

Running head: TEACHER SELF-EFFICACY AND INSTRUCTIONAL LEADERSHIP
THROUGH PLCS

The Relationship between Elementary Teachers' Perceived Self-Efficacy and Principals'

Facilitation of Professional Learning Communities

A Dissertation submitted

by

Tracy A. Mathews

to

College of Saint Mary

in partial fulfillment of the requirement

for the degree of

DOCTOR OF EDUCATION

with an emphasis on

Educational Leadership

This Dissertation has been accepted for the faculty of

College of Saint Mary by:

We hereby certify that this Dissertation, submitted by your name, conforms to acceptable standards and fully fulfills the Dissertation requirements for the degree of Doctor of Education from College of Saint Mary

Dr. Jennifer Rose-Woodward, Ed.D.
Chair

Dr. Dee Acklie, Ph.D.
Committee member

Dr. Shari Prior, Ph.D.
Committee member

Copyright © July, 2017

Tracy A. Mathews

ACKNOWLEDGEMENTS

I would like to sincerely thank my doctoral committee chair, Dr. Jennie Rose-Woodward, for providing constant support and guidance throughout this entire process. You were the first person I met at College of St. Mary when I decided to embark on this journey, and you have been a constant source of encouragement. Thank you for challenging me to achieve goals and grow in ways I never thought possible.

To my other doctoral committee members, Dr. Dee Acklie and Dr. Shari Prior, I would like to sincerely thank you for your time, support, and attention to detail. I appreciate your willingness to serve on my committee, and the positive affirmation you provided along the way. I am forever grateful for your commitment to my professional growth.

I would also like to express sincere gratitude to the many people who made this study possible. Thank you to the superintendent of schools and elementary principals who granted me access to teachers, and to the teachers who generously provided their time and input for my data collection. Also, I would like to thank David Fringer, who served as the primary point of contact for my research, which allowed me to anonymously collect survey data. Without all of you, I would not have had the opportunity to pursue my goals.

Finally, a heartfelt thank you to all my family, friends, and colleagues who have supported me throughout my educational endeavors. Many of you have helped me celebrate my smaller accomplishments along the way and offered words of encouragement as I encountered setbacks. I want to specifically thank my parents for instilling in me the importance of education and a love of learning at an early age. You were my first teachers, and I will be forever grateful for all the opportunities, love, and support you have provided me.

Last, but certainly not least, I would like to extend my deepest and most sincere gratitude to my amazing husband, Spencer, and our wonderful son, Atticus Jack. Spencer, I never would have begun this journey if not for your unwavering support and belief in me. At times, you believed in me more than I believed in myself, and your encouragement and guidance helped me persevere. I appreciate all the time you devoted to reading and editing my work, even when I did not want to hear your feedback. The sacrifices you made to support me and our family that allowed me time to study and write were truly selfless, and this accomplishment absolutely would not have been possible without you. Thank you for being my partner, my best friend, and my biggest fan. Atticus, you also sacrificed time away from me to allow me to pursue my dreams. Although you are too young to understand right now, I hope someday you will realize I did this for you, too. I aspire to be someone you can be proud to call your mom. I love you more than you will ever know, and I thank you for making me a better person.

Six Key Assumptionsí .34

 Need to Know Reasons for Learningí í í í í í í í í í í í í í í í í í 34

 Self-Conceptí .. 35

 Prior Experiencesí ...35

 Readiness to Learní .36

 Orientationí . 36

 Motivationí . 36

Professional Developmentí .37

Professional Learning Communitiesí ..39

 The Role of the Principal as Facilitator of Professional Learning

 Communitiesí ..41

 Time and Infrastructureí . 41

 Establish Shared Vision and Connect Learning to School Improvement

 Initiativesí 42

 Provide Relevant, Applicable, Inquiry-Based Learning Opportunitiesí .43

Summaryí 44

CHAPTER 3: METHODOLOGYí .45

 Research Designí 45

 Participants and Sampleí .45

 Settingí 46

 Data Collection Instrumentsí .. 47

 Demographicsí 49

 Data Collection Proceduresí 50

Data Analysis Proceduresí .. 51

Data Quality Measuresí ..51

Ethical Considerationsí 53

Summaryí 55

CHAPTER 4: REPORT OF THE FINDINGSí .. 56

Research Questionsí 56

Demographic Data of Participantsí 57

Findingsí . 60

 Question 1í ..60

 Question 2í ..61

 Question 3í ..63

 Question 4í ..69

Summaryí 71

CHAPTER 5: DISCUSSION AND SUMMARYí .. 72

Purpose of the Studyí ..72

Discussion of the Findingsí ..72

 Question 1í ..72

 Question 2í ..77

 Question 3í ..80

 Question 4í ..82

Implications/Recommendations for Educationí í í í í í í í í í í í í í í ..84

 Implications for Teacher Supervision and Growthí í í í í í í í í í í í 84

 Implications for Principal Supervision and Growthí í í í í í í í í í í .. 85

LIST OF APPENDICES

Appendix A: Change of Protocol Request Form í í í í í í í í í í í í í í í í í ... 96

Appendix B: Teacher Sense of Efficacy Scale, Long Form í í í í í í í í í í í í í í í í í 97

Appendix C: Permission to Use Teacher Sense of Efficacy Scale í í í í í í í í í í í í ... 98

Appendix D: Professional Learning Community Assessment Questionnaire ó Revised í í í . 99

Appendix E: Permission to Use Professional Learning Community Assessment
Questionnaire í .. 102

Appendix F: Demographic Information í ... 104

Appendix G: Request for Institution Permission í 105

Appendix H: Request for Principal Permission í .. 106

Appendix I: Participant Online Informed Consent í . 107

Appendix J: The Rights of Research Participants í 109

Appendix K: Institutional Review Board Approval í 110

LIST OF TABLES

Table 1: Demographic Characteristics of Teachersí í í í í í í í í í í í í í í í í ...59

Table 2: Descriptive Statistics of TSESí .61

Table 3: Descriptive Statistics of PLCA-Rí 63

Table 4: Relationship Between Overall TSES and Overall Perceptions of Principal as
Instructional Leaderí ..64

Table 5: Relationship Between Overall Perceptions of Principal as Instructional Leader and
Teacher Efficacy in Student Engagementí ...67

Table 6: Relationship Between Overall Perceptions of Teacher Sense of Efficacy and Beliefs
that Supportive Structures Existí . 67

Table 7: Relationship Between Overall Perceptions of TSES and Domains of PLCA-R
and Overall PLCA-R and TSES Domainsí ..68

Table 8: Mean Scores of TSES and PCLA-R by Schoolí í í í í í í í í í í í í í í í í ...70

Table 9: Relationship Between Mean TSES and Mean PLCA-R by Schoolí í í í í í í í 71

Table 10: Comparison of Mean Scores on TSES from Current Study and Previous Studyí í . 73

Abstract

This quantitative correlation survey study investigated the relationship between teachers' perceptions of the effectiveness of school principals as instructional leaders in professional learning communities (PLCs) and self-efficacy beliefs of teachers. Social Cognitive Theory, self-efficacy concept, and Adult Learning Theory were at the core of this research study design. Data was collected from 52 elementary classroom teachers from seven schools in an urban school district in Iowa. Two data collection tools were utilized to examine the research questions. The first tool was the Teacher Sense of Efficacy Scale created by Tschannen-Moran and Woolfolk Hoy (2001), and the second data collection tool was the Professional Learning Community Assessment - Revised developed by Olivier, Hipp, and Huffman (2010). Data was collected on teachers' perceptions of their own efficacy and their beliefs about their principals' effectiveness as instructional leaders in PLCs. Data analysis consisted of descriptive statistics and a series of Pearson correlation coefficients to analyze results of the survey and questionnaire. Results of the study indicate teachers who believe their principals are effective in facilitating PLCs have a higher sense of self-efficacy in the domain of Student Engagement. Also, teachers who reported a high sense of overall self-efficacy also believed in their principals' abilities to effectively create supportive conditions and structures for PLCs. Although a statistically significant relationship between collective efficacy beliefs and perceptions of principals' effectiveness as instructional leaders in PLCs did not exist, a strong and positive relationship was evident.

CHAPTER 1: INTRODUCTION

Background

Individuals learn behavior through cognitive processes via environment and observation, which is called Social Cognitive Theory (Bandura, 1977a). At the center of Social Cognitive Theory is the theory of self-efficacy, which is an individual's belief that a given behavior will lead to a certain desired outcome (Bandura, 1977a). Individual's self-efficacy, or perceived belief in ability, impacts the amount of effort they will exert (Bandura, 1977a) and situations in which they will become involved (Pas, Bradshaw, & Hershfeldt, 2012). These theories are especially important to educators because self-efficacy can impact the amount of effort produced, goals that are set, and levels of motivation in teachers and instructional leaders.

The theory of teacher self-efficacy emerged shortly after Bandura's self-efficacy theory and is specifically the extent to which teachers expect their personal efforts to impact student outcomes (Fuller, Wood, Rapoport, & Dornbusch, 1982; Tschannen-Moran & Woolfolk Hoy, 2001). Individual teacher's sense of self-efficacy can greatly contribute to or severely impede organizational change within a school (Fuller et al., 1982). When teachers believe in their abilities to improve student achievement, they seek the means necessary to increase student outcomes because they are motivated by their belief in their own ability to produce desired results. Relationships between school climate and teacher self-efficacy have been identified. A school environment where teachers feel supported by administrators and parents has been shown to positively correlate with teacher self-efficacy (Hoover-Dempsey, Bassler, & Brissie, 1992; Stipek, 2012). When teaching efforts were supported by principals and teachers believed their administrators involved them in decision-making, encouraged team members, and recognized teachers for positive contributions, they reported higher levels of teacher self-efficacy (Lee,

Dedrick, & Smith, 1991; Stipek, 2012). The aforementioned findings suggest the importance of the school principal in shaping the climate of the school and impacting teacher self-efficacy.

In addition to school climate, students are also greatly impacted by teachers' levels of perceived self-efficacy. Teachers with high levels of self-efficacy yielded better student achievement results (Bandura & Locke, 2003), had more positive attitudes toward the teaching profession (Cayci, 2011), and were more satisfied with their jobs and less likely to be stressed (Klassen & Chiu, 2010). More positive classroom environments and higher levels of instructional quality were also present when teachers had a higher sense of self-efficacy (Guo, Connor, Yang, Roehrig, & Morrison, 2012; Holzberger, Philipp, & Kunter, 2013). Based on this evidence, it is imperative for principals to establish a supportive school climate in order to positively impact teacher self-efficacy, which in turn positively influences students in a myriad of ways.

Collective efficacy, a group's shared beliefs in their ability to successfully produce outcomes after planning and implementing a set of actions (Bandura, 1997), is closely related to an individual's sense of self-efficacy (Calik, Sezgin, Kavgaci, & Kilinc, 2012; Chong, Klassen, Huan, Wong, & Kates, 2010). Through purposeful collaboration, both individual teacher self-efficacy and collective efficacy could be positively impacted within a school organization. Bandura and Locke (2003) reported collaboration in schools played an important role in increasing teacher self-efficacy. Increased collaboration and opportunities for shared decision-making also led to higher levels of student achievement (Bandura & Locke, 2003).

Adult learning can have a significant impact on teacher self-efficacy. Knowles (1988) sought to examine how adults learn differently than children, so he presented a new theory called andragogy, the art and science of teaching adults. Andragogy takes into account assumptions of

adult learners that differ from children, such as previous and varying experiences, self-directedness, applicability of learning experiences, and extrinsic motivation (Knowles, 1988). It is important to understand how adults learn when creating a professional development model. Professional development should address teachers' specific needs, allowing them to apply what has been learned within their classrooms (Jones, West, & Stevens, 2006; Kent, 2004). Teachers perceived opportunities for modeling, practice, and feedback as effective strategies for professional development (Quick, Holtzman, & Chaney, 2009). These findings supported Bandura's (1977b) theory, which suggested the cognitive nature of learning through modeling and observation, and could lead to teachers feeling more efficacious in their ability to achieve desirable student outcomes through the use of the methods modeled.

Within the context of professional development, the more specific setting of Professional Learning Communities, or PLCs, was examined. PLCs are a specific type of professional development that include a group of people who have a shared vision and collaborate with a focus on improved student learning (DuFour, 2004; Stoll, Bolam, McMahon, Wallace, & Thomas, 2006). Teachers should be provided the opportunity to collaborate with peers in PLCs in order to publicly reflect on their viewpoints, develop shared meaning of a selected topic, jointly plan action steps, and coordinate action to carry out the plan (Senge, Kleiner, Roberts, Ross, & Smith, 1994). In order to accomplish effective PLCs, teachers need guidance from their principals as facilitators. Principals need to provide job-embedded time for teachers to collaborate with members of their PLCs within a structure that is focused on improved student learning (Choi Fung Tam, 2015; Wood, 2007). As instructional leaders, principals are also charged with establishing a shared vision within the school community and connecting professional development practices, including PLCs, to the shared vision and larger school

improvement initiatives (Dougherty Stahl, 2015; Graczewski, Knudson, & Holtzman, 2009; Hallinger, 2005). Finally, principals are responsible for providing teachers with inquiry-based learning opportunities that will be applicable to classroom practices within the PLCs (Attard, 2012; Battersby & Verdi, 2015; Choi Fung Tam, 2015; Linder, Post, & Calabrese, 2012; Owen, 2015). The highly involved nature of facilitating PLCs outlined above is indicative of the importance of a school principal as an instructional leader.

Statement of the Problem

While much research has been conducted demonstrating a positive relationship between teacher self-efficacy and student achievement (Bandura & Locke, 2003; Guo et al., 2012; Kennedy & Smith, 2013; Pas et al., 2012), factors which contribute to a higher sense of teacher self-efficacy have not been as widely studied. The problem seemed to be limited research existed in the area of the relationship between the school principal as an instructional leader in PLCs and a teacher's sense of self-efficacy. The specific focus on the principal's effectiveness as an instructional leader in the context of PLCs distinguishes this study from others previously conducted on the topic of self-efficacy.

Purpose of the Study

The purpose of this quantitative correlation survey study was to investigate the effectiveness of school principals as instructional leaders in PLCs and the relationship to self-efficacy beliefs of teachers. The study specifically focused on elementary teachers' perceptions of their own sense of self-efficacy and their perceptions of their principal's leadership abilities within PLCs. Finally, the relationship between these perceptions was examined.

Significance of the Study

Although correlation studies do not determine cause and effect relationships, where significant relationships were identified between teacher self-efficacy and principals' effectiveness as instructional leaders in facilitating PLCs, future studies with experimental designs could be conducted with controlled variables to determine causation (Creswell, 2014). In the areas where significant positive relationships existed between teacher self-efficacy and principals' effectiveness as instructional leaders in facilitating PLCs, school administrators could potentially change the infrastructure of their schools in an attempt to increase teacher self-efficacy, which in turn, could increase quality of instruction. Again, because correlation studies do not determine causation, further studies would be needed to ensure the correlation was not the result of an unknown variable.

The results of this study provide educators and administrators with information that could lead to potential shifts in professional development and leadership that are correlated with teacher self-efficacy. The study illustrates teachers' current beliefs about their abilities to impact students in a variety of specific scenarios as outlined in the Teacher Sense of Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001). Raising teachers' awareness about their own attitudes and perceptions could potentially influence their beliefs.

Research Questions

The aim of this study was to explore relationships between teachers' perceived sense of self-efficacy and teachers' perceptions of their principals as effective instructional leaders in their facilitation of PLCs. The central question was consistent with Creswell's (2014) description of quantitative research questions being an inquiry of relationships. The following questions were examined:

- (1) What are urban Iowan elementary teachers' perceptions of their sense of self-efficacy in one school district as measured on the Teacher Sense of Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001)?
- (2) What are urban Iowan elementary teachers' perceptions of their principal as an instructional leader in facilitating PLCs in one school district as measured by the Professional Learning Community Assessment 6 Revised (Olivier, Hipp, & Huffman, 2010)?
- (3) What is the relationship between elementary teachers' perceptions of principals' effectiveness as instructional leaders in PLCs and self-efficacy beliefs of elementary teachers in an urban Iowa school district?
- (4) What is the relationship between elementary teachers' perceptions of principals' effectiveness as instructional leaders in PLCs and the collective self-efficacy beliefs of elementary teachers in an urban Iowa school district?

Definition of Terms

The following section contains a list of terms used throughout the study, accompanied by definitions to provide consistency and clarity of understanding. Definitions without citations were developed by the researcher.

Adult. Adults in this study were college graduates who were licensed teaching professionals and at least 21 years of age.

Andragogy. Andragogy is the art and science of teaching adults, which relies on assumptions that adults learn differently than children in some ways (Knowles, 1988).

Collaboration. Collaboration is what occurs when members of a group share and create knowledge, producing work in conjunction with one another that they would not be able to produce independently (Brufee, 1999).

Collective efficacy. Collective efficacy is a group's shared beliefs in their ability to successfully produce outcomes after planning and implementing a set of actions (Bandura, 1997).

Coordinated action. Each member of the team carries out the plan of action established in joint planning (DuFour, DuFour, Eaker, & Many, 2010).

Elementary classroom teacher. A classroom teacher is a licensed educator serving in the capacity of delivering instruction to students. For this study, an elementary classroom teacher was a full-time teacher who met the Iowa licensure requirements to teach kindergarten through fifth grade.

Instructional leadership. Instructional leadership is the role a principal possesses in defining the school's mission, managing the instructional elements within a school, and providing a positive learning environment (Hallinger, 2005) as measured by the Professional Learning Community Assessment 6 Revised (Olivier et al., 2010).

Joint planning. Joint planning is when a team creates action steps together in order to test their shared meaning of a topic of inquiry (DuFour et al., 2010).

Licensed educators: For the purposes of this study, licensed educators in the state of Iowa are those who met the following criteria: Graduates from Iowa institutions must have a baccalaureate degree from a regionally-accredited institution; completed a state-approved teacher preparation program in Iowa, including required assessments; and recommendation for licensure from the designated recommending official where the program was completed. Graduates from

non-Iowa institutions must meet these same requirements and also have a valid or expired license from another state and completed the required Iowa assessments if the applicant has fewer than three years of teaching experience on a valid license in another state (Iowa Board of Educational Examiners, 2017).

