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Perceptions of How Leadership Interactions Influence the Development of Collective Efficacy in Professional Learning Communities

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ACCEPTANCE

This dissertation, PERCEPTIONS OF HOW LEADERSHIP INTERACTIONS INFLUENCE THE DEVELOPMENT OF COLLECTIVE EFFICACY IN PROFESSIONAL LEARNING COMMUNITIES, by TONI ROSS WEIR, was prepared under the direction of the candidate's Dissertation Advisory Committee. It is accepted by the committee members in partial fulfillment of the requirements for the degree, Doctor of Education, in the College of Education & Human Development, Georgia State University.

The Dissertation Advisory Committee and the student's Department Chairperson, as representatives of the faculty, certify that this dissertation has met all standards of excellence and scholarship as determined by the faculty.

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PERCEPTIONS OF HOW LEADERSHIP INTERACTIONS INFLUENCE THE DEVELOPMENT OF COLLECTIVE EFFICACY IN PROFESSIONAL LEARNING COMMUNITIES

by

Toni Ross Weir

Under the Direction of Dr. Sheryl Cowart Moss

ABSTRACT

This research explored the interactions between school and teacher leaders and teachers in professional learning communities. Using a distributed leadership framework, it examined the interactions that took place in professional learning communities to discover how they may influence perceptions of collective efficacy. Perceptions of collective efficacy have been positively correlated with student achievement (Bandura, 1993; Goddard, Hoy, & Hoy, 2000). Additionally, both teacher leadership and professional learning community implementation have been positively correlated with higher perceptions of collective efficacy (Angelle, Nixon, Norton & Niles, 2011; Derrington & Angelle, 2013; Voelkel & Chrispeels, 2017). The literature provided context in four primary areas: distributed leadership, efficacy, teacher leadership, and professional learning communities. This qualitative case study was conducted in a Southeastern

school district that encourages the development of teacher leaders and the implementation of professional learning communities. Two school leaders, two teacher leaders, and four teachers from two professional learning communities were interviewed for the study, and each professional learning community was observed three times. Documents also were collected and analyzed. Interview data were triangulated through observations and document reviews, and member checks were utilized. Data was analyzed using initial, then axial coding. Categories were created that were responsive to research questions. This study identified four types of interactions that occurred between school leaders, teacher leaders, and teachers in the PLC context: people-focused interactions, purpose-focused interactions, work-focused interactions, and instruction-focused interactions. The study also found that through celebrating success, modeling, creation of instructional work, commitment to continuous improvement, and shared experiences, PLC interactions provided experiences aligned with sources of collective efficacy. Understanding more about how interactions between leaders and teachers in professional learning communities influence the development of collective efficacy provides valuable knowledge about how teachers and leaders work together in professional learning communities. This insight, along with future research, may enable school leaders to prepare and support teacher leadership and professional learning community implementation with research-based best practices that may lead to increased student achievement.

INDEX WORDS: Collective efficacy, Distributed leadership, Professional learning communities, Teacher leadership

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by

Toni Ross Weir

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DEDICATION

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1. CONNECTING TEACHER LEADERSHIP AND PLCS TO COLLECTIVE EFFICACY USING A DISTRIBUTED LEADERSHIP FRAMEWORK

As schools begin to share leadership beyond their principals, it is important that school leaders obtain more knowledge about how to offer guidance, support, and training to others throughout their schools (Neumerski, 2012). Teacher leadership and professional learning communities are two vehicles for shared leadership that may hold promise in terms of creating conditions in schools that may lead to increased student achievement. (Angelle, Nixon, Norton, & Niles, 2011; Derrington & Angelle, 2013; Voelkel & Chrispeels, 2017). Using a distributed leadership framework, this dissertation presents research questions that are designed to explore the interactions that occur between school and teacher leaders and teachers in professional learning communities that may influence the development of collective efficacy in a school. The desired outcome of this research may provide information to school leaders as they endeavor to create teacher leadership and professional learning community structures in their schools and to provide the training and support for participants to develop and sustain perceptions of collective efficacy that may lead to increased student achievement (Bandura, 1993; Goddard, Hoy, & Hoy, 2000, p. 480).

This research is designed to add to the literature regarding how leaders and teachers in a school work together to promote the development of collective efficacy. In this analysis, it is important to understand context in four primary areas: distributed leadership, efficacy, teacher leadership, and professional learning communities. This dissertation first will discuss distributed leadership and how it differs from other leadership frameworks. In addition, it will examine the four concepts that make up the framework, the necessity and benefits of distributed leadership in schools, and how a distributed leadership perspective deepens the analysis of teacher leadership

and professional learning communities ("PLCs") explored in the study. The distributed leadership framework will provide a structure for the examination conducted in connection with the study. Then, the review will define and discuss types of efficacy, including how efficacy is formed and how it positively correlates with student achievement. It will discuss aspects of teacher leadership, including why teacher leadership is beneficial to individuals and schools, how school leaders support teacher leadership, the role of teacher leadership in reform, and teacher leadership's positive correlation with collective efficacy. Finally, it will discuss aspects of PLCs, including characteristics, the role of teacher and school leaders, and the positive correlation between PLCs and collective efficacy. Exploring the four areas above will provide context to understand the importance of the research questions in this study and how answering these questions can assist school leaders in creating and supporting teacher leadership and PLC structures to promote student learning in schools.

Research Questions

The research questions explored in this study are as follows:

1. What interactions take place among school leaders, teacher leaders, and teachers as they work together in a PLC context?
2. How are the interactions between school leaders, teacher leaders, and teachers in a PLC context perceived to influence collective efficacy?

Definitions

For this research, the following definitions will be utilized:

Collective efficacy: "the perceptions of teachers in a school that the faculty as a whole can organize and execute the courses of action required to have a positive effect on students" (Goddard & Goddard, 2001, p. 809).

Distributed leadership: a conceptual framework that "acknowledges the work of leading and managing schools involves multiple individuals" and centers on leadership practice, "a product of the interactions of school leaders, followers, and aspects of their situation" (Spillane & Diamond, 2007, p. 7).

*Interactions: "*tasks [comprised of] macro-functions and microtasks or routines that enable the accomplishment of the broader goals" (Diamond, 2007, p. 65).

Professional learning communities: communities of teachers who work together to ensure students learn while emphasizing collaboration and focusing on student achievement outcomes (DuFour, 2004). They will be referred to hereinafter as "PLCs."

Teacher leadership: "the process by which teachers, individually or collectively, influence their colleagues, principals, and other members of school communities to improve teaching and learning practices with the aim of increased student learning and achievement" (York-Barr & Duke, 2004, p. 287-288). In this research, teacher leaders will be those teachers who meet the criteria above and who have both classroom responsibilities and a charge from their schools to lead their PLCs.

Purpose Statement

The role of school leaders has become increasingly complex in this era of continuing education reform. Principals have experienced a growing number of responsibilities, as well as heightened accountability for student performance (Harris & Spillane, 2008; Pankake & Abrego, 2017). Principals have a greater need for a wide array of expertise in schools to address numerous demands (Harris & Spillane, 2008). These complexities have compelled school leaders to distribute leadership to teacher leaders, and research indicating benefits to schools and positive

student outcomes has supported the practice (Harris & Spillane, 2008; Neumerski, 2012; Wilson, 2016; York-Barr & Duke, 2004).

