and from one another.		Individuals randomly discuss issues, share information, and learn with and from one another.
	3b.	5	4	3	2	1
		The staff meet regularly and frequently on substantive student-centered educational issues.		The staff meet occasionally on substantive student-centered educational issues.		The staff never meet to consider substantive educational issues.
	3c.	5	4	3	2	1
	The staff discuss the quality of their teaching and students' learning.		The staff does not often discuss their instructional practices nor its influence on student learning.		The staff basically discuss non-teaching and non-learning issues.	
	3d.	5	4	3	2	1
		The staff, based on their learnings, make and implement plans that address students' needs, more effective teaching, and more successful student learning.		The staff occasionally act on their learnings and make and implement plans to improve teaching and learning.		The staff do not act on their learnings.
	3e.	5	4	3	2	1
		The staff debrief and assess the impact of their actions and make revisions.		The staff infrequently assess their actions and seldom make revisions based on the results.		The staff do not assess their work.

4. Peers review and give feedback based on observing one another's classroom behaviors in order to increase individual and organizational capacity.	4a.	5	4	3	2	1
		Staff members regularly and frequently visit and observe one another's classroom teaching.		Staff members occasionally visit and observe one another's teaching.		Staff members never visit their peers' classrooms.
	4b.	5	4	3	2	1
		Staff members provide feedback to one another about teaching and learning based on their classroom observations.		Staff members discuss non-teaching issues after classroom observations.		Staff members do not interact after classroom observations.

5. School conditions and capacities support the staff's arrangement as a professional learning organization.

5a.	5 _____ 4 _____ 3 _____ 2 _____ 1	Time is arranged and committed for whole staff interactions.	Time is arranged but frequently the staff fail to meet.	Staff cannot arrange time for interacting.
5b.	5 _____ 4 _____ 3 _____ 2 _____ 1	The size, structure, and arrangements of the school facilitate staff proximity and interaction.	Considering the size, structure, and arrangements of the school, the staff are working to maximize interaction.	The staff take no action to manage the facility and personnel for interaction.
5c.	5 _____ 4 _____ 3 _____ 2 _____ 1	A variety of processes and procedures are used to encourage staff communication.	A single communication method exists and is sometimes used to share information.	Communication devices are not given attention.
5d.	5 _____ 4 _____ 3 _____ 2 _____ 1	Trust and openness characterize all of the staff members.	Some of the staff members are trusting and open.	Trust and openness do not exist among the staff members.
5e.	5 _____ 4 _____ 3 _____ 2 _____ 1	Caring, collaborative, and productive relationships exist among all staff members.	Caring and collaboration are inconsistently demonstrated among the staff members.	Staff members are isolated and work alone at their task.

Hord, S. M. (1996). *School professional staff as learning community questionnaire*. Austin, TX: Southwest Educational Development Laboratory.

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**APPENDIX E: TEACHERS' SENSE OF EFFICACY SCALE QUESTIONNAIRE
(TSES)**

Teachers' Sense of Efficacy Scale¹ (long form)

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

APPENDIX F

Stepwise Regression

A stepwise regression was selected for the study due to its exploratory nature. Stepwise multiple regressions are sometimes referred to as a statistical multiple regressions. When there are multiple predictor variables a stepwise multiple regression may be used to determine which specific IVs contribute to the model (Mertler & Vannatta, 2001). Forward, stepwise, and backward are methods of entering and keeping variables in the model. In using a stepwise selection method, at each step tests are performed to determine the significance of each IV already in the equation. If a variable were entered into the analysis and is measuring much the same construct as another, a reassessment of the variables may conclude the first variable is no longer contributing anything to the analysis. In a stepwise selection procedure, the variable would then be dropped out of the analysis even though it might have been a good predictor at one time. The variable may not be found to provide a substantial contribution to the model (Mertler & Vannatta, 2001). The independent or predictor variables were school location, gender, grade level/content area taught, total number of years as a professional educator, total number of years working at current school and education level and the dependent variables were the subscale scores from the TSES and SPSLCQ. A probability level of $p=.05$ was used as the criteria for accepting or rejecting the null hypothesis.

Engage

The stepwise regression using *Engage* as the dependent variable and school, gender, grade level/content area taught, total number of years as a professional educator,

total number of years working at current school and education level as the independent or predictor variables found there was a statistically significant model accounting for 3.8% of the variance, $R = .194$, $R^2 = .038$, $R^2_{adj} = .031$, $F(1, 148) = 5.786$, $p = .017$. Of the possible predictor variables, only years as an educator was statistically significant. The coefficients can be found in Table 14. The null hypothesis was rejected for years in education and retained for all other predictor variables.

Table 14

Coefficients for Engage

	<i>B</i>	β	<i>t</i>	<i>p</i>	<i>Bivariate</i>	<i>Partial</i>
Yrs Ed	2.048	.194	2.405	.017	.194	.194

Class Management

The stepwise regression using *Management* as the dependent variable and school, gender, grade level/content area taught, total number of years as a professional educator, total number of years working at current school and education level as the independent or predictor variables found there was a statistically significant model accounting for 4.4% of the variance, $R = .211$, $R^2 = .044$, $R^2_{adj} = .038$, $F(1, 148) = 6.880$, $p = .010$. Of the possible predictor variables, only school 4 was statistically significant. The coefficients can be found in Table 15. The null hypothesis was rejected for school 4 and retained for all other predictor variables.