Principal. A principal is the leader of the school who is responsible for performing duties related to political, organizational, managerial, and instructional leadership (Hallinger, 2005). For this study, a principal was an individual who held an Iowa administrator license and met the following requirements: held or was eligible for an Iowa teaching license; completed three years of verified teaching experience; completed the requirements for an administrative endorsement; and completed a Master's degree (Iowa Board of Educational Examiners, 2017).

Professional development. Professional development is a group of colleagues learning together and working to achieve the same learning goals through a sustained process directly related to everyday teaching (Kent, 2004; Saylor & Johnson, 2014).

Professional learning community (PLC). A professional learning community is a group of people who have a shared vision and collaborate with a focus on improved student learning (DuFour, 2004; Stoll et al., 2006).

Public reflection. Public reflection is part of the learning team process when team members discuss their assumptions and beliefs about a topic of inquiry (DuFour et al., 2010).

Reciprocal determinism. A person's cognition, environment, and behavior mutually influence one another (Bandura, 1977b).

Self-efficacy. Self-efficacy is an individual's belief in his or her ability to produce desirable outcomes as a direct result of his or her actions (Bandura, 1997).

Shared meaning. Shared meaning is when team members share insights and develop common understanding of a topic of inquiry (DuFour et al., 2010).

Teacher self-efficacy. Teacher self-efficacy is the extent to which a teacher expects his or her personal effort to impact student outcomes, regardless of factors beyond his or her control (Fuller et al., 1982; Tschannen-Moran & Woolfolk Hoy, 2001), as measured by the Teacher Sense of Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001).

Team Learning Wheel. The Team Learning Wheel describes a cyclical process through which effective teams engage that includes public reflection, shared meaning, joint planning, and coordinated action (Senge et al., 1994).

Urban school district. For this study, an urban school district is one that serves 4,000 or more students, or serves 3,000 students with 40% or more of the student population identified as eligible for free or reduced-price lunch (Urban Education Network of Iowa, 2006).

Vicarious reinforcement. Vicarious reinforcement is the result of observing a consequence of a behavior and using that information to determine whether or not to replicate the behavior based on the observed consequence (Bandura, 1977b).

Assumptions, Limitations, and Delimitations

Assumptions. Although PLCs have been a trending topic in education for over a decade (DuFour, 2004), it is possible not all teachers have participated in these focused, collaborative groups. One major assumption of this study was teachers were engaged in professional learning with their peers, focusing on improved student learning. In order to address this assumption, a definition of PLCs was provided at the beginning of the survey, and participants were asked about their involvement in PLCs prior to completing the Teacher Sense of Efficacy Scale and the

Professional Learning Community Assessment - Revised. Had participants indicated no involvement in PLCs, they would have been excluded from the study.

Another assumption of the study was all principals facilitated PLCs within their schools to some degree. Given the shift of the role of the principal from manager to instructional leader (Andrews, Basom, & Basom, 1991), it was plausible to assume principals coordinated PLC efforts. Some principals may have chosen to share leadership with their teachers, but the assumption of this study was PLCs were not operating without some form of guidance from the principal. Had participants indicated their principals were not involved in PLCs, they would have been excluded from the study.

Limitations. Because this study focused on a specific sample of the population, an urban district in Iowa, a limitation was that generalizations could not be made to the larger population. If a similar study were conducted in rural areas or larger urban areas outside the state of Iowa, results could drastically change. Also, despite using proportional sampling, participants were chosen on a voluntary basis, and not truly at random. This could have skewed the results because a group of people with similar characteristics may be more inclined to participate in a voluntary study. Finally, correlations can provide valuable information, but they do not suggest causation, so further research would be necessary to determine potential causes of increased teacher self-efficacy.

Delimitations. Teachers from rural districts were intentionally excluded from this study in an effort to generalize data to urban Iowa school districts. This population was of particular interest to the researcher as those were the conditions in which the researcher worked at the time of the study. Qualitative research methods, such as observations and interviews, were not used in this study. Quantifiable data provided a more concrete measure for determining relationships

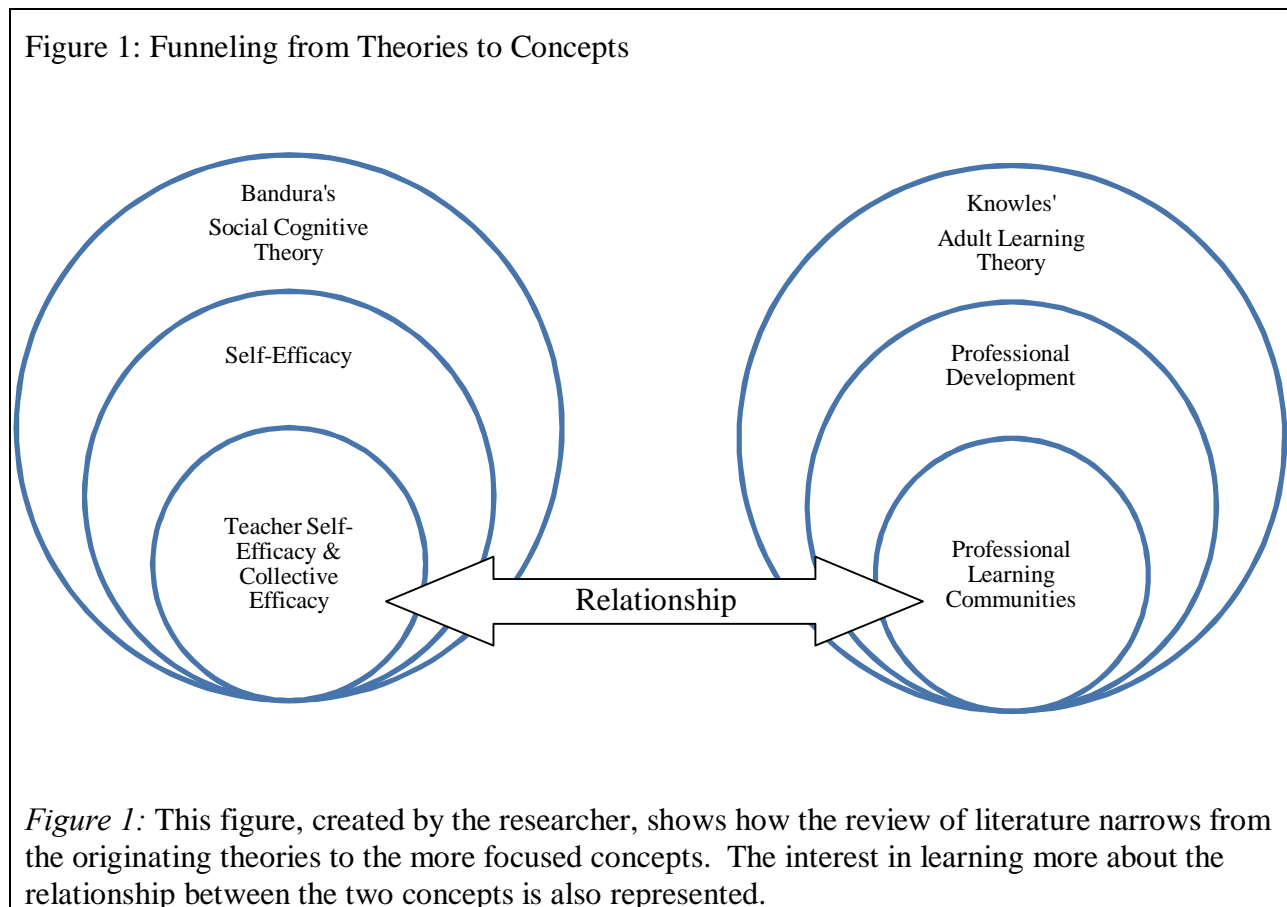
among variables, which was the purpose of this study. Although additional information could be gleaned from conducting interviews and themes could be identified, that was not the aim of this research.

Summary

Chapter one provided background information about the problem, as well as the problem itself, and the purpose and nature of the study. Additionally, the research questions were outlined, the theoretical framework was provided, and terms were defined. Assumptions, limitations, and delimitations were also addressed in chapter one. The purpose of this study was to examine relationships between teacher self-efficacy and teachers' perceptions of principals' effectiveness as facilitators of PLCs. This information is significant because the results of this study have provided urban Iowa educators and administrators with information that could lead to potential shifts in professional development and leadership when relationships between the variables were present.

CHAPTER 2: REVIEW OF RELATED LITERATURE

This chapter presents a theoretical overview of Social Cognitive Theory, self-efficacy, and Adult Learning Theory, as well as a review of literature related to self-efficacy beliefs of teachers, including relationships between teacher self-efficacy and other variables. Adult learning and the role of the principal as a facilitator of Professional Learning Communities were also examined, as they were directly related to the study's research questions. A gap in literature regarding the relationship between the principal's effectiveness in facilitating PLCs and teacher self-efficacy is highlighted in chapter two.



Social Cognitive Theory

Studying behaviors and how behaviors are processed, learned, and reinforced is not a new concept in the field of education. With a continued focus on school improvement, it has become increasingly important to understand how behaviors of teachers can be influenced in an effort to impact student achievement. Bandura (1977a) developed a theory of social learning based on the cognitive processes of individuals that emphasized learned behavior through environment and observation, rather than strictly through direct reinforcement. Due to the prominence of the role of cognition in learning, this theory was later renamed the Social Cognitive Theory (Bandura, 1986). Social Cognitive Theory highlights the role of social context as a setting for learning, where one learns through observation of a behavior and also through observing consequences of a behavior, otherwise known as vicarious reinforcement (Bandura, 1977b). The modeling of the desired behavior can occur through a live model, such as a family member or teacher; through verbal instruction, where the desired behavior is explained in detail and then taught; or through symbolic modeling, such as one might observe on television, movies, or other forms of media (Bandura, 1977b). It is important to consider the context in which learning occurs for adults in schools, as well as opportunities to learn from modeling.

Another important principle of Social Cognitive Theory is the idea of reciprocal determinism, which is the belief that one's behavior, environment, and cognition are mutually influenced by one another (Bandura, 1986). In an educational setting, it is important to understand environment can influence teachers and instructional leaders, but teachers and instructional leaders can also influence the environment. For the purposes of this study, it was important to consider this concept in the context of Professional Learning Communities and the effectiveness of the instructional leader in shaping the environment.

Self-Efficacy

At the center of Social Cognitive Theory is the concept of self-efficacy. Self-efficacy is an individual's beliefs about his or her abilities to produce desired outcomes (Bandura, 1977a). This is different from outcome expectancy, which is an individual's belief that a given behavior will lead to a certain outcome; the main difference between the two is the perception of ability (Bandura, 1977a). Self-efficacy is more closely related to self-concept, which is the positive or negative perceptions one has about his or her abilities (Cayci, 2011). More specifically, self-efficacy is the extent to which one believes he or she can control outcomes and events in his or her life (Cayci, 2011). Self-efficacy can impact individuals' choices in activities and settings because they are less likely to become involved in situations where they fear they cannot produce desirable outcomes (Cayci, 2011). Perceived ability also impacts the amount of effort individuals will exert because the stronger the perceived efficacy, the more active the efforts (Bandura, 1977a, p. 194). Individuals are more likely to engage in situations when they feel well-prepared, competent, and confident in their abilities (Pas et al., 2012). Individuals' perceived ability to produce outcomes is essential to their efforts and level of involvement in various situations. Social Cognitive Theory and self-efficacy are especially important in the educational field because self-efficacy can impact the amount of effort produced, goals that are set, and levels of motivation in teachers and instructional leaders.

Self-efficacy sources. Creating an environment and purposefully selecting activities where teachers feel empowered to produce desirable student achievement outcomes is an important charge of instructional leaders. Bandura (1977a) suggests there are four main sources of efficacy expectations. The first source is through personal accomplishments, where previous success raises efficacy and failure lowers it (Bandura, 1977a). In other words, if one was able to

produce desirable results in the past, he or she is more apt to believe in his or her ability to replicate those successes. Another source of efficacy expectations is through vicarious experiences, where an individual sees others perform activities successfully, which can create a sense of efficacy in one's own ability to succeed at a similar task (Bandura, 1977a). This notion supports educational models where teachers learn by observing one another in identified areas of strength. A third source of efficacy expectations is verbal persuasion, where one individual convinces another of his or her ability (Bandura, 1977a). Verbal persuasion is less effective than performance accomplishment and can be easily negated if the individual being persuaded is ultimately unsuccessful in his or her endeavors (Bandura, 1977a). Finally, emotional arousal can impact one's self-efficacy expectations in that elevated levels of anxiety can decrease an individual's sense of self-efficacy (Bandura, 1977a; Bandura & Adams, 1977). These elevated levels of fear can contribute to individuals' lack of effort or willingness to attempt activities because it reduces their sense of perceived ability to succeed.

Teacher Self-Efficacy

A few years after the theory of self-efficacy emerged, the premise was applied to teachers. Teacher self-efficacy, similar to self-efficacy, is specifically the extent to which teachers expect their personal efforts to impact student outcomes (Fuller et al., 1982; Tschannen-Moran & Woolfolk Hoy, 2001). A high sense of teacher self-efficacy is essential to school improvement initiatives because an individual teacher's sense of self-efficacy can greatly contribute to or severely impede organizational change (Fuller et al., 1982). Bandura and Locke (2003) argued the belief in ability to achieve outcomes through personal effort was more important than actually possessing the skills necessary to produce the results. Bandura and Locke (2003) found that higher self-efficacy increased motivation and focused individuals on

setting and achieving goals, which compensated for initial deficiency in skills. In other words, if teachers believe they can raise student achievement, they seek the means necessary to increase student outcomes because they are motivated by their belief in their own ability to produce desired results.

Teacher Self-Efficacy and Climate

An important relationship to understand is that between teacher self-efficacy and climate. Referring back to Bandura's (1986) principle of reciprocal determinism, it is essential to examine how teacher self-efficacy can impact school climate, and also how the school climate can impact teacher self-efficacy. A school environment where teachers felt supported by administrators and parents was shown to positively correlate with teacher self-efficacy (Hoover-Dempsey et al., 1992; Stipek, 2012). When teachers perceived high levels of parental support and involvement in their children's education, the teachers also reported a higher sense of self-efficacy (Hoover-Dempsey et al., 1992). These supports included time parents spent with their children on homework, volunteering in the classroom, participating in educational activities with their children outside of school, and participating in conferences with the teachers. Stipek (2012) also noted teachers had a higher sense of self-efficacy when parents felt confident in their abilities to help children at home and were involved in their children's learning. When teachers viewed their own values regarding the education of their students as different from the parents' values, teachers had lower expectations for students' academic performance (Hauser-Cram, Sirin, & Stipek, 2003). This information indicated teachers believed their abilities to produce desirable outcomes with these children were lower due to external barriers perceived to be created by parents' values.

A school climate where teachers felt supported by administrators was also found to positively correlate with teacher self-efficacy (Brissie, Hoover-Dempsey, & Bassler, 1988; Lee et al., 1991; Stipek, 2012). Lee et al. (1991) proposed teachers who felt administrators supported their teaching efforts by providing necessary resources and handling outside distractions had a higher sense of self-efficacy than those who did not feel such supports were made available by their principals. Similarly, over two decades later, Stipek (2012) found higher perceived efficacy in teachers when they believed their administrators provided them opportunities to be involved in decision-making for the school, encouraged staff members, and recognized teachers for positive contributions. Consistent with Stipek (2012) findings, teachers who viewed their principals as responsive to their needs and willing to collaborate in order to improve performance also had a higher sense of self-efficacy and were less likely to experience teacher burnout (Brissie et al., 1988). A supportive school environment is an important factor when considering teacher self-efficacy beliefs.

Teacher Self-Efficacy and Student Impact

In addition to school climate, students are also greatly impacted by their teachers' levels of self-efficacy. Numerous researchers have reported a positive and significant correlation between teacher self-efficacy and student achievement (Bandura & Locke, 2003; Guo et al., 2012; Kennedy & Smith, 2013; Pas et al., 2012), yet students benefitted from teachers with a higher sense of self-efficacy in other respects, too (Cayci, 2011; Guo et al., 2013; Holzberger et al., 2013; Klassen & Chiu, 2010). In a study of teacher candidates that examined their perceived senses of self-efficacy and attitudes toward the teaching profession, participants who reported a higher sense of self-efficacy also reported more positive attitudes about the profession (Cayci, 2011). In other words, candidates who were seeking to become teachers had a stronger belief in

their abilities if they also had a positive attitude about the teaching profession. These changes in individuals' attitudes can lead to changes in behaviors and beliefs due to the interaction among attitudes, behaviors, and beliefs (Bandura, 1986). With previous research demonstrating a positive relationship between teacher self-efficacy and student achievement, it is beneficial to study teachers' attitudes that could impact their behaviors and beliefs.

Another study examined the relationships between practicing teachers' job satisfaction and their perceived self-efficacy (Klassen & Chiu, 2010). Teachers who reported higher self-efficacy in classroom management and instructional strategies were more satisfied with their jobs and less likely to be stressed (Klassen & Chiu, 2010). This is significant because teachers who are satisfied with their jobs are more likely to believe in their abilities to create a classroom environment conducive to students' needs as well as deliver instruction using high-quality strategies (Klassen & Chiu, 2010). A more positive classroom environment was also positively correlated with higher sense of self-efficacy in a study of fifth grade teachers (Guo et al., 2012). Teachers were more likely to engage in pleasant conversation with their students and create an environment of laughter and enthusiasm if they reported a higher sense of self-efficacy (Guo et al., 2012). A positive classroom environment and job satisfaction are two additional important reasons to study teacher self-efficacy.

Students were also positively impacted in classrooms where teachers had a higher sense of self-efficacy because the quality of instruction tended to be higher (Guo et al., 2012; Holzberger et al., 2013). When teachers and students were surveyed, both groups reported higher levels of teacher instructional quality when teachers also reported higher levels of self-efficacy (Holzberger et al., 2013). According to the students and teachers, teachers were better equipped in the areas of classroom management and providing individualized learning support

for students when teachers had higher beliefs in their abilities (Holzberger et al., 2013).

Teachers also demonstrated more supportive characteristics, such as providing high-quality feedback to students, when they had a higher sense of self-efficacy (Guo et al, 2012). These various studies demonstrate the significant impact teacher self-efficacy had on students due to the relationships between teacher self-efficacy and student outcomes, teacher attitudes, classroom environment, and instructional quality. Based on this evidence, it is imperative for principals to establish a supportive school climate in order to positively impact teacher self-efficacy, which in turn positively influences students in a myriad of ways.