One area in which teacher leaders play a significant role is in the implementation of PLCs, where teacher leader influence has been found to build collegial and collaborative relations, promote teacher learning and development, and enable change in teaching practices (Hairon, Wee Pin Goh, & Siew Kheng Chua, 2015). Today, school leaders are at risk of conducting significant work involving teacher leadership in PLCs with little empirical evidence about them and how they influence student achievement (McKenzie & Locke, 2014; Struyve, Meredith, & Gielen, 2014; Taylor, Goeke, Klein, Onore, & Geist, 2011). It has been noted that empirical studies about teacher leadership are rare (Struyve et al., 2014). Teacher leaders face increased accountability for both student and colleague performance, sometimes even affecting their compensation, with little research about the challenges faced by teacher leaders (McKenzie & Locke, 2014). Moreover, "research has not provided comprehensive evidence of the outcomes of work on student learning and achievement" (Taylor et al., 2011). Additional research regarding the interactions, challenges, and relationships within PLCs can contribute to discussions about how principals are prepared to distribute leadership and provide support and feedback to teacher leaders (DeMatthews, 2014).

One area that school leaders may explore to help them make decisions about teacher leadership and PLCs in a way that connects to student achievement is collective efficacy. Although there is not a great deal of research connecting teacher leadership in PLCs to student achievement, studies have demonstrated that student achievement is positively correlated with collective efficacy (Bandura, 1993; Goddard, Hoy, & Hoy, 2000, p. 480). Researcher John Hattie contends that collective efficacy is the greatest factor impacting student achievement (Donohoo,

2017; Donohoo, Hattie, & Eells, 2018). This correlation between collective efficacy and student achievement is significant to the current research because both teacher leadership and PLC implementation have been correlated positively with collective efficacy (Derrington & Angelle, 2013; Voelkel & Chrispeels, 2017). As discussed further herein, a 2013 study by Derrington and Angelle found "a clear and strong relationship between collective efficacy and the extent of teacher leadership in a school" (p. 6). Additionally, a 2017 study by Voelkel and Chrispeels found that "there is a positive and high correlation between PLC implementation of PLC variables and teacher collective efficacy" (p. 520).

There is little qualitative research about how teacher leadership and PLC implementation influence the development of collective efficacy. Most of the research about teacher leadership focuses on teacher leader characteristics, rather than how they lead and how that leadership influences perceptions of collective efficacy (Angelle, Nixon, Norton, & Nile, 2011; Neumerski, 2012). There is also little research regarding specific PLC practices and their relationship to collective efficacy and student achievement (Voelkel & Chrispeels, 2017). Qualitative research about how teacher leaders and teachers work within PLCs and how school leaders can support this work to promote the development of collective efficacy would be informative as schools strive for increased student achievement. (Angelle et al., 2011; Derrington & Angelle, 2013). While quantitative research may demonstrate a correlation between collective efficacy and teacher leadership or PLCs, it does not give practitioners any indication of the practices and interactions that lead to the relationship. Qualitative research may provide information that enables school leaders to structure and support teacher leadership and PLCs in ways that promote the development of collective efficacy. As researcher Jenni Donohoo has noted, "[p]olicy makers, leaders, and staff developers' efforts toward successful reforms might be better served

by strategically and intentionally considering how to foster [collective teacher efficacy] throughout the conceptualization, design, delivery, and assessment of change initiatives" (Donohoo, 2018, p. 340).

This research is significant because school leaders should make informed decisions as they select teacher leaders in their schools (DeMatthews, 2014). Such research may not only influence how school leaders choose teacher leaders, but also how school leaders support teacher leaders through professional learning in their PLCs. School leaders must provide teacher leaders with appropriate opportunities for development and support for their work (Angelle et al., 2011; DeMatthews, 2014; Wilson, 2016; York-Barr & Duke, 2004). School leaders also have a responsibility to structure and support PLCs in their schools (Stoll, Bolam, McMahon, Wallace, & Thomas, 2006). If school leaders had a better understanding of the relationships between teacher leadership, PLC implementation, and collective efficacy, they could promote increased student achievement by improving the ways they select teacher leaders, prepare teacher leaders, support teacher leaders in their work, structure PLCs, and support PLC implementation.

Literature Review

As schools face the challenges of strong accountability and increased responsibilities for school leaders, many are turning to teacher leadership to meet the heightened demands (Harris & Spillane, 2008; Pankake & Abrego, 2017). These schools share decision-making with teachers, utilize the expertise of teachers in professional learning designed to improve instruction, and distribute responsibilities across a more substantial subsection of the school (Harris & Spillane, 2008). Teacher leadership can yield high dividends for schools, as it has been found to lead to the professional growth and empowerment of teachers and teacher leaders, themselves (Wenner & Campbell, 2017). While teacher leadership may have benefits for schools and teachers, there

is little empirical evidence about how teacher leadership improves instruction and affects student learning and achievement (Wenner & Campbell, 2017; Neumerski, 2012). Wenner and Campbell (2017), in an extensive literature review, noted that more empirical research on teacher leadership is needed to explore this area. Neumerski (2012) indicated that most qualitative research on teacher leadership focused on characteristics and behaviors of teacher leaders, rather than exploring how they lead to improved instruction. Without a clear understanding of how teacher leadership influences student achievement, schools are at risk of creating structures and processes for the exercise of teacher leadership without a guiding reference that points to an outcome of increased performance. One of the primary areas where teacher leadership has been leveraged is within PLCs because these communities provide opportunities for teachers to collaborate, analyze student data, and assess student learning (Wilson, 2016).

As noted earlier, the studies by Derrington and Angelle and Voelkel and Chrispeels found that both teacher leadership and PLC implementation have been correlated positively with collective efficacy (Derrington & Angelle, 2013; Voelkel & Chrispeels, 2017). This research is significant because studies also have shown that the collective efficacy of teachers in schools is "systematically associated with student achievement" (Goddard et al., 2000, p. 480). There is little qualitative research, however, about how teacher leadership and professional learning community implementation may shape collective efficacy in schools. The research in this study addresses this gap in the literature by examining the interactions that occur between school and teacher leaders and teachers in PLCs that may promote the development of collective efficacy.

Theoretical framework: Distributed leadership.

This study examines how teachers and teacher leaders work together in learning communities, and it utilizes distributed leadership as a theoretical framework. Distributed

leadership concerns how the leadership of an organization is spread among both formal and informal leaders (Spillane, Halverson, & Diamond, 2001). While the study of leadership has historically focused on individual leader traits and behaviors, distributed leadership recognizes the importance of other stakeholders (Spillane, Halverson, & Diamond, 2004).