Table 15

Coefficients for Management

	<i>B</i>	β	<i>t</i>	<i>p</i>	<i>Bivariate</i>	<i>Partial</i>
School 4	-4.310	.211	-2.623	.010	-.211	-.211

Interaction

The stepwise regression using *Interaction* as the dependent variable and school, gender, grade level/content area taught, total number of years as a professional educator, total number of years working at current school and education level as the independent or predictor variables found there was a statistically significant 4 step model accounting for 13.6% of the variance, $R = .369$, $R^2 = .136$, $R^2_{adj} = .113$, $F(1, 145) = 7.128$, $p = .008$. Of the possible predictor variables, only grade 4, school 3, years as and education and school 4 were statistically significant predictors. The coefficients can be found in Table 16. The null hypothesis was rejected for grade 4, school 3, years as and education and school 4 and retained for all other predictor variables.

Table 16

Final Model Coefficients for Interaction

	<i>B</i>	β	<i>t</i>	<i>p</i>	<i>Bivariate</i>	<i>Partial</i>
Grade 4	-1.391	-.200	-2.564	.011	-.164	-.208
School 3	-1.532	-.244	-3.034	.003	-.146	-.244
Yrs Educ	.379	.216	2.735	.007	.161	.221
School 4	-1.412	-.209	-2.670	.008	-.159	-.216

Sharing

The stepwise regression using *Sharing* as the dependent variable and school, gender, grade level/content area taught, total number of years as a professional educator, total number of years working at current school and education level as the independent or predictor variables found there was a statistically significant 5 step model accounting for 17.3% of the variance, $R = .415$, $R^2 = .173$, $R^2_{adj} = .144$, $F(1, 144) = 5.293$, $p = .023$. Of the possible predictor variables, only school 1, years as educator, school 3, grade 4, and gender were statistically significant predictors. The coefficients can be found in Table 17. The null hypothesis was rejected for school 1, years as educator, school 3, grade 4, and gender and retained for all other predictor variables.

Table 17

Final Model Coefficients for Sharing

	<i>B</i>	β	<i>t</i>	<i>p</i>	Bivariate	Partial
School 1	1.979	.191	2.491	.014	.219	.203
Yrs Educ	.536	.227	2.921	.004	.195	.237
School 3	-1.877	-.222	-2.806	.006	-.158	-.228
Grade 4	-1.717	-.183	-2.384	.018	-.149	-.195
Gender	2.348	.176	2.302	.023	.138	.188

Improvement

The stepwise regression using *Improvement* as the dependent variable and school, gender, grade level/content area taught, total number of years as a professional educator, total number of years working at current school and education level as the independent or predictor variables found there was a statistically significant 5 step model accounting for 12.2% of the variance, $R = .349$, $R^2 = .122$, $R^2_{adj} = .097$, $F(1, 145) = 4.361$, $p = .039$. Of the possible predictor variables, years as educator, school 4, grade 4, and school 6 were statistically significant predictors. The coefficients can be found in Table 18. The null hypothesis was rejected for years as educator, school 4, grade 4, and school 6 and retained for all other predictor variables.

Table 18

Final Model Coefficients for Improvement

	<i>B</i>	β	<i>t</i>	<i>p</i>	Bivariate	Partial
Yrs Educ	.399	.191	2.453	.015	.183	.200
School 4	-1.736	-.215	-2.734	.007	-.176	-.221
Grade 4	-1.374	-.165	-2.124	.035	-.160	-.174
School 6	-1.202	-.164	-2.088	.039	-.133	-.171

Trust

The stepwise regression using *Trust* as the dependent variable and school, gender, grade level/content area taught, total number of years as a professional educator, total number of years working at current school and education level as the independent or

predictor variables found there was a statistically significant 1 step model accounting for 4.8% of the variance, $R = .220$, $R^2 = .048$, $R^2_{adj} = .042$, $F(1, 148) = 7.518$, $p = .007$. Of the possible predictor variables only school 5 was statistically significant. The coefficients can be found in Table 19. The null hypothesis was rejected for school 5 and retained for all other predictor variables.

Table 19

Final Model Coefficients for Trust

	<i>B</i>	β	<i>t</i>	<i>p</i>	Bivariate	Partial
School 5	1.345	.220	2.742	.007	.220	.220

VITA

Susan graduated in 1981 from Blue Springs High School in Blue Springs, Missouri. After receiving her Bachelor of Science degree from Central Missouri State University in 1990, she began her elementary teaching career in the Butler School District in Butler, Missouri. In 1993, Susan moved to the Raytown School District, in Raytown Missouri, where she served as an elementary teacher and administrative intern. She earned her Master of Arts degree in Elementary Administration in 1998. Susan left the Raytown School District in 2003 to serve as principal of Raymore Elementary in the Raymore-Peculiar School District until summer of 2009. During the 2009-2010 school year, while serving as a principal in the Raymore-Peculiar School District, Susan was selected to serve as the building principal of a new school under construction in the Lee's Summit School District to open in the fall of 2009. Susan opened Sunset Valley Elementary School in the Lee's Summit School District, in Lee's Summit, Missouri, and presently serves as the principal of Sunset Valley. She will receive her Doctor of Educational Policy and Leadership degree in May 2011 from the University of Kansas.