Teacher Collective Efficacy and Collaboration

While teacher self-efficacy is specific to an individual teacher's beliefs in abilities, collective efficacy is a group's shared beliefs in their ability to successfully produce outcomes after planning and implementing a set of actions (Bandura, 1997). As members of a school organization, teachers' shared beliefs are associated with tasks, level of effort, persistence, shared thoughts, stress levels, and achievement of groups (Goddard, Hoy, & Woolfolk Hoy, 2000, p. 482), rather than simply individual performance. Their shared beliefs dictate how they would respond to challenging situations and persist when faced with difficulties or the potential for failure (Bandura, 1997). Teachers maintain perceptions about the degree to which colleagues in their school organization collectively are capable of producing desirable student outcomes, which can have a great impact on the organization as a whole (Goddard et al., 2000). The benefits of high collective efficacy in schools warrant further examination of the topic.

Teachers with a higher sense of self-efficacy also have a higher sense of collective efficacy (Calik et al., 2012; Chong et al., 2010). This would indicate that increasing individual teachers' sense of self-efficacy could positively impact the collective efficacy of the school as an

organization. Goddard et al., (2000) found collective teacher efficacy was a significant predictor of student achievement in both mathematics and reading. When teachers believed in their group's collective ability to produce student outcomes in the areas of mathematics and reading, students were more likely to produce positive results. Also, when teachers felt they were being supported and developed by their principals as instructional leaders, they also reported a higher sense of collective efficacy (Calik et al., 2012). The impacts on self-efficacy and collective efficacy related to perceptions teachers maintain regarding their colleagues' abilities to produce desirable student outcomes indicated a need to foster collaboration within schools.

The opportunity to collaborate with peers has also been studied in relation to teacher self-efficacy and can contribute to the overall efficacy within a school organization (Bandura & Locke, 2003; Chong & Kong, 2012). When groups of teachers were provided the opportunity to collaborate in a lesson study, not only did they report improved content knowledge and application of new pedagogy and innovative instructional materials, they also demonstrated efficacy traits of persistence and encouragement (Chong & Kong, 2012). The teachers reported more logistical support and increased time for collaboration would have been beneficial (Chong & Kong, 2012), which indicated a need for an infrastructure within the school organization that fostered cooperation and teamwork. Bandura and Locke (2003) supported this notion by reporting collaboration in schools played an important role in increasing teacher self-efficacy. Increased collaboration and opportunities for shared decision-making also led to higher levels of student achievement (Bandura & Locke, 2003). Through purposeful collaboration, both individual teacher self-efficacy and collective efficacy could be positively impacted within a school organization.

With previous research highlighting the positive relationships between teacher self-efficacy and climate, teacher self-efficacy and students, and teacher self-efficacy and collective efficacy, it was essential to understand variables that could potentially increase teacher self-efficacy. When teachers felt more competent and confident, they were more likely to have a high sense of self-efficacy. Examining how adults learn and studying best practices in facilitating adult learning has led to suggested leadership practices that could potentially increase teachers' sense of self-efficacy.

Adult Learning Theory

Understanding how adults learn is a complex task that has been given a great deal of attention. Knowles (1988) sought to examine how adults learn differently than children, which is important for educators of adults to understand in order to effectively teach adult learners in ways that best meet their needs. Knowles (1984, 1988) presented a new theory called andragogy, the art and science of teaching adults, which opposed traditional adult learning theories that were based on research related to the art and science of teaching children, or pedagogy.

Six key assumptions. Six key assumptions of adult learners provided the foundation for Knowles' theory of andragogy (Knowles, Holton, & Swanson, 2005). These assumptions were developed by Knowles based on his own experiences. The following section provides more details about each of the assumptions Knowles makes about adult learners.

Need to know reasons for learning. The first assumption of andragogy is adults need to know why they need to learn something (Knowles et al., 2005). Unlike children, who generally accept what is taught to them as important, adult learners require understanding potential benefits of the new learning or possible negative consequences if the new learning is not acquired

(Knowles, 1988; Knowles et al., 2005). For example, when facilitating the learning of teachers who are acquiring skills to implement a new instructional model, it may be beneficial to demonstrate how the new model will positively impact student achievement outcomes.

Self-concept. Another key assumption of andragogy is adult learners possess a self-concept of being responsible for their own decisions, their own lives (Knowles et al., 2005, p. 65). In pedagogy, it is common practice for teachers to take primary responsibility for the learning of children, but in andragogy, teachers facilitate adult learners' independence and autonomy by encouraging self-directedness and decreasing levels of dependence on instructors (Knowles, 1988). If adult educators attempt to impose their will upon adult learners and treat them as though they are children, a natural conflict occurs due to the adult learners' inherent need to be self-directed (Knowles, 2005). It is important to be mindful of this difference between adult learners and children, as adult learners do not have the same levels of dependence on their instructors as children.

Prior experiences. The third assumption is adults have a variety of experiences from their lives that impact their learning (Knowles et al., 2005). Life experiences of adults can positively impact their learning because more meaning is attached to new understanding gained through experience and adults recognize their experiences as shaping their identities (Knowles, 1988; Knowles et al., 2005). These are reasons adult education should focus on experiential learning opportunities, such as group discussions and problem-solving activities (Knowles, 1988; Knowles et al., 2005). Along with the benefits of previous experiences, challenges can also arise with a wide range of experiences in any group of adult learners (Knowles et al., 2005). There is a greater need to individualize education for adult learners due to the wide range in quantity and quality of experiences within the group (Knowles et al., 2005). Potential preconceived notions

and biases based on adult learners' previous experiences may also need to be addressed in order to "open their minds to new approaches" (Knowles et al, 2005, p. 66). Effective facilitators of adult learners skillfully incorporate prior experiences into the education of adults, building upon those experiences to further enhance the learning opportunities. They also acknowledge and address previous experiences that led to erroneous beliefs of adult learners.

Readiness to learn and orientation. The next two assumptions, readiness to learn and orientation to learning, coincide with one another. Readiness to learn assumes adults become ready to learn what is necessary in order to manage real-life situations or problems more suitably (Knowles, 1988; Knowles et al., 2005). Orientation to learning is based on the premise that adults value learning experiences that will further their potential in life and be applicable to real-life situations in the immediate future (Knowles, 1988; Knowles et al, 2005). It is the educator's responsibility to appropriately time learning opportunities for adults. This allows learning opportunities to be relevant and applicable to adult learners' lives so they are ready to learn and see the value in what is being taught (Knowles, 1988; Knowles et al., 2005). Based on these principles, learning opportunities that can be applied in the classroom will be seen as relevant and applicable. If teachers are given the opportunity to explore real-life problems that need to be addressed in the classroom, they are more likely to see the value in their learning.

Motivation. The final assumption of andragogy concerns the motivation of adult learners and was added to Knowles' adult learning theory in 1984 (Knowles, 1984; Knowles et al., 2005). Although adults can still be motivated by external factors, the most effective motivators of adult learners are internal (Knowles, 1984; Knowles et al., 2005). Typical adults are motivated to continue learning and growing without external incentives, such as promotions or salary increases, but barriers, such as lack of time and resources, can impede their ability to develop

(Knowles et al., 2005). These six assumptions clearly demonstrate how adults learn differently than children, thus indicating a need to instruct them in a different manner to appropriately meet their needs and advance their development.

Professional Development

Understanding the principles of adult learning is necessary when implementing professional development models for teachers because professional development requires a group of adult learners to work together to achieve the same learning goals through a sustained process directly related to everyday teaching (Kent, 2004; Saylor & Johnson, 2014). According to Saylor and Johnson (2014), professional development should be focused on a particular content or subject area and how students learn that subject. Teachers should be actively involved in the learning through peer collaboration, discussions, and observations, rather than taking a passive role in their development (Saylor & Johnson, 2014). The learning opportunities provided through professional development should be aligned with school improvement plans as well as knowledge and beliefs of the teachers (Saylor & Johnson, 2014). Also, in order for teachers to adequately learn and grow, necessary time needs to be provided for successful professional development models (Kent, 2004; Saylor & Johnson, 2014). Finally, professional development should involve collective participation of colleagues who are provided new learning opportunities based on common goals (Saylor & Johnson, 2014). Collaborative learning opportunities that actively involve teachers and are aligned with school improvement initiatives are essential elements of quality professional development models.

Kent (2004) also suggested specific needs of teachers should be identified and addressed through professional development in order to improve teacher quality and lead to an increase in student success. Kent's (2004) proposition supported Knowles et al.'s (2005) assumptions that

adults need to know why they need to learn something, in this case to increase student success, and their learning needs to be relevant and applicable to real-life situations. Teachers also desired professional development to be applicable, with opportunities to put the new learning into practice (Jones et al., 2006). More specifically, if teachers were asked to learn about theory in professional development, they determined it necessary to directly connect theory and practice in order to recognize the professional development as beneficial (Jones et al., 2006). If the learning needs of teachers are first identified, the professional development becomes relevant because it is tailored to authentic needs of the adult learners, which they will be able to apply in their classrooms.

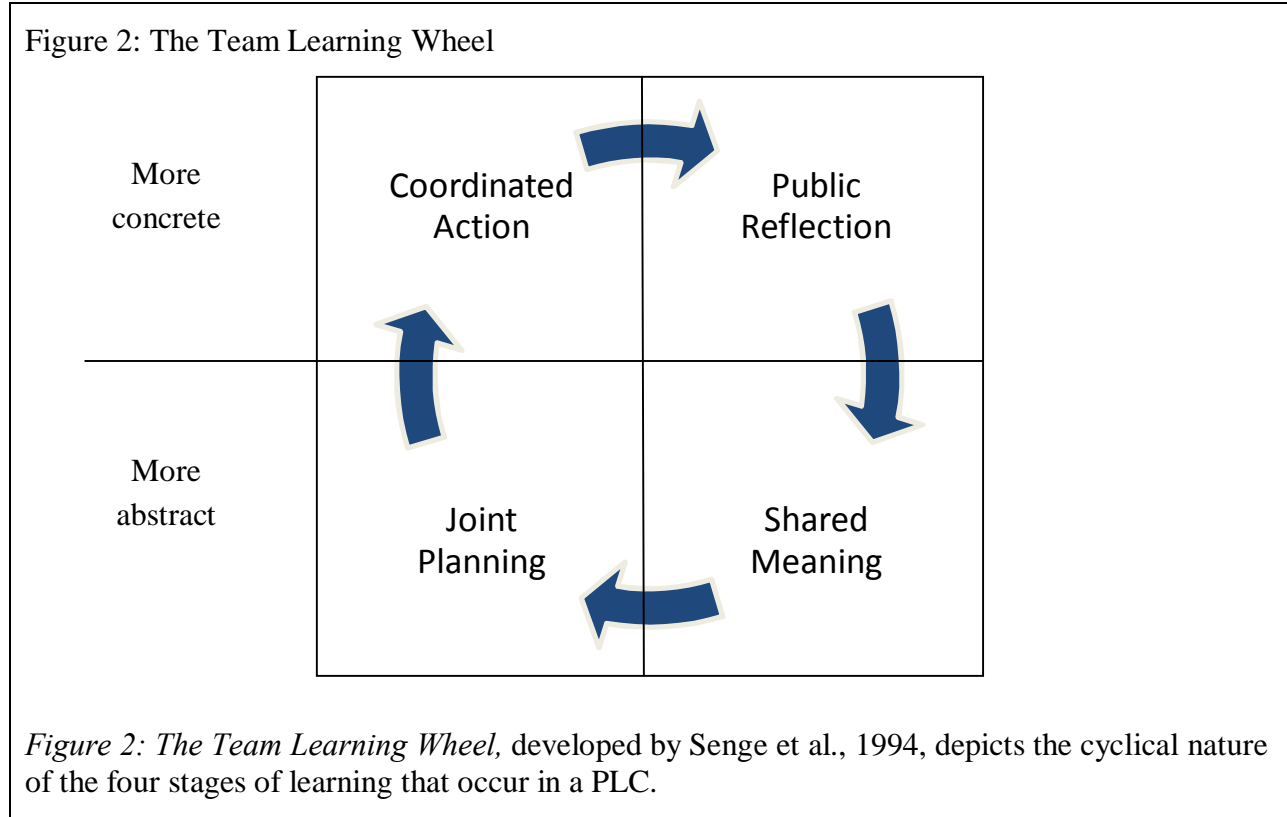
In a study that emphasized designing professional development models based on teachers' needs, teachers provided input on what they believed effective professional development should entail (Lee, 2005). Teachers suggested more access to hands-on activities, teaching strategies, and research-based best practices would improve their professional development experience (Lee, 2005). Again, this supported Knowles et al.'s (2005) principle of relevant and applicable learning opportunities for adult learners. After implementing the needs-based professional development model based on teacher suggestions, teachers reported a better understanding of the content standards they were expected to teach (Lee, 2005). The participants were also able to demonstrate teaching strategies that actively involved their students in the classroom by using hands-on activities modeled for them during professional development and learning explicitly about the teaching strategies utilized to implement the activities in the classroom (Lee, 2005). Quick et al. (2009) also uncovered similar findings when examining interviews from teachers and leadership members who believed professional development was effective when opportunities were provided for modeling, practice, and feedback and the

professional development was based on teachers' needs. These findings supported Bandura's (1977b) theory, which suggested the cognitive nature of learning through modeling and observation, and could lead to teachers feeling more efficacious in their ability to achieve desirable student outcomes through the use of the methods modeled.

Professional Learning Communities

Professional Learning Communities (PLCs) are a specific type of professional development that include a group of people who have a shared vision and collaborate with a focus on improved student learning (DuFour, 2004; Stoll et al., 2006). Schools with effective PLCs have created a collaborative culture in which teachers work in teams to engage in deep levels of learning that will improve practice in their classrooms (DuFour, 2004). The process causes students to achieve at higher levels (DuFour, 2004). This results-oriented collaboration becomes routine for schools that truly function as professional learning communities who work together to achieve their collective purpose of learning for all (DuFour, 2004, p. 8). The key component of PLCs is a relentless focus on students, individually and collectively, achieving at higher levels as a result of the adult learning that occurred collaboratively.

Senge et al. (1994) developed a Team Learning Wheel, depicted in Figure 2, which highlighted the cyclical nature of the work and learning accomplished in a PLC. The Team Learning Wheel included four stages of learning that occurred continuously in a learning team or PLC: public reflection, shared meaning, joint planning, and coordinated action, which then leads back to public reflection (Senge et al., 1994).



During public reflection, team members openly described their current beliefs and challenged one another's viewpoints in a respectful, yet persistent, manner (Senge et al., 1994). After all participants had an opportunity to reflect, the team strived to develop common understanding, or shared meaning, of the topic at hand. This stage in the cycle was important in assisting teams to refocus and refine their shared vision (Senge et al., 1994). Once shared meaning had been established, the team participated in joint planning, which included developing action steps for team members to implement either individually or as a group (Senge et al., 1994). Upon completion of joint planning, the action steps were carried out in the coordinated action phase of the Team Learning Wheel. Again, the coordinated action can be completed individually because the stages that led to the action caused it to be a collaborative initiative (Senge et al., 1994). In

order for teams to function effectively as PLCs and work through the stages of the Team Learning Wheel, other factors came into play that are explored in the remainder of this section.

The role of the principal as facilitator of professional learning communities. A principal is the leader of the school who is responsible for performing duties related to political, organizational, managerial, and instructional leadership (Hallinger, 2005). Principals as supervisors of teachers were traditionally viewed as managerial leaders, however, over the past 25 years, attention has shifted to focus on the instructional leadership role of principals to support and develop teachers (Andrews et al., 1991; Hallinger, 2005). Sahin (2011) found teachers who had positive perceptions of their principals' instructional leadership styles also had positive beliefs about the culture of the school. Because school culture has been positively associated with teacher self-efficacy (Hoover-Dempsey et al., 1992; Stipek, 2012), it is essential for principals to establish supportive instructional leadership styles within the context of PLCs.

Time and infrastructure. One responsibility of principals as facilitators of PLCs is providing time and an infrastructure within the school day for focused adult learning to occur (Choi Fung Tam, 2015; Wood, 2007). The organizational structure of PLCs allows teachers time to interact with colleagues meaningfully and supports professional growth (Choi Fung Tam, 2015). Providing teachers time to meet with PLCs as part of their everyday professional work communicates a message that collaboration and sharing expertise are valued as part of the school culture (Wood, 2007). When teachers were given job-embedded time to collaborate within a PLC, they felt empowered to increase capacity and make improvements to instructional quality and student outcomes (Choi Fung Tam, 2015). Teachers especially appreciated the time to plan together and share their views, as well as learn from one another and solve problems they encountered in their classrooms (Choi Fung Tam, 2015). The principal could increase structural

support by leading teachers through the Team Learning Wheel, ensuring a more systematic approach to teachers' reflection, shared meaning, planning, and action (Senge et al., 1994). An infrastructure that leads to action in the classroom would also be viewed as relevant and applicable, which is imperative to adult learners (Knowles, 1988; Knowles, 1984; Knowles et al., 2005). If a connection between learning in PLCs and student learning does not exist in the structure of the teams, it will be difficult to sustain learning communities as a viable option for professional development (Graczewski et al., 2009; Wood, 2007). As instructional leaders, principals need to link adult learning in PLCs to student learning and school improvement initiatives in order to impact teachers as learners.

Establish shared vision and connect learning to school improvement initiatives. As instructional leaders, principals are also charged with establishing a shared vision within the school community and connecting professional development practices, including PLCs, to the shared vision and larger school improvement initiatives (Dougherty Stahl, 2015; Graczewski et al., 2009; Hallinger, 2005). The school vision should be centered on the needs of the students, and also articulated in terms of teachers and instruction (Graczewski et al., 2009). Before beginning PLCs, Dougherty Stahl (2015) recommended beginning with one or two whole-group professional development sessions, during which the school vision, typically related to school data and/or curriculum changes, is shared. Williams (2013) agreed that learning opportunities should be based on school data and the focus of the work should be on curriculum, instruction, and student learning. Mombourquette and Bedard (2014) also reported stakeholders had an increased sense of responsibility for student learning due to the emphasis placed on data-driven decision-making. Strategies used to facilitate all professional development opportunities should be connected to larger school improvement initiatives with the goal of improving instruction and

student learning (Graczewski et al., 2009; Hallinger, 2005). When teachers were engaged in reflective dialogue through PLCs, they reported feeling a greater sense of shared purpose among their colleagues (Choi Fung Tam, 2015). Owen (2015) noted teachers perceived their learning teams to be important in changing their practices and beliefs when they developed joint values and participated in practical activities focused on students with the support of their principals.