There is some lack of clarity and consistency in the literature in defining what leadership looks like through a distributed lens, and as a result, there has been conceptual confusion and difficulty interpreting findings based on distributed leadership research (Heikka, Waniganayake, & Hajula, 2013). There is no agreed definition of distributed leadership in the literature, but it generally involves de-centering the leader and spreading leadership tasks to multiple leaders (Harris & Spillane, 2008; McKenzie & Locke, 2014; Spillane & Diamond, 2007). Therefore, distributed leadership takes the position that leadership is not about one person or what one person does, but instead is focused on leadership practice (Spillane, 2006).

Leadership practice consists of the interactions and activities between stakeholders in an organization in specific contexts and tasks (Gronn, 2000; Spillane et al., 2004). Leadership activity is defined by the "interaction of leaders, followers, and their situation in the execution of particular leadership tasks" (Spillane et al., 2004, p. 10). This perspective changes thinking about school improvement by positing that studying leadership activity at the school level, rather than at the level of the individual leader, is best practice for studying leadership (Spillane, 2006; Spillane et al., 2001). Even in examining teacher leadership, instead of focusing on any one individual teacher, "it is essential to understand teacher leadership as a series of interacting relationships taking place in linked contexts" (Klein, Taylor, Munakata, Trabona, Rahman, & McManus, 2018). The definition of distributed leadership adopted by the current research is a conceptual framework that "acknowledges the work of leading and managing schools involves

multiple individuals" and centers on leadership practice, "a product of the interactions of school leaders, followers, and aspects of their situation" (Spillane & Diamond, 2007, p. 7). This perspective "highlights interdependencies across seemingly disparate activities by grounding the analysis in leadership practice" (Diamond & Spillane, 2016).

Four concepts make up the distributed leadership framework in schools: leadership tasks and functions, task-enactment, social distribution of task-enactment, and situational distribution of task-enactment (Spillane et al., 2004). Leadership duties and functions involve creating vision and culture, resource allocation, supporting professional growth and learning, and monitoring instruction and school climate (Spillane et al., 2004). When analyzing functions and how they are enacted, a distributed perspective requires one to examine how formal and informal leaders spread and share leadership and how leaders work together to accomplish the task (Spillane et al., 2004). Finally, the distributed leadership perspective requires one to analyze the environment or the situation of the leadership activity (Spillane et al., 2004). To examine a school situation, one may look at organizational structures, tools, and artifacts (Spillane et al., 2004).

School leadership has been defined as the "identification, acquisition, allocation, coordination, and the use of the social, material, and cultural resources necessary to establish the conditions for the possibility of teaching and learning" (Spillane et al., 2004, p. 11). Further, it involves "mobilizing school personnel and clients to notice, face, and take on the tasks of changing instruction as well as harnessing and mobilizing the resources needed to support the transformation of teaching and learning" (Spillane et al., 2004. pp. 11-12). Leadership may be distributed and managed in various ways – distributed leadership may not look the same in all settings (DeMatthews, 2014). It is important to conceptualize distributed leadership in the context of each school and community (Liu, Bellibas, & Printy, 2016).

Schools have become more interested in exploring distributed leadership for several reasons, including growth and expansion of leadership tasks in schools, increased external demands and pressures, the need for diverse expertise, and growing empirical research that it positively correlates with improved student learning outcomes (Harris & Spillane, 2008). Moreover, research has shown that the closer instructional leaders are to teaching and learning, the more likely they are to impact positive student outcomes (Robinson, 2008); distributed leadership allows school leaders to be closer to teaching and learning.

The primary concern of the distributed leadership framework is leadership for instruction (Spillane et al., 2001). Therefore, in schools, leadership often is distributed among principals, assistant principals, curriculum specialists, and teacher leaders (McKenzie & Locke, 2014; Spillane et al., 2001). In some cases, leadership is naturally and informally distributed to teachers, while other distributed leadership roles are formalized (Margolis & Huggins, 2012).

The distributed leadership framework is well-suited for examining capacity-building work, like teacher leadership and PLCs (DeMatthews, 2014). Moreover, teacher leadership itself is grounded in other leadership theories, including the distributed leadership theory (York-Barr & Duke, 2004). Distributed leadership is the most popular theoretical framework in articles analyzing teacher leadership (Wenner & Campbell, 2017), which is an appropriate consideration when determining the framework for a study (Merriam, 2009). Distributed leadership is a good fit for studies concerning PLCs because "a distributed framework can help clarify the varied roles assumed by principals, teachers, and other staff and how their actions, orientations, and leadership contribute to organizational learning" (DeMatthews, 2014). Distributed leadership allows one to explore leadership practice by examining the leaders and followers in a context (Spillane et al., 2004). PLCs provide a context in which leadership can be considered. This study

proposes looking at the leadership activity that happens between school and teacher leaders and teachers in the context of the PLC that may promote the development of collective efficacy.

The distributed leadership framework has informed the problem of the current study, shaped the research questions for the study, and driven the proposed methodology (Merriam, 2009). Viewing the research through the lens of distributed leadership clarified the problem of school leaders structuring and supporting interactions between leaders and teachers in the PLC context without empirical guidance. If leadership is exercised through the interactions of leaders and participants in PLCs, then it is crucial for school leaders to ensure that teacher leaders are supported and PLCs are structured in a way that may positively influence student achievement. The research questions are drawn directly from the distributed leadership framework, as they seek to explore how *school leaders* can promote the development of collective efficacy through examining the *interactions* between *teachers* and *teacher leaders* in their *PLCs*. The questions ask what interactions occur in the PLC context and how those interactions influence collective efficacy. The research questions suggest an analysis that will not look at actions or behaviors of a single leader but instead will focus on the leadership practice – the interactions between leaders (school and teacher leaders) and followers (teachers) in the specific situation (PLCs).

Efficacy.

Efficacy arises out of Albert Bandura's social cognitive theory, which he has written about and expanded upon since 1977. According to this theory, human beings exercise agency when they make choices (Bandura, 1977, 1986). Agency serves as the bridge between efficacy beliefs and action (Goddard, Skrla, & Salloum, 2017). Individuals and organizations are more likely to choose to pursue activities in which they believe they can be successful (Bandura, 1997;

Goddard & Goddard, 2001). According to the tenets of social cognitive theory, humans learn from observing others in social and other interactions (Bandura, 1986).

Efficacy is one of the most helpful aspects of this approach in the school setting. Bandura defined efficacy as "people's beliefs about their capabilities to exercise control over their own level of functioning and over events that affect their lives" (Bandura, 1993, p. 118). These beliefs "influence how people feel, think, motivate themselves, and behave" (Bandura, 1993, p. 118). Bandura identified three ways that perceived efficacy contributes to academic development: 1) students' beliefs in their efficacy to regulate their learning and master material, 2) individual teachers' beliefs in their efficacy to promote learning in their students, and 3) staffs' collective sense of efficacy that their schools can accomplish significant student growth and outcomes (1993). This study primarily focuses on the third strand, teachers' collective efficacy.

Collective efficacy, however, builds on the concept of self-efficacy, so that topic will be explored briefly. Self-efficacy is a person's belief regarding his or her ability to accomplish something (Bandura, 1986). Self-efficacy impacts cognitive, motivational, affective, and selection processes (Bandura, 1993). Cognitively, the stronger the self-efficacy a person has, the higher the goal challenges he or she will set, and the firmer the commitment to them (Bandura, 1993). Additionally, those who perceive ability as an inherent intellectual aptitude see a decrease in self-efficacy in response to problems, while those who regard ability as an acquirable skill, maintain a higher sense of personal efficacy, resulting in persistence in the face of challenges (Bandura, 1993). A sense of control also influences a person's cognitive perception of self-efficacy (Bandura, 1993). Motivationally, people with high self-efficacy attribute failure to insufficient effort, while those with a lower sense of efficacy attribute failure to lessened ability (Bandura, 1993). Affectively, a person's level of self-efficacy impacts how much stress or

depression he or she may experience, as well as his or her motivation level (Bandura, 1993). Those with higher self-efficacy have a greater perception of being able to control their thoughts (Bandura, 1993). Finally, self-efficacy influences selection by shaping the choice of one's activities and environments (Bandura, 1993). Self-efficacy is concerned only with the perception of capability, not whether the actions actually affect outcomes (Goddard, Hoy, & Hoy, 2000).

Tschannen-Moran, Hoy, and Hoy (1998) proposed the following definition for teacher self-efficacy: "the teacher's belief in his or her capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context" (p. 233). Teachers who have a high sense of instructional efficacy create opportunities for their students to learn (Bandura, 1993). Teachers who perceive themselves as able to educate their students demonstrate behaviors that promote student achievement (Goddard & Goddard, 2001). The relationship between teacher efficacy and student achievement is indirect; teacher efficacy influences teacher behaviors that, in turn, promote student achievement (Goddard & Goddard, 2001). Teacher efficacy's impact on student achievement also may be affected by associations with trust, attitudes toward education reform, satisfaction, and increased parental involvement (Goddard & Goddard, 2001). Importantly, teacher efficacy also is context-specific – teachers may not feel equally efficacious in all areas (Goddard et al., 2000; Tschannen-Moran et al., 1998). One must consider the teaching task, its context, and the teacher's strengths and weaknesses relating to the work (Tschannen-Moran et al., 1998). Additionally, teacher efficacy includes perceptions of his or her ability as it regards both instruction (in the classroom) and within the larger school (in the organization) (Friedman & Kass, 2002).

Bandura identifies four sources of self-efficacy: enactive attainment (sometimes called mastery experience), vicarious experience, verbal (or social) persuasion, and physiological state

(sometimes referred to as affective state) (Bandura, 1986). Regarding mastery experience, people achieve an increase in perceptions of efficacy with a personal experience of success. People also have increased feelings of efficacy when they see others experience success. Additionally, telling someone he or she is capable can increase efficacy, and one's emotions can increase or decrease a sense of efficacy (Bandura, 1986). Because Tschannen-Moran et al. contended that teacher efficacy was context-specific, they proposed that two additional contextual areas be considered: analysis of the teaching task and assessment of teaching competence (Tschannen-Moran et al., 1998). Teachers analyze the teaching task by determining what will be required of them in each teaching situation and make comparative judgments about whether their abilities are adequate for the teaching task (Tschannen-Moran et al., 1998). More recent literature has examined and affirmed the sources proposed by Bandura (1986) and Tschannen-Moran et al. (1998) (Bruce & Ross, 2008; Tschannen-Moran & Johnson, 2011; Tschannen-Moran & McMaster, 2009). However, some researchers argue that Bandura's sources are valid but insufficient in some contexts (Wang, Tan, Li, Tan, and Lim, 2017).

When a group of people shares a belief that together they can accomplish something, that idea is referred to as collective efficacy (Bandura, 1986). Some have argued that the sources of self-efficacy identified by Bandura extend to the organizational level and the concept of collective efficacy (Goddard et al., 2000). Additionally, Goddard, Hoy, and Hoy extended the idea of human agency to organizational agency, arguing that schools act purposefully to pursue academic goals (2000). Collective teacher efficacy is "malleable and shaped through the cognitive processing and interpretation of events based on causal attributions and the group's assessment of the task and competency of the team" (Donohoo, 2017).

Goddard et al. contended that organizations, like individuals, rely on knowledge, vicarious learning, reflection, and regulation of individual members (2000). Schools experience mastery when teachers succeed and overcome difficulties with persistence (Goddard et al., 2000). Schools also experience vicariously through the achievements of colleagues within the school and the experiences of other schools (Goddard et al., 2000). Workshops, professional learning, and feedback structures can provide social persuasion for schools, and as schools learn to adapt and cope with disruptive forces, their affective states can lead to the development of collective efficacy (Goddard et al., 2000). Goddard et al. also suggested analyzing the two other elements in the development of collective efficacy that were proposed by Tschannen-Moran et al. (1998) concerning the study of self-efficacy: analysis of the teaching task and assessment of teaching competence (2000).

Some other researchers have argued that viewing data solely through the lens of the four sources of efficacy identified by Bandura (1986) is constraining. For example, in their 2006 study, Adams and Forsyth argued that the sources of efficacy model should be broadened to include environmental and contextual factors, such as socioeconomic status, enabling school structures, and school level, all of which were found in the study to influence the formation of collective teacher efficacy. Additionally, in their qualitative research on the role of collective efficacy in closing achievement gaps, Goddard, Skrla, and Salloum (2017) noted that while the data provided by teachers could be aligned within the four sources of efficacy, it was more helpful to discuss their findings in terms of educational themes. There are some continuing confusion and lack of clarity in the literature regarding whether contextual factors should be considered in analyzing efficacy and how this impacts efficacy measurement instruments (Donohoo, 2018).

Importantly, research suggests that the collective efficacy of teachers in schools is "systematically associated with student achievement" (Bandura, 1993; Goddard et al., 2000, p. 480). In 2010, a study of 66 middle schools in Virginia found a "significant positive relationship between teachers' perceptions of collective teacher efficacy and student achievement" (Tschannen-Moran & Barr, 2010). A 2015 study of 93 elementary schools similarly revealed that "[t]he more robust the sense of collective efficacy characterizing the schools in our sample, the greater their levels of student achievement, even after controlling for school and student background characteristics and prior levels of student achievement" (Goddard, Goddard, Kim, & Miller, 2015, p. 525). In 2016, at the Third Annual Visible Learning Conference, researcher John Hattie declared that collective teacher efficacy was the "greatest factor impacting student achievement" (Donohoo, 2017; Donohoo, Hattie, & Eells, 2018). A 2017 study of students and teachers in 47 elementary and middle schools found that collective efficacy was "a statistically significant predictor of variation among schools in student mathematics achievement" (Goddard et al., 2017, p. 228). This potential impact on student achievement has significant implications regarding the importance of research in the area of collective efficacy.

In 2018, researcher Jenni Donohoo reviewed the literature regarding collective teacher efficacy to determine what productive behaviors and other consequences result from collective teacher efficacy (Donohoo, 2018). In her review, she cautioned researchers to note the directionality of the variables in collective efficacy research. Donohoo stated that most of the studies she reviewed allowed collective efficacy to predict variables, but noted that in many cases, the relationship between the variables was likely bidirectional. She identified this concern as an area for future research (Donohoo, 2018).