Provide Relevant, Applicable, Inquiry-Based Learning Opportunities. Finally, principals are responsible for providing teachers with inquiry-based learning opportunities that will be applicable to classroom practices within the PLCs (Attard, 2012; Battersby & Verdi, 2015; Choi Fung Tam, 2015; Linder et al., 2012; Owen, 2015). Teachers were able to provide evidence of an effect on student learning as a result of their work in PLCs when they had the opportunity to use inquiry to drive their learning and shared leadership opportunities were available (Owen, 2015). Linder et al. (2012) found teachers valued the opportunity to select a topic of their choice to study in depth, then implement, share, and discuss the results of the activities with colleagues. Moreover, teachers felt empowered when they were able to make decisions about their PLC learning and the development of instruction (Choi Fung Tam, 2015). They felt a sense of membership and belonging, and believed the "social support increased the commitment of teachers" (Choi Fung Tam, 2015, p. 29). These findings support Knowles (2005) assumptions that adults have an inherent need to be self-directed and strong desire to apply their learning in a relevant manner.

Previous research suggested important components of effective professional development within the setting of PLCs. Teachers value the time provided to collaborate with their peers in a structured setting with a focus on improved student learning. They also believed it necessary to have a shared vision within their learning communities, and that vision needed to be aligned to

larger school improvement initiatives. Additionally, when teachers are provided learning opportunities that are relevant and applicable to their classroom practices, they are more likely to find the PLC to be beneficial. The prior research did not examine the effectiveness of the principal in facilitating PLCs in a manner that could impact teacher self-efficacy.

Summary

This chapter provided a theoretical overview of Social Cognitive Theory, self-efficacy, and Adult Learning. Additionally, chapter two presented a comprehensive literature review related to self-efficacy beliefs of teachers and the roles of administrators in developing efficacious teachers through the context of professional development, and more specifically within the setting of Professional Learning Communities. While a great deal of research has been conducted on self-efficacy of teachers and professional learning communities separately, there was limited research on the relationship between the effectiveness of the principal as the facilitator of PLCs and teacher self-efficacy. This lack of literature validated the need to further explore the role of the principal in facilitating PLCs in an effective manner, which could potentially impact teacher self-efficacy.

Chapter 3: METHODOLOGY

Chapter three outlines the research methods that were used to explore the relationship between teachers' perceived self-efficacy and their perceptions of principals' instructional leadership in PLCs for elementary teachers in an urban Iowa school district. This chapter provides information about the research design, participants, and setting. Additionally, data collection instruments, methods, and analysis are discussed.

Research Design

In order to examine the relationship between perceived self-efficacy and perceptions of instructional leadership in PLCs, a descriptive correlation survey design was utilized. Survey designs are appropriate to use when the researcher is interested in collecting numeric data and making generalizations about opinions provided by a sample of a population (Creswell, 2014; Leedy & Ormrod, 2010). This study specifically examined the relationship between two variables: teachers' perceived self-efficacy and teachers' perceptions of their principals as instructional leaders in PLCs. For the purpose of this study, a survey design was selected because it is a cost-effective means to collect data from many participants in a short amount of time (Creswell, 2014). A cross-sectional approach was used to collect the data, meaning the data was collected one time, through online questionnaires with rating scales. The data collection methods and instruments are described in more detail later in this chapter.

Participants and Sample

The participants of this study were a single-stage purposive sample of elementary classroom teachers from nine elementary schools in an urban school district in Iowa. Excluding specialized teachers (art, music, special education, physical education, etc.) and focusing only on elementary classroom teachers assisted in attaining a homogeneous sample. A homogeneous

sample allowed for more precise generalizations to be drawn about the larger population of elementary classroom teachers in an urban Iowa school district (Leedy & Ormrod, 2010). The entire population of elementary classroom teachers in the nine elementary schools who met the inclusion criteria was approximately 165, and teachers at seven of the nine elementary schools had the opportunity to participate in the study. The principals of two schools elected not to participate in the study, but due to the anonymity precautions taken, the researcher has no way of knowing which schools opted out of the study or why. With an alpha level of .05, and effect size of .50, and a power criterion of .80, 65 participants were needed for this study (Creswell, 2002). Access to the participants was granted from the superintendent of the school district, with the support of the elementary principals in seven of the nine schools. The superintendent was emailed directly by the researcher, and once permission was received, the principals were emailed by a third party. If the building principals approved, they sent the survey link directly to the elementary classroom teachers in their buildings. After one attempt at sending the survey, the desired 65 participants had not been achieved. The researcher requested a change of protocol to the original proposal, and permission to send the survey a second time was granted (Appendix A). Despite the second attempt, the desired number of participants still was not reached, which is addressed as a limitation of this study. There were a total of 52 participants in this study.

Setting

The setting for this study was seven elementary schools in a mid-sized urban school district in Iowa. The district is home to eleven elementary schools, but two of the schools were intentionally excluded from the study in order to avoid conflict of interest for the researcher, who worked directly with the teachers in those schools. Also, the two schools intentionally excluded served a small number of students, and therefore, had significantly fewer teachers than the other

schools in the district. Even after the third party coded the school names, it would have been easy to identify which data was provided from teachers at those schools, so excluding them was also an ethical consideration. Additionally, the principals of two elementary schools opted not to participate in the study, resulting in teachers from seven of the eleven schools participating in the study. The school district where the study took place served over 9,000 students in preschool through twelfth grades at the time of the study, with over 4,750 students attending the eleven elementary schools. Approximately 70% of the students enrolled in the district qualified for free or reduced-price lunches. Some of the teachers at the remaining seven elementary schools may have known the researcher, but they did not directly work with one another, nor had the research study been discussed with any of them.

It was the expectation within the district that all classroom teachers participated in PLCs with their teaching partners and principal. The study was conducted in the natural setting of the participants rather than a laboratory or simulated environment in order to increase validity (Leedy & Ormrod, 2010). Participants were allowed to complete the questionnaires on their own time and in their preferred environment. The online questionnaire was expected to take approximately 20-30 minutes to complete. According to Leedy and Ormrod (2010), allowing participants to complete studies in comfortable environments increases validity.

Data Collection Instruments

In order to answer the research questions, two previously constructed data collection tools were utilized. The first question explored teachers' perceptions of their sense of self-efficacy. The *Teacher Sense of Efficacy Scale* (TSES) (Appendix B), created by Tschannen-Moran and Woolfolk Hoy (2001), was used to collect data from classroom teachers from an urban Iowa school district with permission from the developers (Appendix C). Two versions of

the TSES were available. One version, the long form, consisted of twenty-four questions regarding efficacy in student engagement, efficacy in instructional strategies, and efficacy in classroom management. The short form was comprised of twelve questions in the same domains. The researcher's decision to use the long form was made to gather more comprehensive information from the respondents.

The second research question examined teachers' perceptions of their principals' ability to be an instructional leader in the context of PLCs. In order to answer that question, the Professional Learning Community Assessment - Revised (PLCA-R) questionnaire (Appendix D), developed by Olivier et al. (2010) was administered to classroom teachers from an urban Iowa school district with permission (Appendix E). The PLCA-R used a four-point scale with forty-five statements related to school practices within a PLC. The forty-five statements were categorized into six domains: shared and supportive leadership, shared values and vision, collective learning and application, shared personal practice, supportive conditions - relationships, and supportive conditions & structures. Respondents indicated the degree to which they agreed or disagreed with each statement using the four-point scale. The results of both the TSES and PLCA-R were used to answer the third and fourth research questions regarding the relationship between teacher self-efficacy and collective efficacy and teacher perceptions of their principals' effectiveness in facilitating PLCs. Figure three shows an overview of the two instruments selected to be used in this study.

Figure 3: Overview of Data Collection Instruments

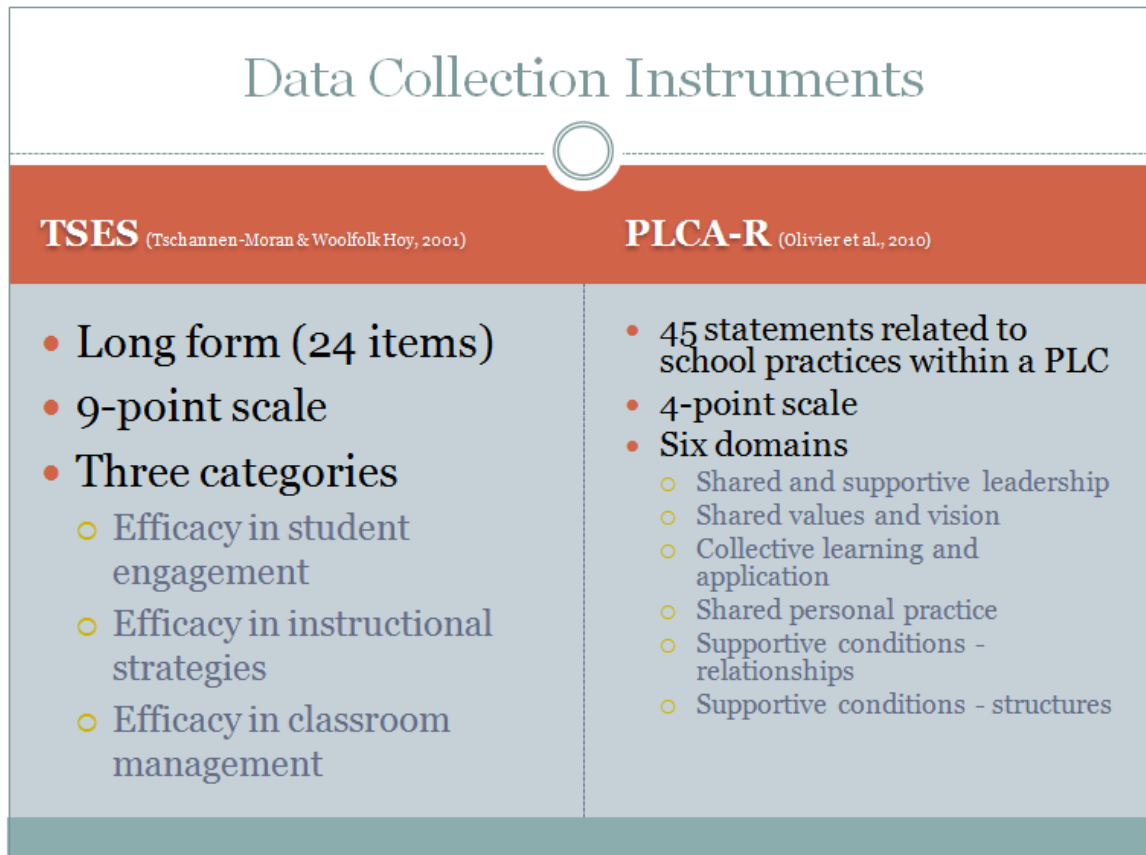


Figure 3: This figure, developed by the researcher, provides an overview of the two data collection instruments that were used in this study.

Demographics

In order to better understand the characteristics of the participants being surveyed, demographic information was collected. For this study, demographic information regarding current place of employment (the school name was coded after it was collected), grade level currently being taught (K-2, 3-5), years of experience (1-2, 3-5, 6-10, 11-20, 21 and greater), highest level of degree obtained (Bachelors, Masters, Doctorate), age in years (21-25, 26-30, 31-40, 41-50, 51 and greater), and gender (male or female) were collected (Appendix F). This information was collected so further analysis could be conducted based on participant demographics.

Data Collection Procedures

In order to collect data, permission from many individuals or groups needed to be granted (Creswell, 2002). First, the permission of the superintendent of the urban Iowa school district was requested (Appendix G). After the superintendent agreed to allow access to participants, the permission of elementary school principals within the district was sought (Appendix H). An identified third party sent the letter requesting permission from the principals. The researcher's name was not attached to the study in communication with the principals to eliminate any possibility of perceived coercion in recruiting participants because the researcher worked in the district at the time of the study. When principal permission was received, the third party sent the survey link to the principals, who forwarded it to the elementary classroom teachers in their schools. Finally, participants completed an online acknowledgement form (Appendix I) to indicate their informed consent to participate in the study. Informed consent statements are provided when conducting research with human participants in order to explain and protect the rights of the members of the study (Creswell, 2002). The rights of participants (Appendix J) were provided in conjunction with the online informed consent.

The two surveys being utilized for this study were transferred to an online survey tool, Typeform, which anonymously collected participants' responses in a spreadsheet. Because the participants were asked to report demographic information, including the name of their school, the form was sent via email to the participants' school/work email addresses by a third party. After receiving the data, the third party coded the school names before giving the results to the researcher in order to protect the identity of the school principal who was the subject of the PLCA-R questionnaire. The third party was given direction to randomize the school names, non-alphabetically, and code them as School A, School B, School C, etc., so the researcher could not

identify the school from which the data was reported. Conducting the surveys online was the chosen method due to the convenience of collecting data from many participants in a cost-effective and timely manner (Leedy & Ormrod, 2010).

Data Analysis Procedures

After the survey window closed, the third party anonymously coded the school names in the spreadsheet, keeping the identity of each school's data confidential from the researcher. The spreadsheet was then shared with the researcher, who organized and imported the data into the SPSS database. Simple descriptive statistics were utilized to determine the range, mean, median, and mode scores for teacher self-efficacy and teachers' perceptions of instructional leadership abilities of principals in PLCs. Descriptive statistics were also computed to calculate the mean, median, and mode of each domain of the TSES and PCLA-R to answer research questions one and two. The third and fourth research questions explored relationships between two variables, so a Pearson correlation coefficient was utilized to determine whether relationships existed. When studying relationships, researchers are interested in the distribution of two sets of data (Creswell, 2014). Correlation coefficients also provide information about the direction and strength of the relationships (Urda, 2010). For the purposes of this study, correlation coefficients between .20 and .50 in either the positive or negative direction were considered a moderate relationship, and correlation coefficients larger than .50 were considered a strong relationship (Urda, 2010).

Data Quality Measures

The TSES, also known as the Ohio State Teacher Efficacy Scale, was tested in three studies. Through the studies, it was reduced from 52 items to 32, then to 18, and then finally revised again to create a 24-item long form and a separate 12-item short form. The instrument

was categorized into three factors: efficacy for instructional strategies, efficacy for classroom management, and efficacy for student engagement. Factor analyses were conducted on both the 24-item and 12-item forms with pre-service and in-service teachers. The factor analyses revealed both a total score of all items, as well as sub-scores for each category of efficacy were appropriate measures of a teacher's sense of self-efficacy. Correlations between the TSES and other measures of efficacy were tested, and the results suggested the TSES was a valid and reliable measure of teacher efficacy (24 items; $\alpha = .94$) (Tschannen-Moran & Woolfolk Hoy, 2001).

The PLCA-R was divided into six components of effective PLCs: shared and supportive leadership, shared values and vision, collective learning and application, shared personal practice, supportive conditions & relationships, and supportive conditions & structures. Cronbach Alpha reliability coefficients confirmed the internal reliability of the instrument for each subscale. The weakest coefficient was in the subscale of supportive conditions & relationships, with a .82, which was still considered a strong relationship as previously defined in this chapter (Olivier et al., 2010). Figure four provides a side-by-side overview of the data quality measures for both instruments used in this study.

Figure 4: Overview of Data Quality Measures

<h2>Data Quality Measures</h2>	
Teacher Sense of Efficacy Scale	Professional Learning Community Assessment - Revised
<ul style="list-style-type: none"> • Tested in three studies • Reduced from 52 items to 32, then 18, and finally revised to create a 24-item form • Three factors (efficacy for instructional strategies, classroom management, and student engagement) • Factor analyses conducted and revealed total score of all items and sub-scores for each category were appropriate measures of teacher self-efficacy • Correlations between the TSES and other measures of efficacy suggest TSES is a valid and reliable measure of teacher efficacy (24 items; $\alpha = .94$) <small>(Tschannen-Moran & Woolfolk Hoy, 2001)</small> 	<ul style="list-style-type: none"> • PLCA-R is divided into six components of effective PLCs (shared and supportive leadership, shared values and vision, collective learning and application, shared personal practice, supportive conditions - relationships, supportive conditions - structures) • Cronbach Alpha reliability coefficients confirmed the internal reliability for each subscale • Weakest coefficient was in the subscale of supportive conditions - relationships ($\alpha = .82$); still considered strong relationship under previously defined parameters <small>(Huffman & Hipp, 2003)</small>

Figure 4: This figure, developed by the researcher, provides an overview of the data quality measures for the two instruments used in this study.

Ethical Considerations

When conducting research, it is the responsibility of the researcher to adhere to ethical principles (Shamoo & Resnik, 2009). The first step in ensuring appropriate ethical considerations are taken was having the research proposal thoroughly reviewed by the Institutional Review Board (IRB). All IRB procedures and policies were followed, and research was not conducted until permission was granted (Appendix K).

One important ethical principle is respect for research subjects (Shamoo & Resnik, 2009). Many steps were taken by the researcher in order to protect the participants of this study. Prior

to beginning the study, the researcher sought permission from the superintendent of the represented school district, as well as the principals of each participating school. The researcher also took into consideration the participants may have been concerned their perceptions would be shared with district leaders. As a result of this issue, the names of the participants were not collected. To further protect anonymity, a third party coded the school names as School A, School B, School C, etc. so the data could not be traced back to each individual school, but trends within each school could still be identified and analyzed. The researcher thoroughly explained the purpose of the study and received online consent (Appendix I) from each participant before collecting data. The subjects were also informed of their rights (Appendix J) and that there were no perceived risks or direct benefits to participating in this study through online informed consent.

The researcher did not minimize the responsibility of properly and securely storing data to protect the participants of the research study. The data was collected through an online questionnaire. The questionnaire was created on a password-protected website, and only the researcher and the third party had access to the information. Names were not collected on the questionnaire, so even the researcher did not know who participated in the study. Hard copies of participant responses were printed and stored in locked file cabinets.

Respecting others' intellectual property was another important ethical consideration. The researcher received permission from the developers of the survey and questionnaire for use in the study. Credit was given to the creators of the instruments used in the study, and a summary of the results will be shared with the developers per their request. The results of this study were reported honestly and with the intention to promote positive outcomes in educational settings (Shamoo & Resnik, 2009).

Summary

Chapter three outlined the research methods that were used to explore the relationship between teachers' perceived self-efficacy and their perceptions of principals' instructional leadership in PLCs for elementary teachers in urban Iowa school districts. The research design, participants, and setting were described in detail. Additionally, information about the data collection instruments and methods for collecting and analyzing data were provided. Finally, ethical considerations and precautions taken by the researcher were described.

Chapter 4: REPORT OF THE FINDINGS

This chapter contains the results obtained from the survey instruments and analyses of the data. Following a review of the research questions and a brief discussion of the demographic information of participants, a combination of descriptive and inferential statistics related to the research questions are presented. The results were analyzed and are supported by a brief narrative to answer the research questions.

Research Questions

Four fundamental research questions were proposed in chapter one to guide the study and focus the data collection and analysis process. These questions need to be reviewed in order to fully understand the findings of this study.

- (1) What are urban Iowan elementary teachers' perceptions of their sense of self-efficacy in one school district as measured on the Teacher Sense of Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001)?
- (2) What are urban Iowan elementary teachers' perceptions of their principal as an instructional leader in facilitating PLCs in one school district as measured by the Professional Learning Community Assessment 6 Revised (Olivier, Hipp, & Huffman, 2010)?
- (3) What is the relationship between elementary teachers' perceptions of principals' effectiveness as instructional leaders in PLCs and self-efficacy beliefs of elementary teachers in an urban Iowa school district?
- (4) What is the relationship between elementary teachers' perceptions of principals' effectiveness as instructional leaders in PLCs and the collective self-efficacy beliefs of elementary teachers in an urban Iowa school district?

The answers to questions one and two were used to then answer questions three and four. It was important to first examine teachers' perceptions of the two variables, sense of self-efficacy and principals' effectiveness as instructional leaders, before studying the relationship between the two. The fourth question was also examined by analyzing the collective efficacy of teachers at different schools and its relationship to elementary teachers' perceptions of principals' effectiveness as instructional leaders in PLCs.

Demographic Data of Participants

In order to better understand the characteristics of the participants surveyed, demographic information was collected. For this study, demographic information regarding grade level currently being taught (K-2, 3-5), years of experience (1-2, 3-5, 6-10, 11-20, 21 and greater), highest level of degree obtained (Bachelor's, Master's, Doctorate), age in years (21-25, 26-30, 31-40, 41-50, 51 and greater), and sex (male or female) was collected (Appendix F). A frequency analysis was conducted using the Statistical Package for the Social Sciences (SPSS) to analyze this information.

A total of 52 participants responded to the survey. The number of participants needed to achieve statistical significance based on the original 165 teachers who would have met eligibility requirements was 65. Twenty-three (44.2%) of the respondents taught kindergarten, first, or second grade at the time of the survey. Twenty-nine (55.8%) of the respondents taught third, fourth, or fifth grade at the time of the survey. Seven (13.5%) participants were in either their first or second year of teaching, five (9.6%) teachers had 3 to 5 years of experience, 13 (25%) had taught 6 to 10 years, 20 (38.5%) had 11 to 20 years of experience, and seven (13.5%) had 21 or more years of teaching experience at the time of the survey. There were 16 (30.8%) respondents who held Bachelor's degrees, while 36 (69.2%) had obtained Master's degrees. No

participants in this study reported earning a Doctorate. Five (9.6%) participants were between the ages of 21 and 25, 10 (19.2%) participants were 26 to 30 years of age, 18 (34.6%) were between the ages of 31 and 40, 11 (21.2%) were 41 to 50 years of age, and 8 (15.4%) were 51 years or more. There were 49 (94.2%) female participants and 3 (5.8%) male participants in this study of elementary teachers.

Table 1

Demographic Characteristics of Teachers

	n	%
Grade Currently Taught		
K-2	23	44.2
3-5	29	55.8
Years of Teaching Experiences		
1-2	7	13.5
3-5	5	9.6
6-10	13	25.0
11-20	20	38.5
21+	7	13.5
Highest Degree Earned		
Bachelor's Degree	16	30.8
Master's Degree	36	69.2
Doctorate	0	0
Age		
21-25	5	9.6
26-30	10	19.2
31-40	18	34.6
41-50	11	21.2
51+	8	15.4
Sex		
Female	49	94.2
Male	3	5.8

Note. Not all percentages sum to 100.0% due to rounding.

Findings

Question 1. To fully examine relationships between teachers' perceived sense of self-efficacy and teachers' perceptions of their principals as instructional leaders, the study first had to investigate teachers' perceptions of their sense of self-efficacy. Participants were given the long form of the Teacher Sense of Efficacy Scale, which consisted of 24 questions regarding teachers' beliefs about their ability to influence students. Sample items include:

- How much can you do to get through to the most difficult students?
- How much can you do to control disruptive behavior in the classroom?
- How much can you do to adjust your lessons to the proper level for individual students?

Participants were asked to rank their beliefs about their level of influence on a scale from one to nine, with one being "nothing" and nine being "a great deal." Descriptive statistics were used to examine teachers' overall perceived sense of self-efficacy, as well as their perceived sense of self-efficacy in each of the following areas: student engagement, instructional strategies, and classroom management. There were eight questions from each category of self-efficacy on the long form of the TSES. The mean, median, and mode of the items that load on each factor, as well as the overall efficacy scores, were computed. The descriptive statistics of the responses to the Teacher Sense of Efficacy Scale were summarized in Table 2.

Analysis of the descriptive statistics suggests the participants have a high sense of overall self-efficacy ($M = 7.3$, $SD = .84$, $n = 52$). The descriptor for the ranking of seven on the nine-point scale was "quite a bit," which suggests participants believe in their own ability to positively influence student outcomes within their classrooms. Based on the mean scores, teachers had the highest sense of self-efficacy in the area of instructional strategies, and there was also the smallest standard deviation in responses to those questions ($M = 7.5$, $SD = .78$, $n = 52$). This

indicates teachers had the greatest efficacy regarding their beliefs about instructional strategies, and their responses were most consistent in this domain. Teachers felt least confident in their ability to positively influence student engagement ($M = 7.1$, $SD = .98$, $n = 52$), but still believed they had “quite a bit” of influence in that domain.

Table 2

Descriptive Statistics of Teacher Sense of Efficacy Scale

	Mean	Median	Mode	SD
N	52	52	52	52
TSES (Overall)	7.3	7.4	7.4	.84
Engagement	7.1	7.2	7.6	.98
Instruction	7.5	7.5	7.8	.78
Management	7.4	7.5	7.3	1.0

Question 2. The next step in examining relationships between teachers’ perceived sense of self-efficacy and teachers’ perceptions of their principals as instructional leaders was to analyze descriptive statistics of teachers’ perceptions of their principals as instructional leaders. To answer this second question, participants were given the Professional Learning Communities Assessment – Revised, which consisted of 45 statements that teachers were asked to rate on a four-point scale. There were six domains on the instrument, and one sample item from each domain of the PLCA-R is provided below:

- The staff is consistently involved in discussion and making decisions about most school issues. (Shared and Supportive Leadership)

- A collaborative process exists for developing a shared sense of values among staff members. (Shared Values and Vision)
- The staff works together to seek knowledge, skills, and strategies and apply this new learning to their work. (Collective Learning and Application)
- Opportunities exist for staff to observe peers and offer encouragement. (Shared Personal Practice)
- A culture of trust and respect exists for taking risks. (Supportive Conditions ó Relationships)
- The school schedule promotes collective learning and shared practice. (Supportive Conditions ó Structures)

Participants were asked the extent to which they agreed with each of the 45 statements, with the descriptors transferred to numerical values, as outlined:

1 = Strongly Disagree

2 = Disagree

3 = Agree

4 = Strongly Agree

The descriptive statistics of the responses to the Professional Learning Community Assessment - Revised are summarized in Table 3.

When analyzing the results, the mean scores in all areas and for the survey as a whole were aligned most closely with agreeing with the statements. This indicates teachers mostly agree there is a sense of shared and supportive leadership in their schools ($M = 2.8$, $SD = .41$, $n = 52$), they have shared values and vision within their schools ($M = 2.9$, $SD = .49$, $n = 52$), and they have opportunities for both collective learning and application ($M = 3.0$, $SD = .44$, $n = 52$) and

shared personal practice ($M = 2.9$, $SD = .46$, $n = 52$). Finally, teachers mostly agree there are supportive conditions in place for relationships ($M = 2.9$, $SD = .52$, $n = 52$) and structures ($M = 2.8$, $SD = .42$, $n = 52$). Examples include recognizing and celebrating achievement regularly and providing time to collaborate with others in the school.

Table 3

Descriptive Statistics of Professional Learning Communities Assessment – Revised

	Mean	Median	Mode	SD
N	52	52	52	52
Overall	2.9	2.9	1.9*	.41
Shared and Supportive Leadership	2.8	2.8	3.0	.55
Shared Values and Vision	2.9	2.9	2.9	.49
Collective Learning and Application	3.0	3.0	3.0	.44
Shared Personal Practice	2.9	2.9	3.0	.46
Supportive Conditions ó Relationships	2.9	2.9	3.0	.52
Supportive Conditions - Structures	2.8	2.8	2.8	.42

*Multiple modes exist. The smallest value is shown.

Question 3. To answer the third research question in this study, the data from the first two questions were correlated and analyzed. First, the overall mean of each individual participant's responses for sense of self-efficacy and perceptions of their principals'ø

effectiveness as an instructional leader were examined for relationships. Pearson correlation coefficients were used to study how the two variables are related.

When each participant's mean of the TSES was compared as a whole to each participant's mean of the PLCA-R as a whole using the Pearson bivariate correlation coefficient test, no significant relationship was found ($r(50) = 0.249, p = 0.075$). The results of that test are summarized in Table 4. Based on this analysis of data, higher levels of teacher efficacy were not proven to be statistically associated with higher teacher perceptions of their principals as instructional leaders. Alternately, lower levels of teacher efficacy were also not proven to be statistically associated with lower teacher perceptions of their principals as instructional leaders. Although a statistically significant relationship did not exist, a positive and moderate relationship was found between the two variables.

Table 4

Relationship between Overall Teacher Sense of Self-Efficacy and Overall Perceptions of Principal as Instructional Leader

	Correlation	<i>p</i>
Overall TSES Mean and PLCA-R Mean	0.249	0.075

Next, each domain from one survey instrument was correlated with the mean score of the opposite survey instrument. For example, the mean score of the eight questions on the TSES related to student engagement was correlated with the overall mean score of the PLCA-R. The Pearson bivariate correlation coefficient test was conducted separately for each of the three domains of the TSES (student engagement, instructional strategies, and classroom management) to analyze relationships with the overall mean of the PLCA-R, shown in Figure 5. Also, the test

was conducted for each of the six domains of the PLCA-R (shared and supportive leadership, shared values and vision, collective learning and application, shared personal practice, supportive conditions ó relationships, and supportive conditions ó structures) to analyze relationships with the overall mean of the TSES, shown in Figure 6.

Figure 5: Overview of Pearson Correlation Coefficient Tests Conducted for PLCA-R

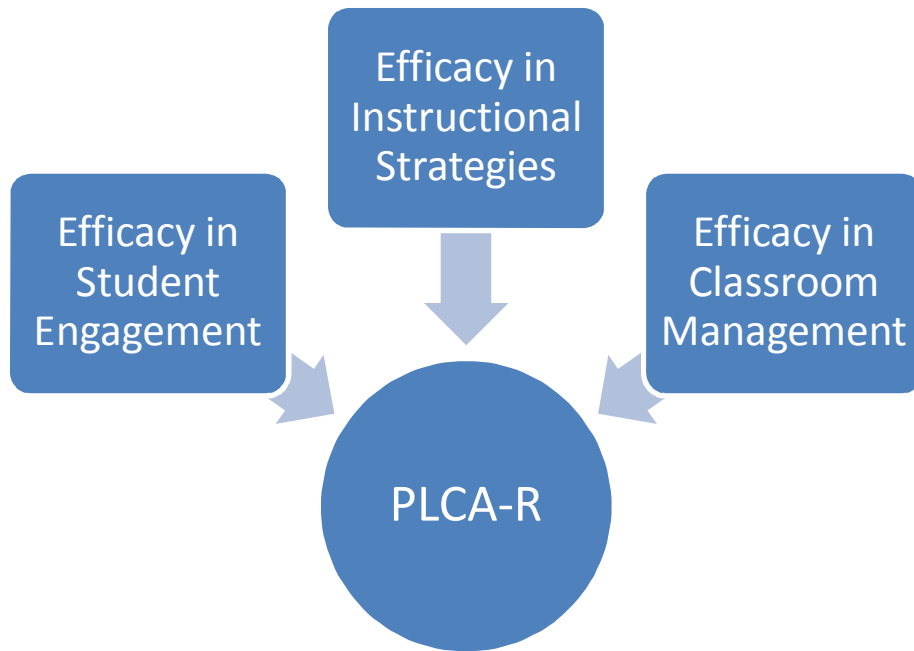


Figure 5: This figure, developed by the researcher, provides a graphic to represent which Pearson Correlation Coefficient tests were conducted to show relationships between domains of the TSES and the PLCA-R overall mean score.

Figure 6: Overview of Pearson Correlation Coefficient Tests Conducted for TSES

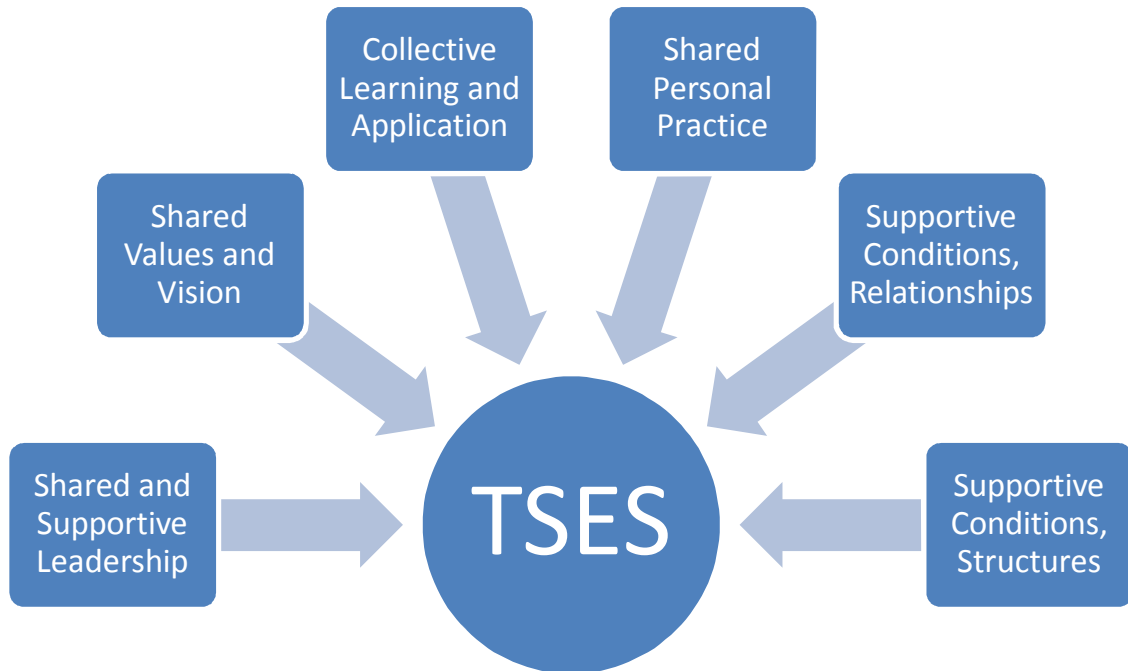


Figure 6: This figure, developed by the researcher, provides a graphic to represent which Pearson Correlation Coefficient tests were conducted to show relationships between domains of the PLCA-R and the TSES overall mean score.

When further examining each domain from one survey instrument and correlating it with the mean score of the opposite survey instrument, two positive relationships were discovered. There was evidence to conclude a statistically significant positive correlation between teachers' perceptions of their self-efficacy related to student engagement and their overall perceptions of their principals as instructional leaders ($r(50) = 0.298, p = 0.032$). These results are summarized in Table 5. According to the analysis in this study, higher levels of teacher self-efficacy in the area of student engagement were proven to be statistically associated with higher levels of teachers' perceptions of their principals as instructional leaders. Lower levels of teacher self-efficacy in the area of student engagement were proven to be statistically associated with lower levels of teachers' perceptions of their principals as instructional leaders.

Table 5

Relationship between Overall Perceptions of Principal as Instructional Leader and Teacher Efficacy in Student Engagement

	Correlation	<i>p</i>
Overall PLCA-R Mean and Student Engagement Efficacy Mean	0.298	0.032*

*Correlation is significant at the 0.05 level.

The results of the Pearson bivariate correlation coefficient test used to measure the relationship between teachers' overall sense of self-efficacy and teachers' perceptions of their principals as instructional leaders under the domain of Supportive Conditions ó Structures are summarized in Table 6. There was evidence to conclude a statistically significant positive relationship between teachers' sense of self-efficacy and teachers' beliefs in their principals' abilities to establish structures for supportive conditions within their schools ($r(50) = 0.356, p = 0.010$). Higher levels of teacher self-efficacy were proven to be statistically associated with higher beliefs related to supportive structures. For example, teachers with a higher sense of self-efficacy also reported stronger agreement that time was provided to facilitate collaborative work and communication systems were in place to promote a flow of information among stakeholders.

Table 6

Relationship between Overall Perceptions of Teacher Sense of Efficacy and Beliefs that Supportive Structures Exist

	Correlation	<i>p</i>
Overall TSES Mean and Supportive Conditions-Structure Mean	0.356	0.010**

**Correlation is significant at the 0.01 level.

After careful analysis of the correlations of all domains of one instrument related to the opposite instrument's overall mean, no other statistically significant relationships exist. The results of the Pearson bivariate correlation coefficient test are summarized in Table 7.