Pertaining to efficacy, strengths of the literature included that the work of Bandura (1977, 1986, 1993, 1997), Goddard et al. (2000), and Goddard and Goddard (2001) is well-established and cited frequently (e.g., Angelle et al., 2011; Derrington & Angelle, 2013; Donohoo, 2017). Bandura (1977) and Goddard and Goddard (2001) set forth clear definitions of self-efficacy and collective efficacy that have been utilized for years in efficacy research. The sources of both self-efficacy and collective efficacy are well-established, as well (Bandura, 1977; Goddard et al., 2000). Moreover, research has found that there is a positive correlation between collective efficacy and student achievement (Bandura, 1977; Donohoo, 2017; Goddard et al., 2000).

An area identified for further study about efficacy is understanding how leaders can promote the development of collective efficacy (Derrington & Angelle, 2013). Although Donohoo (2017) has proposed a theory of action regarding how school leaders can foster the development of collective efficacy, more empirical research on the subject would be beneficial. Angelle et al. (2011) noted that extending the analysis in this area to include qualitative methodology could strengthen conclusions that "teacher leadership is a variable that can contribute to the success of an organization through the relationship with collective efficacy. . ." Qualitative research could provide further insight on what interactions occur between leaders and teachers could promote the development of collective efficacy.

Teacher leadership.

There is no universal definition of teacher leadership, and in the literature, few authors even identify their working definition (Wenner & Campbell, 2017). When researchers do determine their meanings, they vary. The lack of a precise definition can lead to challenges in the identification and selection of teacher leaders and in defining roles and responsibilities for teacher leaders (Weiner, 2011). One of the most cited definitions of teacher leadership was

offered by York-Barr and Duke (2004): “the process by which teachers, individually or collectively, influence their colleagues, principals, and other members of school communities to improve teaching and learning practices with the aim of increased student learning and achievement” (pp. 287-288). For purposes of this study, teacher leadership is defined using York-Barr and Duke’s definition and includes those teachers who have both classroom responsibilities and a formal charge from their schools to lead their PLCs.

Teacher leadership may include teachers with formal roles or informal leadership roles (Struyve et al., 2014). Formal teacher leadership roles include those with formal leadership duties and authority, sometimes including a release from teaching responsibly (Struyve et al., 2014). In contrast, informal teacher leadership consists of the roles held by those with organizationally legitimized positions (such as prior leadership experience) and institutionally legitimized content area expertise (such as certifications) (Paredes Scribner & Bradley-Levine, 2010). Additionally, informal teacher leadership can center around informal practices, like promoting dialogue with other teachers or modeling practices in the absence of formal authority or position (Struyve et al., 2014). Whether roles are formal or informal may determine whether the leader operates from position power (derived from formal authority, control over resources and rewards, control over punishments, and control over information) or personal power (derived from expertise, friendship and loyalty, and charisma) (Paredes Scribner & Bradley-Levine, 2010; Yukl, 1998).

Teacher leaders carry out various types of tasks; some teacher leaders perform organizational decision-making work, while others attend to professional learning and instructional support work (Struyve et al., 2014). Instructional leadership work is of particular importance. One study demonstrated that leaders who impact student outcomes were personally

involved in instruction, oversight, evaluation, observation, feedback, and monitoring (Robinson et al., 2008). Moreover, the specific leadership role was not as important as the frequency in which the leader performed the various instructional practices (Robinson et al., 2008). In other words, leadership was task-embedded (Robinson et al., 2008). Some of the common themes in conceptions of teacher leadership throughout the literature are as follows: (a) leadership beyond the classroom, (b) a support for professional learning, (c) involvement in decision-making or policy, (d) desired outcome of student learning and success, and (e) focus on school improvement (Wenner & Campbell, 2017). Teacher leadership can be focused on smaller-subsections of a school, like a grade level, or have a broader impact on the school as a whole or even beyond (Struyve et al., 2014).

Teacher leaders can have a significant impact on teacher learning in a school. Fairman and Mackenzie (2011) articulated nine spheres of teacher leadership action for learning: (a) teachers engage in learning about their practice, (b) teachers experiment and reflect, (c) teachers share ideas with others and coach or mentor others, (d) teachers collaborate and reflect together on collective work, (e) teachers interact in groups and through relationships to re-culture the school, (f) teachers question, advocate, build support and organizational capacity, (g) teachers engage in collective, school-wide improvement, focused resources, and distributed leadership, (h) teachers collaborate with the broader school community, parents, and students, and (i) teachers share their work outside of the school or in professional organizations. Although they noted that teacher leadership was fostered in a learning community, the researchers found that the teacher leadership in their study emerged in various contexts, such as individual and collective efforts, formal and informal actions, school improvement efforts, and varying school climates (Fairman & Mackenzie, 2011). A consistent factor was teachers' understanding that

they needed to engage in professional learning to improve student learning (Fairman & Mackenzie, 2011). Importantly, it was primarily veteran teachers, rather than principals, who initiated the leadership activities within the nine spheres (Fairman & Mackenzie, 2011). The researchers reported, "Teacher leaders in our case studies did not wait for their administrators to direct their learning or school change; they initiated their own learning and improvement efforts" (Fairman & Mackenzie, 2011, p. 243).

In another study, teacher leaders similarly furthered the goals of their school and district by "[taking] the responsibility to step up and make suggestions, [pushing] for changes in policies that others may resist, and [reflecting] on things that may not be working in order to make changes" (Schrum & Levin, 2013, p. 100). Other researchers found teacher leaders strengthened classroom practice, encouraged teacher ownership of the change process, assumed the role of expert, and engaged in collegiality for learning (Harris, 2002; Schrum & Levin, 2013). Teacher leaders also have been found to exhibit systems-thinking and to take actions that have organization-wide effects (Schrum & Levin, 2013). Because teacher leaders often hold the trust and respect of their colleagues, they can exert influence in ways that are different from administrators (Taylor, Goeke, Klein, Onore, & Geist, 2011).

Some studies suggest that teacher leaders are more effective when they have principal support (Leithwood, Seashore Louis, Anderson, & Wahlstrom, 2004; Neumerski, 2012). Principal support may take many forms. Support may include the principal defining a goal for the teacher leader that is embedded in larger school goals (Weiner, 2011). However, teacher leaders have more efficacy and autonomy when principals do this by providing the teacher leader with a sense of how his or her role fits into larger school goals and then allow the teacher leader to define daily responsibilities (Weiner, 2011). This approach enables teacher leaders to initiate

leadership activities, as they did in the study by Fairman and Mackenzie (2011). Defining the teacher leader role is essential, as challenges can arise when principals do not specify teacher leader roles explicitly (Neumerski, 2012; Weiner, 2011).

Principal support also may take the form of providing adequate resources to fulfill their roles (Neumerski, 2012; Weiner, 2011). Time is one of the most valuable resources, and principals must ensure they provide teacher leaders with enough time to fulfill their workload and time for professional learning and support (Ringler, O'Neal, Rawls, & Cumiskey, 2013; Weiner, 2011). Teacher leaders also value principal feedback on instruction, mainly that which is provided during observation post-conferences and that which suggest additional strategies or research (Ringler et al., 2013).

Additionally, some researchers have suggested that the principal use the authority of his or her position to communicate the role of teacher leaders to the staff and ensure that the leaders are given the responsibility and power to influence instructional change (McKenzie & Locke, 2014). Teacher leaders also report feeling supported when principals were present and active participants in every training session that teachers attended (Ringler et al., 2013). Teacher leaders indicated that they would like principal support in the form of cultural capital to get the leadership work done, including teaching them about the procedures, the timelines, and processes for accomplishing their plans and tasks (Paredes Scribner & Bradley-Levine, 2010). Implementing teacher leadership requires concerted action from all stakeholders in an organization (McKenzie & Locke, 2014). The district, schools, principals, and other stakeholders have a responsibility to ensure that teachers have the resources they need to be effective, as well as the time to lead without distraction from microdiversions (McKenzie & Locke, 2014).

In 2009, researchers conducted a study examining how formal administrative leadership works to support the distribution of leadership in schools (Murphy, Smylie, Mayrowetz, & Seashore Louis, 2009). In that study, researchers found that principals worked to develop teacher leadership by strategically pairing people with opportunities (Murphy et al., 2009). Principals found roles for teacher leaders in PLCs, action teams, assignments, and in-house professional learning (Murphy et al., 2009). They also provided teacher leaders with legitimacy by valuing and affirming them, linking their work to successful outcomes, advocating for them, and reinforcing their authority (Murphy et al., 2009). The study also found that principals supported teacher leadership with structures, stability, professional learning, and their own participation in the work of teachers (Murphy et al., 2009). Finally, the study found that principals managed the work of distributed leadership by participating in the work and keeping the work informal by focusing on the people, being highly visible, checking in, and removing obstacles for teachers (Murphy et al., 2009). In a recent literature review of studies about teacher leadership, researchers Wenner and Campbell explored 72 pieces of literature about teacher leadership published between January 2004 and December 2013. In their review, they discussed the increased interest in teacher leadership and the potential benefits of teacher leadership to teachers and their schools. They noted how those attentive to education reform have taken a particular interest in teacher leadership, and how the topic has arisen in discussions about accountability as a possible way to improve teaching (Neumerski, 2012; Wenner & Campbell, 2017). They noted that some schools have even made teacher leadership a component of teacher evaluation (Wenner & Campbell, 2017). They found that some of the benefits of teacher leadership to the leaders themselves included increased positive feelings, professional growth, and expanded leadership capacity (Wenner & Campbell, 2017). This finding is supported by other research

suggesting that teacher leaders enjoyed the opportunity to participate in decision-making and to deepen their professional expertise (Struyve et al., 2014). Wenner and Campbell additionally found that teacher leadership promised potential benefits for the school, including empowerment for all teachers, increased professional growth, and teacher leadership contributions to school change (Wenner & Campbell, 2017). They also noted that teacher leadership might help address the challenge of teacher attrition, as it provides new and different challenges for experienced teachers as their careers progress (Wenner & Campbell, 2017). Effective teacher leadership has been correlated with decreased teacher attrition, improved instructional decision-making and efficiency, and increased student achievement (Weiner, 2011).

A study carried out by Derrington and Angelle (2013) analyzed the relationship between the extent of teacher leadership and the extent of collective efficacy in schools. In that quantitative study, schools in five districts were invited to complete the Teacher Leadership Inventory and the Teacher Efficacy Belief Scale – Collective. After analyzing 719 completed surveys, the researchers found "a clear and strong relationship between collective efficacy and the extent of teacher leadership in a school" (Derrington & Angelle, 2013, p. 6). A similar study found a strong relationship between trust and teacher leadership, as well as trust and teacher efficacy (Angelle, Nixon, Norton, & Niles, 2011). Researchers in the 2013 study interpreted their results to indicate that teachers who believe in the capacity of faculty and individual teachers within the school create schools with more significant teacher leadership. The researchers argued that the implication is that teacher leadership is essential to school success and not just the individual teacher. This finding may indicate links between distributed leadership and collective efficacy, and thus, student achievement. The researchers recommended further qualitative

research to examine the perceptions of teachers to understand the impact of teacher leadership on the perceived efficacy of the staff and the link to student achievement (Angelle et al., 2011).

Regarding teacher leadership, a "clear and strong" positive correlation between teacher leadership and collective efficacy has been shown (Angelle et al., 2011; Derrington & Angelle, 2013). Additionally, the literature has provided some insight into how school leaders can support teacher leaders, especially by sharing power and empowering action (Angelle et al. 2011; Wilson, 2016; York-Barr & Duke, 2004). However, there is little clarity around the term "teacher leader" and "teacher leadership" (Neumerski, 2012; Struyve et al., 2014); Wenner & Campbell, 2017; York-Barr & Duke, 2004). The term "teacher leader" appears to be more of an umbrella term that includes teachers who hold formal or informal roles and have varying duties both inside and outside of the classroom (York-Barr & Duke, 2004). Additionally, most leadership literature focuses on the principal rather than teacher leaders (Neumerski, 2012); the research that does concentrate on teacher leaders often analyzes the impact the leadership has on the teacher, rather than the school as a whole (Angelle et al., 2011; Derrington & Angelle, 2013). Finally, as noted in the section about efficacy, more qualitative research examining perceptions of teachers is needed regarding teacher leadership's relationship to collective efficacy (Angelle et al., 2011).

Professional learning communities.

One of the areas where teacher leaders interact with other teachers in a school is in PLCs. Like with teacher leadership, there is no clear consensus about the definition of a PLC (Stoll, Bolam, McMahon, Wallace, & Thomas, 2006). One leading researcher about PLCs has indicated that they work to ensure students learn, emphasize collaboration, and focus on student outcomes and results (DuFour, 2004). Additionally, the literature has identified common characteristics

that have emerged to describe PLCs: shared values and vision; collective responsibility; reflective professional inquiry; collaboration; promotion of group and individual learning; mutual trust, respect, and support; inclusive membership; and openness, networks, and partnerships (Stoll et al., 2006). One longitudinal case study indicated that beliefs about alignment, ownership, and socialization had the most significant effect on PLC development (Schaap & de Bruijn, 2018).

Shared leadership is a central component of collaborative learning in PLCs (Carpenter, 2015). "PLCs thrive when teachers design the core elements and structures that make these communities function" (DeMatthews, 2014). Given the ambiguity of the term "teacher leader," one must examine to whom teachers look as a leader in a PLC. Within PLCs, sometimes teachers look to designated titles, roles, effectiveness as a teacher, and collaborative efforts to identify teacher leaders (Wilson, 2016). Other sources of influence for teacher leaders may include designation, seniority in teaching experience, expertise in the content area, and experience with facilitation (Hairon, Wee Pin Goh, & Siew Kheng Chua, 2015). However, all PLCs are unique, and how principals distribute leadership in PLCs reflects the differences in how each school structures and conducts its PLCs (DeMatthews, 2014). The current study will focus on teacher leaders who have been designated by their school leaders as formal leaders of their PLCs. These teachers have classroom duties in addition to their responsibilities with the PLC.