Table 7

Relationship between Overall Perceptions of TSES and Domains of PLCA-R, and Overall PLCA-R and TSES Domains

	Correlation	<i>p</i>
Overall TSES Mean and Relationship to PLCA-R Domains		
Shared Leadership	0.272	0.051
Shared Values	0.184	0.191
Collective Learning	0.195	0.166
Shared Personal Practice	0.027	0.847
Supportive Conditions ó Relationships	0.172	0.222
Supportive Conditions ó Structures	0.356	0.010**
Overall PLCA-R Mean and Relationship to TSES Domains		
Instruction	0.120	0.398
Engagement	0.298	0.032*
Management	0.233	0.096

*Correlation is significant at the 0.05 level.

**Correlation is significant at the 0.01 level.

It is important to note the relationship between teachers' overall perceived sense of efficacy and their perceptions of shared leadership was 0.001 point over the threshold for significance at the 0.05 level ($r(50) = 0.272, p = 0.051$). This suggests that although a significant relationship did not exist between these two variables, there was a stronger relationship between

teacher sense of self-efficacy and shared leadership than any domain other than supportive conditions ó structures. Also, according to this study, there was a weaker relationship between teachers' overall perceptions of their principals as instructional leaders in PLCs and teachers' sense of self-efficacy related to instruction ($r(50) = 0.120, p = 0.398$) than the other two domains of teacher efficacy, engagement ($r(50) = 0.298, p = 0.032$) and management ($r(50) = 0.233, p = 0.096$).

Question 4. To answer the fourth research question in this study, the relationship between the collective beliefs of teachers regarding self-efficacy at different schools were correlated with the beliefs of those same teachers regarding their principals' effectiveness as instructional leaders in PLCs. First, the mean scores of teachers' perceptions of self-efficacy were calculated to determine a mean efficacy score for each of the eight participating schools. This mean represents the teachers' collective self-efficacy beliefs for the school. Then the mean scores of the PLCA-R were calculated for each of the seven participating schools. Table 8 shows the mean scores of each instrument by school, as well as the number of participants from each of the seven schools. According to the analysis in this study, higher levels of teacher self-efficacy in the area of student engagement are proven to be statistically associated with higher levels of teachers' perceptions of their principals as instructional leaders.

Table 8

Mean Scores of TSES and PLCA-R by School

	N	Mean
School A		
TSES	8	7.48
PLCA-R	8	2.76
School B		
TSES	9	7.57
PLCA-R	9	3.08
School C		
TSES	7	7.44
PLCA-R	7	2.69
School D		
TSES	11	7.31
PLCA-R	11	2.98
School E		
TSES	4	7.37
PLCA-R	4	3.00
School F		
TSES	9	7.14
PLCA-R	9	2.94
School G		
TSES	4	6.74
PLCA-R	4	2.30

To study the relationship between the collective self-efficacy of teachers at a school to the same teachers' beliefs about their principal's effectiveness as an instructional leader, the mean scores of the TSES and PLCA-R by school were correlated using the Pearson bivariate correlation coefficient. The statistical test was conducted and analyzed using SPSS. When each school's mean of the TSES was compared as a whole to each school's mean of the PLCA-R as a

whole using the Pearson bivariate correlation coefficient test, no significant relationship was found ($r(5) = 0.721, p = 0.068$). The results of that test are summarized in Table 9. Based on this analysis of data, higher levels of collective teacher efficacy were not proven to be statistically associated with higher teacher perceptions of their principals as instructional leaders. Alternately, lower levels of collective teacher efficacy were also not proven to be statistically associated with lower teacher perceptions of their principals as instructional leaders. For the purposes of this study, correlation coefficients greater than 0.50 were considered strong relationships, so a strong relationship exists between the two variables, even though it was not considered a statistically significant relationship.

Table 9

Relationship between Mean TSES and Mean PLCA-R by School

	Correlation	<i>p</i>
TSES Mean and PLCA-R Mean by School	0.721	0.068

Summary

This chapter explained the results used to answer the four research questions that guided this study. Descriptive statistics were used to analyze teachers' perceptions of their sense of self-efficacy, and also teachers' perceptions of their principals as instructional leaders in PLCs. The descriptive statistics were then used to correlate data to analyze the relationship between the two variables. The correlations between teacher sense of self-efficacy and teachers' perceptions of their principals' effectiveness as instructional leaders in PLCs revealed two positive, significant relationships. Also, higher levels of teacher self-efficacy were proven to be statistically associated with higher beliefs related to supportive structures in schools.

CHAPTER 5: DISCUSSION AND SUMMARY

This chapter discusses the purpose of the study, interpretation of results, and relationships to the literature theoretical context. Implications for the field of education and future research are discussed in this chapter. Limitations and delimitations of the study, as well as suggestions for future research, are also examined.

Purpose of the Study

The purpose of this quantitative correlation survey study was to investigate the perceived effectiveness of school principals as instructional leaders in PLCs and the relationship to self-efficacy beliefs of teachers. The study specifically focused on elementary teachers' perceptions of their own sense of self-efficacy and their perceptions of their principals' leadership abilities within PLCs. Finally, the relationship between these perceptions was examined. Each of the four research questions were thoroughly explored through the participants' responses to survey instruments. As the statistical tests were conducted and resulting data analyzed, valuable implications for the field of education related to the four research questions were considered. The insight gained from the data analysis and findings formed the basis for the following discussion in chapter five.

Discussion of the Findings

Question 1: What are urban Iowan elementary teachers' perceptions of their sense of self-efficacy in one school district as measured on the Teacher Sense of Efficacy Scale (Tshcannen-Moran & Woolfolk Hoy, 2001)? To fully examine relationships between teachers' perceived sense of self-efficacy and teachers' perceptions of their principals as instructional leaders, the study first investigated teachers' perceptions of their sense of self-efficacy. When using the long form of the Teacher Sense of Efficacy Scale to measure teachers'

perceptions of their sense of self-efficacy, participants reported beliefs in their own ability to positively influence student outcomes within their classrooms. Participants' responses to the TSES indicated levels of self-efficacy within the range of previous research (Tschannen-Moran & Woolfolk Hoy, 2001), and even slightly elevated in two of the three areas. The data in Table 10 displays the mean scores for the overall sense of self-efficacy and perceived self-efficacy in each domain (student engagement, instructional strategies, and classroom management) for participants in this study compared to Tschannen-Moran and Woolfolk Hoy's (2001) results when developing the instrument.

Table 10

Comparison of Mean Scores on TSES from Current Study and Previous Study

	Current Study Mean Scores	Previous Study (Tschannen-Moran & Woolfolk Hoy, 2001) Mean Scores
Overall TSES	7.3	7.1
Student Engagement	7.1	7.3
Instructional Strategies	7.5	7.3
Classroom Management	7.4	6.7

This data indicates the teachers in the current study have a slightly higher sense of self-efficacy overall than the scores reported from Tschannen-Moran and Woolfolk Hoy's (2001) study conducted at Ohio State University for reliability purposes. The largest discrepancy in scores between the two studies is in the domain of classroom management, where elementary teachers in the Iowa schools had a mean score of 7.4, while teachers in the Ohio State University study had a mean score of 6.7. One possible contributing factor for the difference in scores could be

the participant sample in each study. In the current study, only presently practicing teachers, also known as in-service teachers, participated. In the study conducted by Tschannen-Moran and Woolfolk Hoy (2001), a combination of pre-service and in-service teachers was used in the sample. The pre-service teachers may have a lower sense of self-efficacy in the domain of classroom management due to lack of experience. As Bandura (1977a) suggests, one source of efficacy comes through personal accomplishments, where individuals are more apt to believe in their ability to produce desirable outcomes if they have had success in this area previously. Because pre-service teachers may not have experienced previous success in classroom management, simply by not having the experience or opportunity, their efficacy in that domain could be slightly lower than in-service teachers. This is one possible explanation for the difference in self-reported efficacy in the area of classroom management.

Another possible explanation for the difference in self-efficacy scores in the current study compared to Tschannen-Moran and Woolfolk Hoy's (2001) study could be the climate of the schools in which the participants teach. Previous studies have found when teachers felt supported by their administrators, they reported a higher sense of teacher self-efficacy (Brissie et al., 1988; Lee et al., 1991; Stipek, 2012). Again, lack of experience of pre-service teachers who participated in the Ohio State University study may have contributed to a lower sense of self-efficacy if administrator support had not been experienced. Higher perceived self-efficacy in teachers existed when teachers believed their administrators provided them opportunities to be involved in decision-making for the school, encouraged staff members, and recognized teachers for positive contributions (Stipek, 2012). The current study uncovered data from the PLCA-R that showed the teachers in this study mostly agreed their administrators provided opportunities for shared leadership, which is discussed in more detail later in this chapter. There is no way of

knowing whether the participants in the Ohio State University study had a similar sense of shared leadership and administrator support. Without that support, it is possible teachers in the Ohio State University study would have reported a lower sense of self-efficacy overall, and especially in the area related to classroom management. If the school climate does not provide opportunities for shared decision-making and encouragement of staff members, it would be difficult to feel success in ensuring clear expectations about student behavior and eliminating disruptions to learning in the classroom.

Participants in this study held the strongest beliefs in their ability to influence instructional strategies within their classrooms. For example, they believed in their ability to respond to difficult questions asked by their students, adjust lessons to the proper level for individual students, and gauge student comprehension of what they have taught. As Bandura (1977a) suggested, one key source of self-efficacy is personal accomplishments. If teachers had previous success with adjusting their lessons or monitoring student understanding of what was taught, their sense of efficacy would be raised. Because the statements related to instructional strategies on the TSES are solely dependent upon the teacher, and do not specifically mention a direct change in student behavior, beliefs, or motivation, it is not surprising teachers perceived their abilities to influence instructional strategies to be higher than the other domains. Also, shifts in the role of principal from manager to instructional leader have resulted in more time being spent in schools focusing on student achievement, academic success, and instructional strategies (Andrews et al., 1992; Hallinger, 2005). This could have contributed to a higher sense of self-efficacy in the area of instructional strategies. The professional development of teachers is largely focused on understanding the content standards they are expected to teach (Lee, 2005), so it is logical that teachers would report a higher sense of self-efficacy in the area of

instructional strategies. This would also suggest a need for broadening the focus of professional development, offering differentiated professional development to meet the needs of teachers in improving practice in all areas, not just instructional strategies.

The area where teachers felt they had the least ability to influence student outcomes through personal effort was in the area of student engagement. When asked the extent to which teachers believed they could influence factors such as motivating students, helping students value learning, and assisting families in helping their children do well in school, participants of this study were less efficacious than in the other two domains of self-efficacy. These statements are all dependent upon the participant's belief that he/she is able to specifically change or influence behavior, beliefs, or motivation of students and/or families. A contributing factor to lower scores in this domain are consistent with Stipek's (2012) findings that teachers had a higher sense of self-efficacy when parents felt confident in their own abilities to help children at home. When teachers perceive an external barrier is created by parents who lack the value of education, their sense of self-efficacy tends to be lower (Hauser-Cram et al., 2003). While teachers value parental support and involvement in their children's education (Hoover-Dempsey, et al., 1992), they do not necessarily feel as confident in their abilities to influence those behaviors, or related student behaviors that may result in lack of parental support, according to the results of this study.

The two questions under the domain of Student Engagement with the lowest scores were, "How much can you do to motivate students who show low interest in school work?" and "How much can you assist families in helping their children do well in school?" (Tschannen-Moran & Woolfolk Hoy, 2001). This suggests a need for increasing shared responsibility and accountability for student learning amongst all stakeholders. A school culture that values

students and parents as partners in education could increase teacher self-efficacy in the area of student engagement. Additionally, relevant and applicable professional development focused on student engagement strategies would be beneficial. This could take shape through the Team Learning Wheel, which was illustrated in Figure 2 (Senge et al., 1994). Teachers who have proven success in engaging students in learning could be observed as part of the professional learning community, and public reflection after the observation could assist in shaping shared meaning in strategies that are beneficial in enhancing student engagement. Once shared meaning is developed, the PLC could engage in joint planning, where student engagement strategies are intentionally planned throughout a series of lessons. Teachers would individually implement those plans in their classrooms, which would be the coordinated action portion of the Team Learning Wheel (Senge et al., 1994). Finally, the team would reconvene and publicly reflect on the strategies they used, and analyze data to support the effectiveness of the strategies. The principal would play a key role in facilitating structures that would allow for the observations and joint planning to occur, and would also be able to assist in collecting data on student engagement before and after the joint strategies are implemented in the classrooms. Based on the findings for question one, a professional development focus beyond instructional strategies and content is warranted.

Question 2: What are urban Iowan elementary teachers' perceptions of their principal as an instructional leader in one school district in facilitating PLCs as measured on the Professional Learning Community Assessment – Revised (Olivier et al., 2010)? The next step in examining relationships between teachers' perceived sense of self-efficacy and teachers' perceptions of their principals as instructional leaders was to determine teachers' perceptions of their principals as instructional leaders using the PLCA-R. The mean scores for

each domain of the PLCA-R ranged from 2.8 to 3.0. The numerical value of three was associated with the descriptor of "agree" on the instrument, which indicated participants mostly agreed with their principals' effectiveness as an instructional leader in each domain. This suggests overall, teachers believe their principals are able to facilitate shared and supportive leadership, shared values and vision, collective learning and application, and shared personal practice. Teachers also mostly agreed their principals were able to establish supportive conditions through relationships and structures within the school.

The two lowest mean scores of 2.8 were in the domains of Shared and Supportive Leadership and Supportive Conditions & Structures. Based on the nature of the statements under Shared and Supportive Leadership, some teachers do not agree their principals involve them in decision-making processes and shared responsibility for actions taken within the school. The statement under the domain of Shared and Supportive Leadership with the lowest overall mean score was "stakeholders assume shared responsibility and accountability for student learning without evidence of imposed power and authority" (Olivier et al., 2010). This implies teachers believe stakeholders would not be held accountable or responsible for student learning if not for leaders in positions of power. The term "stakeholders" was not defined for participants, so they were left to interpret the meaning based on their own background knowledge and previous experiences. This could mean teachers do not believe they have shared leadership themselves, or they may believe other stakeholders, such as parents, students, and community members, do not have shared leadership within their schools. This was consistent with previous research that suggests teachers have a higher sense of self-efficacy when parents felt confident in their own abilities to help children at home and were involved in their children's learning (Stipek, 2012). Based on the data for the aforementioned statement under the domain of Shared and Supportive

Leadership, it is essential for principals to understand the importance of shared leadership and consider how to involve all stakeholders in the education of students without imposing power.

The domain of Supportive Conditions ó Structures was the other low-scoring domain on the PLCA-R. Based on the statements under this domain, teachers did not feel they received adequate time, resources, or communication to effectively collaborate. The lowest scoring item under this domain was òtime is provided to facilitate collaborative workö (Olivier, et al., 2012). This is important because previous research has found when teachers were given job-embedded time to collaborate within a PLC, they felt empowered to increase capacity and make improvements to instructional quality and student outcomes (Choi Fung Tam, 2015). It would be important to gather more information from teachers about what would be considered adequate time for them to facilitate collaborative work. Further data collected from teachers and administrators could also help identify perceived barriers in allowing for time to collaborate so solutions could be proposed.

Another significant point of interest about this data was the highest mean score existed in the domain of Collective Learning and Application. Referencing Table 3 in Chapter 4 provides mean scores for each domain. The survey items under this domain are as follows:

- The staff works together to seek knowledge, skills, and strategies that apply this new learning to their work.
- Collegial relationships exist among staff that reflect commitment to school improvement efforts.
- The staff plans and works together to search for solutions to address diverse student needs.

- A variety of opportunities and structures exist for collective learning through open dialogue.
- The staff engages in dialogue that reflects a respect for diverse ideas that lead to continued inquiry.
- Professional development focuses on teaching and learning.
- School staff and stakeholders learn together and apply new knowledge to solve problems.
- School staff is committed to programs that enhance learning.

The data related to the domain of Collective Learning and Application is of interest due to the nature of these statements all focusing on professional development or continuous improvement efforts through collaborative learning and application. These findings are consistent with other research, in which teachers who participated in relevant and applicable PLCs felt a sense of membership and belonging that led to beliefs that social support increased commitment of teachers (Choi Fung Tam, 2015, p. 29). Owen (2015) also found teachers perceived their learning teams to be important in changing their practices and beliefs when they participated in activities focused on students with the support of their principals. This has important implications for the work of the principal, who needs to support professional learning communities through facilitation of activities and teacher learning opportunities that focus on students. Ensuring teachers are participating in relevant and applicable PLCs correlates with a higher likelihood that teachers will believe in their own abilities to produce desirable student outcomes.

Question 3: What is the relationship between elementary teachers' perceptions of principals' effectiveness as instructional leaders in PLCs and self-efficacy beliefs of elementary teachers in an urban Iowa school district? To answer the third research question

in this study, the data from the first two questions were correlated and analyzed. Two positive and significant relationships were found between the survey instruments. First, teachers who perceived their principals to be effective instructional leaders in PLCs as measured by the PLCA-R also reported a higher sense of self-efficacy in the area of Student Engagement as measured by the TSES. Additionally, teachers who reported a higher sense of overall self-efficacy on the TSES perceived their principals to be effective instructional leaders in PLCs under the domain of creating Supportive Conditions ó Structures as measured by the PLCA-R.

Referencing data from the first research question, the domain of Student Engagement was the area where teachers had the lowest perceptions of their self-efficacy in this study. While correlation studies do not show cause and effect relationships, this finding was still of interest to the researcher. Teachers who were more confident in their ability to help students think critically, foster student creativity, and get students to believe they can do better in their schoolwork were also teachers who perceived their principals to be more effective instructional leaders in PLCs. This could be, in part, due to the fact that participants with high self-efficacy in Student Engagement also perceived their principals to establish shared values and vision that focused on student learning beyond test scores and grades, and also led with shared leadership. Teachers who were able to make decisions about their PLC learning felt a sense of membership and belonging (Choi Fung Tam, 2015), which could explain why teachers who felt strongly about their principals' effectiveness in facilitating PLCs also had a higher sense of self-efficacy in the area of Student Engagement. Those teachers would have felt empowered to make instructional decisions based on data to support their students' needs (Choi Fung Tam, 2015; Linder et al., 2012), which would likely lead to a belief in one's ability to engage students in their learning.