While more qualitative research is desirable about teacher leadership in PLCs, one ethnographic case study examined how teacher leaders play a significant role in supporting conversations in PLCs (Hairon et al., 2015). In the study, researchers observed and communicated with PLCs in three government elementary schools in Singapore. Results of that study indicated that teacher leadership supports PLCs in three primary ways: building

collaborative and collegial relations, promoting teacher learning and development, and enabling change in teacher instructional practices (Hairon et al., 2015). These supports occurred through an intentional social influence process (Hairon et al., 2015). In other words, teacher leaders were not just facilitators, but rather their actions were "centrally and explicitly undergirded by the need and desire to influence others towards group goals" (Hairon et al., 2015).

PLCs also are important to the development of collective efficacy. In a recent quantitative study, Voelkel and Chrispeels explored the relationship between professional learning communities and teacher collective efficacy (2017). The study was conducted in a California school district and included 310 teachers and principals from sixteen schools. The researchers performed a survey comprised of nine demographic questions, thirteen PLC questions, and twelve teacher collective efficacy questions. The findings of the study indicated that there was a positive and high correlation between PLC implementation and teacher collective efficacy. It additionally found that higher PLC implementation predicted higher levels of teacher collective efficacy (Voelkel & Chrispeels, 2017). The study further found that two PLC practices in particular – first, setting collective goals and focusing on results and second, analyzing and using data – predicted higher group competency (Voelkel & Chrispeels, 2017). Collective goal setting was also found to be influential in shaping teacher perceptions (Voelkel & Chrispeels, 2017).

The state of the literature about PLCs is similar to the state of research regarding teacher leadership. A positive correlation between PLC implementation and collective efficacy has been demonstrated (Voelkel & Chrispeels, 2017). Some researchers have even noted that "shared interactions among group members…serve as the building blocks of collective efficacy" (Goddard et al., 2015). Although there are some variations, standard features and characteristics of PLCs have emerged, such as shared values and vision, collective responsibility, reflective

professional inquiry, collaboration, promotion of group and individual learning, mutual trust, respect, and support, inclusive membership, openness, networks, and partnerships (Carpenter, 2015; Stoll et al., 2006).

Additionally, there is some literature concerning the role of the school leader in supporting PLC implementation (Stoll et al., 2006). However, like teacher leadership, there is little clarity about the term "professional learning community" (Stoll et al., 2006; Voelkel & Chrispeels, 2017). To date, most research about PLCs has focused on principals or teachers involved in PLCs and not the interactions that occur in the PLC context (DeMatthews, 2014).

Conclusion

The distributed leadership framework suggests that leadership is not the action of one leader but instead consists of leadership practice, the product of interactions between school leaders, followers, and aspects of their situation (Spillane & Diamond, 2007). This study uses the distributed leadership framework to explore what interactions occur among school and teacher leaders and teachers in the PLC context. It also analyzes how those interactions are perceived to influence the development of collective efficacy. Efficacy research has established that collective efficacy has a positive correlation with student achievement (Bandura, 1993; Goddard et al., 2000).

Additionally, quantitative studies have established positive correlations between both teacher leadership and collective efficacy and PLC implementation and collective efficacy (Derrington & Angelle, 2013; Voelkel & Chrispeels, 2017). However, the current study will contribute to the literature by providing more information about what interactions occur among teachers and leaders in the PLC context and how those interactions are perceived to influence the development of collective efficacy. Qualitative research exploring these interactions could

address what actions arise in the PLC context and how they impact the participants and the work of the PLC.

School leaders need more information as they select and develop teacher leaders and create and support PLCs in their schools (McKenzie & Locke, 2014; Struyve et al., 2014; Taylor et al., 2011). Qualitative research about how school leaders can promote the development of collective efficacy through interactions between teacher leaders and teachers in PLCs would contribute to the literature that could help school leaders better identify, train, and support teacher leaders and support and structure PLCs in a manner that positively influences student achievement. A solid foundation of research has been identified, and the research questions have been tailored to contribute to identified gaps in the literature. The distributed leadership framework will provide a thorough structure for researching and analyzing how school leaders can promote the development of collective efficacy through a better understanding of interactions in PLCs.

References

Adams, C. M., & Forsyth, P. B. (2006). Proximate sources of collective teacher efficacy. *Journal of Educational Administration, 44*(6), 625-642.

Angelle, P. S., Nixon, T. J., Norton, E. M., & Niles, C. A. (2011, November). *Increasing organizational effectiveness: An examination of teacher leadership, collective efficacy, and trust in schools.* Paper presented at the meeting of the University Council for Educational Administration, Pittsburgh, PA.

Bandura, A. (1977). *Social learning theory.* Upper Saddle River, New Jersey: Prentice Hall.

Bandura, A. (1986*). Social foundations of thought and action.* Englewood Cliffs, New Jersey: Prentice-Hall, Inc.

Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist, 28*(2), 117-148.

Bandura, A. (1997). *Self-efficacy: The exercise of control.* New York: W.H. Freeman.

Bruce, C. D., & Ross, J. A. (2008). A model for increasing reform implementation and teacher efficacy: Teacher peer coaching in grades 3 and 6 mathematics. *Canadian Journal of Education, 31,* 346-370.

Carpenter, D. (2015). School culture and leadership of professional learning communities. *International Journal of Educational Management, 29*(5), 682-694. doi: 10.1108/IJEM-04-2014-0046

DeMatthews, D. (2014). Principal and teacher collaboration: An exploration of distributed leadership in professional learning communities. *International Journal of Educational Leadership and Management, 2*(2), 176-206.

Derrington, M. L., & Angelle, P. S. (2013). Teacher leadership and collective efficacy: Connections and links. *International Journal of Teacher Leadership, 4*(1), 1-13.

Diamond, J. B. (2007). Cultivating High Expectations in an Urban Elementary School: The Case of Kelly School. In Spillane, J. P. & Diamond, J. B. (Eds.), *Distributed leadership in practice* (pp. 63-84). New York, New York: Teachers College Press.

Diamond, J. B., & Spillane, J. P. (2016). School leadership and management from a distributed perspective: A 2016 retrospective and prospective. *Management Education, 30*(4), 147-154.

Donohoo, J. (2018). Collective teacher efficacy research: Productive patterns of behavior and other positive consequences. *Journal of Educational Change, 19*(3), 323-345.

Donohoo, J. (2017). *Collective efficacy: How educators' beliefs impact student learning.* Thousand Oaks, California: Corwin.

Donohoo, J., Hattie, J., & Eells, R. (2018). The power of collective efficacy. *Educational Leadership, 75*(6), 40-44.

Dufour, R. (2004). What is a professional learning community? *Educational Leadership, 61*, 6-11.