Teachers who reported a high overall sense of self-efficacy also perceived their principals to be effective instructional leaders in the area of Supportive Conditions ó Structures. Two of the survey items under this domain were related to providing time to facilitate collaborative work and a schedule that promotes collective learning and shared practice. Not only do principals need to be thoughtful about scheduling time to promote collaboration, they also need to prioritize collaborative learning in their own schedules in order to facilitate the work of PLCs. Providing teachers time to meet with PLCs as part of their everyday professional work communicates a message that collaboration and sharing expertise are valued as part of the school culture (Wood, 2007). When teachers were given job-embedded time to collaborate within a PLC, they felt empowered to increase capacity and make improvements to instructional quality and student outcomes (Choi Fung Tam, 2015). It is the principal's responsibility to ensure a systematic approach and infrastructure for PLCs that leads to action that will improve learning outcomes in the classroom.

Question 4: What is the relationship between elementary teachers' perceptions of principals' effectiveness as instructional leaders in PLCs and the collective self-efficacy beliefs of elementary teachers in an urban Iowa school district? To answer the fourth research question in this study, the relationship between the collective beliefs of teachers regarding self-efficacy at different schools were correlated with the beliefs of those same teachers regarding their principals' effectiveness as instructional leaders in PLCs. Collective efficacy is a group's shared beliefs in their ability to successfully produce outcomes after planning and implementing a set of actions (Bandura, 1997). Due to the effect collective efficacy can have on an organization as a whole (Goddard et al., 2000), this was a topic worthy of further study. High levels of collective efficacy have been associated with the amount of

effort teachers will exert, the achievement of groups within a school, and the persistence of students and teachers (Goddard et al., 2000).

A significant relationship at the 0.05 level between the collective efficacy of teachers at school and their perceptions of their principals as instructional leaders in PLCs did not exist ($r(5) = 0.721, p = 0.068$). One reason for this could be due to the lower number of participants from each school, with as few as four participants and up to eleven participants responding from each school. This is discussed further in the limitations section of this chapter. Additionally, demographic information could further be analyzed to determine whether age, experience, or education levels were predictive of teachers' levels of self-efficacy. For the purposes of this study, correlation coefficients greater than 0.50 were considered strong relationships, so a strong relationship existed between the two variables, even though it was not considered a statistically significant relationship. This strong, positive relationship suggested when teachers at one school collectively reported a higher sense of efficacy, they also reported a higher belief in their principals' effectiveness in facilitating PLCs. This aligns with previous research that suggests when teachers felt they were being supported and developed by their principals as instructional leaders, they also reported a higher sense of collective efficacy (Calik et al., 2012). Further research on the topic of collective efficacy would be warranted to determine what specific facets of support from principals contributed to higher senses of collective efficacy.

In a previous study, when teachers felt they were being supported and developed by their principals as instructional leaders, they also reported a higher sense of collective efficacy (Calik et al., 2012). While a statistically significant relationship did not exist between variables based on the results of this study, a positive correlation was found between collective efficacy and beliefs about the principals' effectiveness as an instructional leader, and the p value was only

.018 greater than statistical significance. Further study related to how teachers feel they are supported and developed by their principals would be beneficial in better understanding this relationship, as discussed in the section of this chapter on future research. It would be valuable to understand specific supports and development teachers with a high sense of collective efficacy believe they receive from their principals in order to replicate that practice. Previous studies indicated teachers value opportunities to collaborate with peers (Bandura & Locke, 2003; Chong & Kong, 2012), so gathering more specific information about the structures and supports provided to facilitate productive collaboration could be meaningful in future research on collective efficacy.

Implications/Recommendations for Education

Implications for Teacher Supervision and Growth. The results of this study could have implications for the way teachers are supervised and provided growth and professional development opportunities by principals. Using the Teacher Sense of Efficacy Scale with the teaching staff in his or her school, a principal could better identify the perceived barriers teachers face when trying to influence positive student outcomes. Data collected from this instrument within a school could be used to develop school improvement plans and initiatives, and also influence individual growth or career development plans for teachers. Kent (2004) suggested specific needs of teachers should be identified and addressed through professional development in order to improve teacher quality and lead to an increase in student success. Using data collected from teachers' input to shape school improvement initiatives and professional development would make the learning more meaningful and applicable to teachers, which are two of the key assumptions of Knowles' (2005) theory of andragogy. Based on the data from this study, it would appear further development in the area of classroom management would be

needed in order for teachers to believe in their ability to maintain a purposeful learning environment with minimal distractions. Facilitating professional development on this topic, studying model examples of classroom management, and providing specific feedback and support to teachers in this area could increase their self-efficacy related to classroom management. Because teachers with a higher overall sense of self-efficacy perceived their principals to be effective in establishing these supportive conditions and structures, ensuring structures for collaboration, shared learning, and communication are in place is essential.

Implications for Principal Supervision and Growth. Likewise, principal supervision and growth could be altered based on the results of this study. The Professional Learning Community Assessment ó Revised questionnaire could be given to a teaching staff within a school at the beginning of the academic year to provide a focus for a principal's growth as an instructional leader. Identifying domains of perceived strengths and weaknesses would allow a principal's supervisor to target specific skills and strategies when helping to facilitate the professional development of the principal. Again, this would make the learning and professional growth of the principal more meaningful and applicable. The supervisor of principals could also establish learning communities for principals with similar needs for development, so they would have the opportunity to learn through peer collaboration, discussions, and observations. These are effective strategies to actively involve adult learners, rather than allowing them to take a passive role in their development (Saylor & Johnson, 2014). The data in this study would suggest principals need greater support in the areas of establishing shared and supportive leadership, as well as providing supportive conditions and structures within the school. Because of the aforementioned positive relationship between teachers' overall sense of self-efficacy and their perceptions of principals' abilities to establish supportive conditions and structures,

implications from this study would suggest further development in this area could possibly contribute to greater perceived self-efficacy in teachers.

Limitations and Delimitations

Limitations. Because this study focused on a specific sample of the population, an urban school district in Iowa, a limitation is that generalizations may not be made to the larger population. If a similar study was conducted in rural areas or larger urban areas outside the state of Iowa, results could drastically change. Also, despite using proportional sampling, participants were chosen on a voluntary basis, and not truly at random. This may have skewed the results because a group of teachers with similar characteristics may be more inclined to participate in a voluntary study. Finally, correlations can provide valuable information, but they do not suggest causation, so further research would be necessary to determine potential causes of increased teacher self-efficacy.

Delimitations. Teachers from rural districts were intentionally excluded from this study in an effort to generalize data to urban Iowa school districts. This population was of particular interest to the researcher as those were the conditions in which the researcher worked at the time of the study. Qualitative research methods, such as observations and interviews, were not used in this study. Quantifiable data provided a concrete measure for determining relationships among variables, which was the purpose of this study. Although additional information could be gleaned from conducting interviews and themes could be identified, that was not the aim of this research.

Future Research

The quantitative data gathered and analyzed for this study was beneficial in understanding relationships between teachers' sense of self-efficacy and their perceptions of their principals' effectiveness as instructional leaders in PLCs. In future research, it would be

valuable to conduct a mixed methods research study that would use the quantifiable data collected from these survey instruments in conjunction with qualitative data collected through interviews of the participants. Many follow-up questions could be asked of participants to more fully understand their perceptions and beliefs related to self-efficacy and their principals' effectiveness as instructional leaders in PLCs. Having further clarity around teachers' beliefs could have further implications for teacher and principal growth and development. It would be beneficial for principals to have a deeper understanding of the supports and professional development teachers with a high sense of self-efficacy feel they receive. This would provide principals and their supervisors with direction for principal professional growth, so all principals would be working toward improved support and development for teachers that is correlated with high teacher efficacy. Principals would then use that information to shape professional development plans and organizational structures for professional learning of teachers.

To further study collective efficacy, it is recommended to select a different tool that focuses specifically on collective efficacy, rather than a self-efficacy tool that can then be used to analyze shared efficacy beliefs of a group of teachers. The tool used for this study was effective in measuring a group's shared beliefs in their ability to successfully produce outcomes, as defined by Bandura (1997). It lacked in specifically addressing teachers' beliefs about their colleagues' collective ability to produce those desirable outcomes, so the use of another tool is recommended.

Additionally, future research focusing on this same topic in other regions would be beneficial. Results of this study could be largely influenced by the supports provided as determined by state and local regulations, so results could vary greatly from state-to-state and also district-to-district. Whether participants teach in rural, urban, or suburban areas may also

influence their responses to these survey instruments, so further study exploring different areas based on size and population could also be meaningful.

Summary

The aim of this study was to investigate the perceived effectiveness of school principals as instructional leaders in PLCs and the relationship to self-efficacy beliefs of teachers. Through the careful design and execution of this study, valuable insight was gained regarding the relationship between these two variables. The first two research questions confirmed what was already known, but overall the study added to existing knowledge of teachers' sense of self-efficacy and principals' effectiveness as instructional leaders through further exploration of the relationships. Because we know students benefit from teachers with a higher sense of self-efficacy in many respects (Bandura & Locke, 2003; Guo et al., 2012; Kennedy & Smith, 2013; Pas et al., 2012), it is imperative that researchers and educators continue to study this concept.

References

- Andrews, R. L., Basom, M. R., & Basom, M. (1991). Instructional leadership: Supervision that makes a difference. *Theory Into Practice, 30*(2), 97-100.
- Attard, K. (2012). Public reflection within learning communities: An incessant type of professional development. *European Journal of Teacher Education, 35*(2), 199-211.
- Bandura, A. (1977a). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191-215.
- Bandura, A. (1977b). Social learning theory.
Retrieved from
http://www.esludwig.com/uploads/2/6/1/0/26105457/bandura_sociallearningtheory.pdf
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: W. H. Freeman and Company.
- Bandura, A., & Adams, N. E. (1977). Analysis of self-efficacy theory of behavioral change. *Cognitive Therapy and Research, 1*(4), 287-310.
- Bandura, A., & Locke, E. A. (2003). Negative self-efficacy and goal effects revisited. *Journal of Applied Psychology, 88*(1), 87-99.
- Battersby, S. L., & Verdi, B. (2015). The culture of professional learning communities and connections to improve teacher efficacy and support student learning. *Arts Education Policy Review, 116*(1), 22-29.
doi: 10.1080/10632913.2015.970096

- Brissie, J. S., Hoover-Dempsey, K. V., & Bassler, O. C. (1988). Individual, situational contributors to teacher burnout. *The Journal of Educational Research*, 82(2), 106-112.
- Brufee, K. A. (1999). *Collaborative learning: Higher education, interdependence, and the authority of knowledge*. Baltimore, MD: The John Hopkins University Press.
- Calik, T., Sezgin, F., Kavgaci, H., & Kilinc, A. C. (2012). Examination of relationships between instructional leadership of school principals and self-efficacy of teachers and collective efficacy. *Educational Sciences: Theory & Practice*, 12 (4), 2498 ó 2504.
- Cayci, B. (2011). The relationship between the elementary teacher candidates' teacher efficacy and their attitudes toward the profession of teaching. *Education*, 132 (2), 402-418.
- Choi Fung Tam, A. (2015). The role of a professional learning community in teacher change: A perspective from beliefs and practices. *Teacher and Teaching: Theory and Practice*, 21(1), 22-43.
doi: 10.1080/13540602.2014.928122
- Chong, W. H., Klassen, R. M., Huan, V. S., Wong, I., & Kates, A. D. (2010). The relationships among school types, teacher efficacy beliefs, and academic climate: Perspective from Asian middle schools. *The Journal of Educational Research*, 103 (3), 183-190.
doi: 10.1080/00220670903382954
- Chong, W. H., & Kong, C. A. (2012). Teacher collaborative learning and teacher self-efficacy: The case of lesson study. *The Journal of Experimental Education*, 80 (3), 263-283.
doi: 10.1080/00220973.2011.59685
- Creswell, J. W. (2002). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle River, NJ: Pearson Education, Inc.

- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed-methods approaches*. Los Angeles, CA: Sage.
- Dougherty Stahl, K. A. (2015). Using professional learning communities to bolster comprehension instruction. *The Reading Teacher*, 68(5), 327-333.
- DuFour, R. (2004). What is a professional learning community? *Educational Leadership*, 61(8), 6-11.
- DuFour, R., DuFour, R., Eaker, R., & Many, T. (2010). *Learning by doing: A handbook for professional communities at work*. Bloomington, IN: Solution Tree Press.
- Fuller, B., Wood, K., Rapoport, T., & Dornbusch, S. (1982). The organizational context of individual efficacy. *Review of Educational Research*, 52 (1), 7630.
- Goddard, R. D., Hoy, W. K., & Woolfolk Hoy, A. (2000). Collective teacher efficacy: Its meaning, measure, and impact on student achievement. *American Educational Research Journal*, 37(2), 479-507.
- Graczewski, C., Knudson, J., & Holtzman, D. J. (2009). Instructional leadership in practice: What does it look like, and what influence does it have? *Journal of Education for Students Placed at Risk*, 14, 72-96.
doi: 10.1080/10824660802715460
- Guo, Y., Connor, C. M., Yang, Y., Roehrig, A. D., & Morrison, F. J. (2012). The effects of teacher qualification, teacher self-efficacy, and classroom practices on fifth graders' literacy outcomes. *The Elementary School Journal*, 113 (1), 3-24.
- Hallinger, P. (2005). Instructional leadership and the school principal: A passing fancy that refuses to fade away. *Leadership and Policy in Schools*, 4, 1-20.
doi: 10.1080/15700760500244793

- Hauser-Cram, P., Sirin, S. R., & Stipek, D. (2003). When teachers' and parents' values differ: Teachers' ratings of academic competence in children from low-income families. *Journal of Educational Psychology, 95*(4), 813-820.
- Holzberger, D., Philipp, A., & Kunter, M. (2013). How teachers' self-efficacy is related to instructional quality: A longitudinal analysis. *Journal of Educational Psychology, 105* (3), 774-786.
doi: 10.1037/a0032198
- Hoover-Dempsey, K. V., Bassler, O. C., & Brissie, J. S. (1992). Explorations in parent-school relations. *Journal of Educational Research, 85*(5), 287-294.
- Iowa Board of Educational Examiners. (2017). *Requirements for licenses*. Retrieved from <http://www.iowa.gov/boee/require.html>
- Jones, P., West, E., & Stevens, D. (2006). Nurturing moments of transformation in teachers: comparative perspectives on the challenges of professional development. *British Journal of Special Education, 33*(2), 82-90.
- Kennedy, S. Y., & Smith, J. B. (2013). The relationship between school collective reflective practice and teacher physiological efficacy sources. *Teaching and Teacher Education, 29*, 132-143.
- Kent, A. M. (2004). Improving teacher quality through professional development. *Education, 124*(3), 427-435.
- Klassen, R. M., & Chiu, M. M. (2010). Effects on teachers' self-efficacy on job satisfaction: Teacher gender, years of experience, and job stress. *Journal of Educational Psychology, 102* (3), 741-756.

Knowles, M. S. (1984). *The adult learner: A neglected species*. (3rd Ed.). Houston, TX: Gulf Publishing.

Knowles, M. S. (1988). *The modern practice of adult education: From pedagogy to andragogy*. Englewood Cliffs, NJ: Cambridge Book Co.

Knowles, M. S., Holton III, E. F., & Swanson, R. A. (2005). *The adult learner: The definitive classic in adult education and human resource development* (6th ed.). Burlington, MA: Elsevier, Butterworth, Heinemann

Lee, H. J. (2005). Developing a professional development program model based on teachers' needs. *The Professional Educator*, 27(1), 39-49.

Lee, V. E., Dedrick, R. F., & Smith, J. B. (1991). The effect of the social organization of schools on teachers' efficacy and satisfaction. *Sociology of Education*, 64, 190-208.

Leedy, P. D., & Ormrod, J. E. (2010). *Practical research: Planning and design* (9th ed.). Upper Saddle River, NJ: Merrill.

Linder, R. A., Post, G., & Calabrese, K. (2012). Professional learning communities: Practices for successful implementation. *Delta Kappa Gamma Bulletin*, 78(3), 13-22.

Mombourquette, C. P., & Bedard, G. J. (2014). Principals' perspectives on the most helpful district leadership practices in supporting school-based leadership for learning. *International Studies in Educational Administration*, 42(1), 61-73.

Olivier, D. F., Hipp, K. K., & Huffman, J. B. (2010). Assessing and analyzing schools. In K. K. Hipp & J. B. Huffman (Eds.). *Demystifying professional learning communities: School leadership at its Best*. Lanham, MD: Rowman & Littlefield.

- Owen, S. M. (2015). Teacher professional learning communities in innovative contexts: "Ah ha" moments, "passion" and "making a difference" for student learning. *Professional Development in Education, 41*(1), 57-74.
doi: 10.1080/19415257.2013.869504
- Pas, E., Bradshaw, C., & Hershfeldt, P. (2012). Teacher- and school-level predictors of teacher efficacy and burnout: Identifying potential areas for support. *Journal of School Psychology, 50*(1), 129-145.
- Quick, H. E., Holtzman, D. J., & Chaney, K. R. (2009). Professional development and instructional practice: Conceptions and evidence of effectiveness. *Journal of Education for Students Placed at Risk, 14*, 45-71.
- Sahin, S. (2011). The relationship between instructional leadership style and school culture. *Educational Sciences: Theory and Practice, 11*(4), 1920-1927.
- Saylor, L. L., & Johnson, C. C. (2014). The role of reflection in elementary mathematics and science teachers' training and development: A meta-synthesis. *School Science and Mathematics, 114*(1), 30-39.
- Senge, P. M., Kleiner, A., Roberts, C., Ross, R. B., & Smith, B. J. (1994). *The fifth discipline fieldbook: Strategies and tools for building a learning organization*. New York, NY: Currency, Doubleday.
- Shamoo, A. E., & Resnik, D. B. (2009). *Responsible conduct of research* (2nd ed.). New York, NY: Oxford University Press, Inc.
- Stipek, D. (2012). Effects of student characteristics and perceived administrative and parental support on teacher self-efficacy. *The Elementary School Journal, 112* (4), 590-606.
doi: 10.1086/664489

Stoll, L., Bolam, R., McMahon, A., Wallace, M., & Thomas, S. (2006). Professional learning communities: A review of the literature. *Journal of Educational Change*, 7, 221-258.

doi: 10.1007/s10833-006-0001-8

Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education*, 17, 783-805.

Urban Education Network of Iowa. (2006). *A few facts*. Retrieved from

<http://www.uen-ia.org/fewfacts.htm>

Urdu, T. C. (2010). *Statistics in plain English* (3rd ed.). New York, NY: Routledge.

Williams, D. J. (2013). Urban education and professional learning communities. *Delta Kappa Gamma Bulletin*, 79(2), 31-39.

Wood, D. (2007). Teachers' learning communities: Catalyst for change or a new infrastructure for the status quo? *Teachers College Record*, 109(3), 669-739.

Appendix A

Change of Protocol Request Form

Change of Protocol/Extension Request Form

CHANGE OF PROTOCOL:

Investigators may request approval to make changes (amendments) in various aspects of a project. All changes must be approved by the IRB prior to implementation. Amendments include: changes in experimental design, insertion of new information, correction of errors in text, change in primary investigator, change in study duration, change in numbers of subjects, or number of locations (site), slight changes in population sample composition. A written request must be submitted. Upon completion of review (generally within 1 week of the submission), an approval notification will be sent to the primary investigator.

Date Change of Protocol Request Form is being submitted: 9/12/16

IRB Number: **CSM 1603**

Primary Investigator: Tracy Mathews
 Primary investigator's phone number: (712)360-0334
 Primary investigator's email address: tmathews@cbcsd.org

Advisor's name (if applicable): Dr. Vicky Morgan
 Department: Teaching and Learning
 Degree being pursued (if applicable): Doctorate of Education

Title of Research Proposal: *The Relationship Between Elementary Teachers' Perceived Self-Efficacy and Principals' Facilitation of Professional Learning Communities.*

Proposed Changes: The original data collection protocol for this study indicated a survey would be sent out via email through a third party one time. I am requesting to have the survey sent a second time.

Rationale for Proposed Changes: Currently, I do not have enough participants for my study. I am requesting to have the survey sent a second time in hopes of gaining enough participants to complete my data collection.

Do these changes affect either the risks or the benefits of this study? No

Appendix B

Teacher Sense of Efficacy Scale (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 C

Permission to Use Teacher Sense of Efficacy Scale



William & Mary
School of Education

MEGAN TSCHANNEN-MORAN, PhD
PROFESSOR OF EDUCATIONAL LEADERSHIP

November 6, 2015

Tracy,

You have my permission to use the Teacher Sense of Efficacy Scale (formerly called the Ohio State Teacher Sense of Efficacy Scale), which I developed with Anita Woolfolk Hoy, in your research. You can find a copy of the measure and scoring directions on my web site at <http://wmpeople.wm.edu/site/page/mxtsch>. Please use the following as the proper citation:

Tschannen-Moran, M & Hoy, A. W. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education*, 17, 783-805.

I will also attach directions you can follow to access my password protected web site, where you can find the supporting references for this measure as well as other articles I have written on this and related topics.

I would love to receive a brief summary of your results.

All the best,

Megan Tschannen-Moran
The College of William and Mary
School of Education

Appendix D

Professional Learning Community Assessment Questionnaire - Revised

Directions:

This questionnaire assesses your perceptions about your principal, staff, and stakeholders based on the five dimensions of a professional learning community (PLC) and related attributes. There are no right or wrong responses. This questionnaire contains a number of statements about practices that occur in some schools. Read each statement and then use the scale below to select the scale point that best reflects your personal degree of agreement with the statement. Shade the appropriate oval provided to the right of each statement. Be certain to select only one response for each statement.

Key Terms:

- Principal = Principal, not associate or assistant principal
- Staff = All adult staff directly associated with curriculum, instruction, and assessment of students
- Stakeholders = Parents and community members

- Scale:**
- 1 = Strongly Disagree (SD)
 - 2 = Disagree (D)
 - 3 = Agree (A)
 - 4 = Strongly Agree (SA)

Shared and Supportive Leadership				
	SD	D	A	SA
1. The staff is consistently involved in discussion and making decisions about most school issues	○	○	○	○
2. The principal incorporates advice from staff to make decisions.	○	○	○	○
3. The staff has access to key information.	○	○	○	○
4. The principal is proactive and addresses areas where support is needed.	○	○	○	○
5. Opportunities are provided for staff to initiate change.	○	○	○	○
6. The principal shares responsibility and rewards for innovative actions.	○	○	○	○
7. The principal participates democratically with staff sharing power and authority.	○	○	○	○
8. Leadership is promoted and nurtured among staff.	○	○	○	○
9. Decision making takes place through committees and communication across grade and subject areas.	○	○	○	○
10. Stakeholders assume shared responsibility and accountability for student learning without evidence of imposed power and authority	○	○	○	○

Continued on next page ->

Shared Values and Vision				
	SD	D	A	SA
11. A collaborative process exists for developing a shared sense of values among staff.	O	O	O	O
12. Shared values support norms of behavior that guide decisions about teaching and learning.	O	O	O	O
13. The staff shares vision for school improvements that have an undeviating focus on student learning.	O	O	O	O
14. Decisions are made in alignment with the school's values and vision.	O	O	O	O
15. A collaborative process exists for developing a shared vision among staff.	O	O	O	O
16. School goals focus on student learning beyond test scores and grades.	O	O	O	O
17. Policies and programs are aligned to the school's vision.	O	O	O	O
18. Stakeholders are actively involved in creating high expectations that serve to increase student achievement.	O	O	O	O

Collective Learning and Application				
	SD	D	A	SA
19. The staff works together to seek knowledge, skills, and strategies and apply this new learning to their work.	O	O	O	O
20. Collegial relationships exist among staff that reflect commitment to school improvement efforts.	O	O	O	O
21. The staff plans and works together to search for solutions to address diverse student needs.	O	O	O	O
22. A variety of opportunities and structures exist for collective learning through open dialogue.	O	O	O	O
23. The staff engages in dialogue that reflects a respect for diverse ideas that lead to continued inquiry.	O	O	O	O
24. Professional development focuses on teaching and learning.	O	O	O	O
25. School staff and stakeholders learn together and apply new knowledge to solve problems.	O	O	O	O
26. School staff is committed to programs that enhance learning.	O	O	O	O

Continued on next page ->

Shared Personal Practice				
	SD	D	A	SA
27. Opportunities exist for staff to observe peers and offer encouragement.	O	O	O	O
28. The staff provides feedback to peers related to instructional practices.	O	O	O	O
29. The staff informally shares ideas and suggestions for improving student learning.	O	O	O	O
30. The staff collaboratively reviews student work to share and improve instructional practices.	O	O	O	O
31. Opportunities exist for coaching and mentoring.	O	O	O	O
32. Individuals and teams have the opportunity to apply learning and share the results of their practices.	O	O	O	O

Supportive Conditions – Relationships				
	SD	D	A	SA
33. Caring relationships exist among staff and students that are built on trust and respect.	O	O	O	O
34. A culture of trust and respect exists for taking risks.	O	O	O	O
35. Outstanding achievement is recognized and celebrated regularly in our school.	O	O	O	O
36. School staff and stakeholders exhibit a sustained and unified effort to embed change into the culture of the school.	O	O	O	O

Supportive Conditions – Structures				
	SD	D	A	SA
37. Time is provided to facilitate collaborative work.	O	O	O	O
38. The school schedule promotes collective learning and shared practice.	O	O	O	O
39. Fiscal resources are available for professional development.	O	O	O	O
40. Appropriate technology and instructional materials are available to staff.	O	O	O	O
41. Resource people provide expertise and support for continuous learning.	O	O	O	O
42. The school facility is clean, attractive, and inviting.	O	O	O	O
43. The proximity of grade level and department personnel allows for ease in collaborating with colleagues.	O	O	O	O
44. Communication systems promote a flow of information among staff.	O	O	O	O
45. Communication systems promote a flow of information across the entire school community, including central office personnel, parents, and community members.	O	O	O	O

Appendix E

Permission to Use Professional Learning Community Assessment Questionnaire



*Department of Educational Foundations
and Leadership
P.O. Box 43091
Lafayette, LA 70504-3091*

December 2, 2015

Tracy Mathews
262 Euclid Ave.
Council Bluffs, IA 51503

Dear Ms. Mathews:

This correspondence is to grant permission to utilize the *Professional Learning Community Assessment-Revised* (PLCA-R) as your instrument for data collection for your doctoral study through the College of Saint Mary, Omaha, NE. I believe your research examining the *relationship between elementary teachers' perceptions of their principals in facilitating the professional learning community process and teachers' perceived sense of self-efficacy* will contribute to the PLC literature, as well as inform research related to teacher's sense of self-efficacy. I am pleased that you are interested in using the PLCA-R-R measure in your research.

Although online administration of the PLCA-R-R is usually only allowed through our online host, SEDL in Austin, TX, in order to accommodate the need to collect data from two separate instruments, permission is being granted for online administration of the PLCA-R-R through an alternate source. This exception is allowed only for administration within this specific dissertation research.

While this letter provides permission to use the measure in your study, authorship of the measure will remain as Olivier, Hipp, and Huffman (exact citation on the following page). This permission does not allow renaming the measure or claiming authorship.

Upon completion of your study, I would be interested in learning about your entire study and would welcome the opportunity to receive an electronic version of your completed dissertation research.

Thank you for your interest in our research and measure for assessing professional learning community attributes within schools. Should you require any additional information, please feel free to contact me.

Sincerely,

Dianne F. Olivier

Dianne F. Olivier, Ph. D.
Associate Professor/Coordinator of the Doctoral Program
Joan D. and Alexander S. Haig/BORSF Professor
Department of Educational Foundations and Leadership
College of Education
University of Louisiana at Lafayette
P.O. Box 43091
Lafayette, LA 70504-3091
(337) 482-6408 (Office) dolivier@louisiana.edu

Reference Citation for Professional Learning Community Assessment-Revised measure:

Source: Olivier, D. F., Hipp, K. K., & Huffman, J. B. (2010). Assessing and analyzing schools. In K. K. Hipp & J. B. Huffman (Eds.). *Demystifying professional learning communities: School leadership at its Best*. Lanham, MD: Rowman & Littlefield.

Appendix F

Demographic Information

1 → Where are you currently employed?*

2 → What grade do you currently teach?*

A K-2 B 3-5

3 → How many years (including this one) have you been a teacher?*

A 1-2 B 3-5 C 6-10 D 11-20 E 21+

4 → What is your highest level of degree obtained?*

A Bachelors B Masters C Doctorate

5 → What is your current age?*

A 21-25 B 26-30 C 31-40 D 41-50 E 51+

6 → What is your sex?*

A Male B Female

Appendix G

Request for Institution Permission



Dear [official title and proper name of school district Superintendent]:

I am a doctoral student at College of St. Mary in Omaha, NE currently pursuing my Ed.D. with an emphasis in Educational Leadership. I am also an elementary administrator in a public school district. I am currently working on a research study entitled: "The Relationship between Elementary Teachers' Perceived Self-Efficacy and Principals' Roles in PLCs." The purpose of this descriptive survey study is to investigate the role of school principals as instructional leaders in PLCs and the relationship to self-efficacy beliefs of teachers. I believe the results of this study will provide educators and administrators with information that could lead to potential shifts in professional development and leadership that are correlated with teacher self-efficacy.

I am interested in recruiting elementary classroom teachers working in your school district for participation in this study. I would like to survey all elementary classroom teachers who participate in PLCs at their consent and convenience. The survey will be sent to school principals via email, and they will be asked to send the survey to their classroom teachers. I offer complete anonymity for the participants, principals, and educational institution contributing to the proposed research. If you are able to assist, I will provide you proof of approval from the Institutional Review Board at the College of Saint Mary once received.

Please email me at tmathews9993@csm.edu or call me either at my office (712)545-3566 or cell phone number (712)360-0334 to let me know if you are able to approve your district's participation in this study and to clarify any questions or concerns.

Sincerely,

Tracy Mathews
Primary Researcher
tmathews9993@csm.edu
(712)360-0334

Dr. Jennifer Rose-Woodward
Research Committee Chair Person
jrose-woodward@csm.edu

Appendix H

Request for Principal Permission



Dear [official title and proper name of school Principal]:

I am the point of contact for a doctoral student at College of Saint Mary in Omaha, NE currently pursuing her Ed.D. with an emphasis in Educational Leadership. She is also an elementary administrator in a public school district. She is currently working on a research study entitled: "The Relationship between Elementary Teachers' Perceived Self-Efficacy and Principals' Facilitation in PLCs." The purpose of this descriptive survey study is to investigate the role of school principals as instructional leaders in PLCs and the relationship to self-efficacy beliefs of teachers. It is the belief of the researcher that the results of this study will provide educators and administrators with information that could lead to potential shifts in professional development and leadership that are correlated with teacher self-efficacy.

The researcher is interested in recruiting elementary classroom teachers working in your school for participation in this study. She would like to survey all elementary classroom teachers who participate in PLCs at their consent and convenience. The researcher offers complete anonymity for the participants, principals, and educational institution contributing to the proposed research. Although participants are asked to provide the name of their school in the data collection process, the school names will be coded and remain confidential. If you are able to assist, proof of approval from the Institutional Review Board at the College of Saint Mary will be provided, along with your superintendent's approval to conduct research within your district.

Please respond to this email at dfringer@cbcsd.org to let me know if you are able to assist in this study and to clarify any questions or concerns.

Sincerely,

David Fringer
Point of Contact for Primary Researcher
dfringer@cbcsd.org

Jennifer Rose-Woodward
Research Committee Chair Person
jrose-woodward@csm.edu

Appendix I

Participant Online Informed Consent



THE RELATIONSHIP BETWEEN ELEMENTARY TEACHERS' PERCEIVED SELF-EFFICACY AND PRINCIPALS' FACILITATION OF PROFESSIONAL LEARNING COMMUNITIES

IRB # CSM 1603

Dear Elementary Classroom Teacher,

You are invited to take part in a research study because you are an elementary classroom teacher who participates in Professional Learning Communities along with your school principal. The purpose of this study is to help the researcher measure relationships between your beliefs about your impact as a teacher and your school principal's effectiveness in facilitating PLCs. This research study is being conducted as part of the requirements of my doctoral program at College of Saint Mary.

You may receive no direct benefit from participating in this study, but the information gained will be helpful in providing educators and administrators with information that could lead to potential shifts in professional development and leadership that are correlated with teacher self-efficacy.

Should you decide to participate, you are being asked to complete the following online survey which should take approximately 15 minutes to complete. Your participation is strictly voluntary. Furthermore, your response or decision not to respond will not affect your relationship with College of Saint Mary or any other entity. Please note that your responses will be used for research purposes only and will be strictly confidential. There will be no connection to you specifically in the results or in future publication of the results. Your school name will be coded before I receive the data, so that will also be anonymous to me and will not appear in publication. Coding the school names will also protect the anonymity of the school principals. No one at College of Saint Mary will ever associate your individual responses with your name or email address. The information from this study may be published in journals and presented at professional meetings.

Your completion and submission of the questionnaire indicate your consent to participate in the study. You may withdraw at any time by exiting the survey. This study does not cost the participant in any way, except the time spent completing the survey. There is no compensation

or known risk associated with participation. Please read *The Rights of Research Participants* below. If you have questions about your rights as a research participant, you may contact the College of Saint Mary Institutional Review Board, 7000 Mercy Road, Omaha, NE 68144 (402-399-2400).

Thank you sincerely for participating in this important research study. If you have comments, problems or questions about the survey, please contact the researcher.

If you are 19 years of age or older and agree to the above, please click START SURVEY.

Sincerely,

Tracy Mathews
Primary Researcher
tmathews9993@csm.edu
(712)360-0334

Dr. Jennifer Rose-Woodward
Research Committee Chair Person
jrose-woodward@csm.edu

Appendix J

The Rights of Research Participants



THE RIGHTS OF RESEARCH PARTICIPANTS*

AS A RESEARCH PARTICIPANT AT COLLEGE OF SAINT MARY YOU HAVE THE RIGHT:

1. TO BE TOLD EVERYTHING YOU NEED TO KNOW ABOUT THE RESEARCH BEFORE YOU ARE ASKED TO DECIDE WHETHER OR NOT TO TAKE PART IN THE RESEARCH STUDY. The research will be explained to you in a way that assures you understand enough to decide whether or not to take part.
2. TO FREELY DECIDE WHETHER OR NOT TO TAKE PART IN THE RESEARCH.
3. TO DECIDE NOT TO BE IN THE RESEARCH, OR TO STOP PARTICIPATING IN THE RESEARCH AT ANY TIME. This will not affect your relationship with the investigator or College of Saint Mary.
4. TO ASK QUESTIONS ABOUT THE RESEARCH AT ANY TIME. The investigator will answer your questions honestly and completely.
5. TO KNOW THAT YOUR SAFETY AND WELFARE WILL ALWAYS COME FIRST. The investigator will display the highest possible degree of skill and care throughout this research. Any risks or discomforts will be minimized as much as possible.
6. TO PRIVACY AND CONFIDENTIALITY. The investigator will treat information about you carefully and will respect your privacy.
7. TO KEEP ALL THE LEGAL RIGHTS THAT YOU HAVE NOW. You are not giving up any of your legal rights by taking part in this research study.
8. TO BE TREATED WITH DIGNITY AND RESPECT AT ALL TIMES.

THE INSTITUTIONAL REVIEW BOARD IS RESPONSIBLE FOR ASSURING THAT YOUR RIGHTS AND WELFARE ARE PROTECTED. IF YOU HAVE ANY QUESTIONS ABOUT YOUR RIGHTS, CONTACT THE INSTITUTIONAL REVIEW BOARD CHAIR AT (402) 399-2400. *ADAPTED FROM THE UNIVERSITY OF NEBRASKA MEDICAL CENTER, IRB WITH PERMISSION.

Appendix K

Institutional Review Board Approval



April 21, 2016

Dear Tracy,

Congratulations! The Institutional Review Board at College of Saint Mary has granted approval of your study titled *The Relationship Between Elementary Teachers' Perceived Self-Efficacy and Principals' Facilitation of Professional Learning Communities*.

Your CSM research approval number is **CSM 1603**. It is important that you include this research number on all correspondence regarding your study. Approval for your study is effective through May 1, 2017. If your research extends beyond that date, please submit a "Change of Protocol/Extension" form which can be found in Appendix B at the end of the College of Saint Mary Application Guidelines posted on the IRB Community site.

Please submit a closing the study form (Appendix C of the IRB Guidebook) when you have completed your study.

Good luck with your research! If you have any questions or I can assist in any way, please feel free to contact me.

Sincerely,

Vicky Morgan

Dr. Vicky Morgan
Director of Teaching and Learning Center
Chair, Institutional Review Board * irb@csm.edu