Fairman, J. C., & Mackenzie, S. V. (2012). Spheres of teacher leadership action for learning. *Professional Development in Education, 38*(2), 229-246.

Friedman, I.A., & Kass, E. (2002). Teacher self efficacy: A classroom-organization conceptualization. *Teaching and Teacher Education, 18*(6), 675-686.

Goddard, R. D., & Goddard, Y. L. (2001). A multilevel analysis of the relationship between teacher and collective efficacy in urban schools. *Teaching and Teacher Education, 17*(7), 807-818.

Goddard, R.D., Goddard, Y.L., Kim, E.S., & Miller, R. (2015). A theoretical and empirical analysis of the roles of instructional leadership, teacher collaboration, and collective efficacy beliefs in support of student learning. *American Journal of Education, 121*(4), 501-530.

Goddard, R. D., Hoy, W. K., & Hoy, A. W. (2000). Collective teacher efficacy: Its meaning, measure, and impact on student achievement. *American Educational Research Journal, 37*(2), 479-507.

Goddard, R. D., Skrla, S., Salloum, S. J. (2017). The role of collective efficacy in closing student achievement gaps: A mixed methods study of school leadership for excellence and equity. *Journal of Education for Students Placed at Risk, 22*(4), 220-236.

Gronn, P. (2000). Distributed properties: A new architecture for leadership. *Educational Management Administration & Leadership, 28,* 317-338.

Hairon, S., Wee Pin Goh, J., & Siew Kheng Chua, C. (2015). Teacher leadership enactment in professional learning community contexts: towards a better understanding of the phenomenon. *School Leadership & Management, 35*(2), 163-182. doi: 10:1080/13632434.2014.992776

Harris, A. (2002). Improving schools through teacher leadership. *Education Journal. 59,* 22-23.

Harris, A., & Spillane, J. (2008). Distributed leadership through the looking glass. *Management in Education, 22*(1), 31-33.

Hartley, D. (2007). The emergence of distributed leadership in education: Why now? *British Journal of Educational Studies, 55*(2), 202-214.

Heikka, J., Waniganayake, M., & Hujala, E. (2013). Contextualizing distributed leadership within early childhood education: Current understandings, research evidence and future challenges. *Educational Management, Administration and Leadership, 41*(1), 30-44.

Klein, E. J., Taylor, M. Munakata, M., Trabona, K., Rahman, Z., & McManus, J. (2018). Navigating teacher leaders' complex relationships using a distributed leadership framework. *Teacher Education Quarterly, 45*(2), 89-112.

Leithwood, K., Seashore, K., Anderson, S., & Wahlstrom, K. (2004). *Review of research: How leadership influences student learning.* New York: The Wallace Foundation.

Leithwood, K., & Jantzi, D. (2008). Linking leadership to student learning: The contributions of leader efficacy. *Educational Administration Quarterly, 44*(4), 496-528.

Liu, Y., Bellibas, M. S., & Printy, S. (2016). How school context and educator characteristics predict distributed leadership: A hierarchical structural equation model with 2013 TALIS data. *Educational Management Administration & Leadership, 46*(3), 401-423.

Margolis, J., & Huggins, K. S. (2012). Distributed but undefined: New teacher leader roles to change schools. *Journal of School Leadership, 22*(5), 953-981.McKenzie, K. B., & Locke, L. A. (2014). Distributed leadership: A good theory but what if leaders won't, don't know how, or can't lead. *Journal of School Leadership, 24*(1), 164-188.

Merriam, S. B. (2009) *Qualitative research: A guide to implementation and design.* San Francisco, California: Jossey-Bass.

Murphy, J., Smylie, M., Mayrowetz, D., & Seashore Louis, K. (2009). The role of the principal in fostering the development of distributed leadership. *School Leadership and Management, 29*(2), 181-214. doi: 10.1080/13632430902775699

Neumerski, C. M. (2012). Rethinking instructional leadership, a review: what do we know about principal, teacher, and coach instructional leadership, and where should we go from here? *Educational Administration Quarterly, 49*(2), 310-347. doi: 10.1177/0013161X12456700

Pankake, A., & Abrego, Jr., A. (2017). *Lead with me: A principal's guide to teacher leadership* (2nd ed.). New York, New York: Routledge.

Paredes Scribner, S. M. P., & Bradley-Levine, J. (2010). The meaning(s) of teacher leadership in an urban high school reform. *Educational Administration Quarterly*, *46*(4), 491-522.

Ringler, M. C., O'Neal, D., Rawls, J., & Cumiskey, S. (2013). The role of school leaders in teacher leadership development. *Rural Educator, 35*(1), 34-43.

Robinson, V. M., Lloyd, C. A., & Rowe, K. J. (2008). The impact of leadership on student outcomes: An analysis of the differential effects of leadership types. *Educational Administration Quarterly*, *44*(5), 635-674.

Schaap, H., & de Bruijn, E. (2017). Elements affecting the development of professional learning communities in schools. *Learning Environments Research, 21*, 109-134. doi: 10.1007/s10984-017-9244-y

Schrum, L., & Levin, B. B. (2013). Preparing future teacher leaders: Lessons from exemplary school systems. *Journal of Digital Learning in Teacher Education*, *29*(3), 97-103.

Spillane, J. P. (2006). *Distributed leadership*. San Francisco, California: Jossey-Bass.

Spillane, J.P., & Diamond, J.B. (2007). Taking a Distributed Perspective. In Spillane, J. P. & Diamond, J. B. (Eds.), *Distributed leadership in practice* (pp. 1-15). New York, New York: Teachers College Press.

Spillane, J. P., Halverson, R., & Diamond, J. B. (2004). Towards a theory of leadership practice: A distributed perspective. *Journal of Curriculum Studies*, *36*(1), 3-34.

Spillane, J. P., Halverson, R., & Diamond, J. B. (2001). Investigating school leadership practice: A distributed perspective. *Educational Researcher*, *30*(3), 23-28.

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

Struyve, C., Meredith, C., & Gielen, S. (2014). Who am I and where do I belong? The perception and evaluation of teacher leaders concerning teacher leadership practices and micropolitics in schools. *Journal of Educational Change, 15*(2), 203-230.

Taylor, M., Goeke, J., Klein, E., Onore, C., & Geist, K. (2011). Changing leadership: Teachers lead the way for schools that learn. *Teaching and Teacher Education, 27*(5), 920-929.

Tschannen-Moran, M., & Barr, M. (2010). Fostering student learning: The relationship of collective teacher efficacy and student achievement. *Leadership and Policy in Schools. 3*(3), 189-209.

Tschannen-Moran, M., Hoy, A.W., & Hoy, W.K. (1998). Teacher efficacy: Its meaning and measure. *Review of Educational Research 68*(2), 202-248.

Tschannen-Moran, M. & Johnson, D. (2011). Exploring literacy teachers' self-efficacy beliefs: Potential sources at play. *Teaching and Teacher Education, 27,* 751-761.

Tschannen-Moran, M., & McMaster, P. (2009). Sources of self-efficacy: Four professional development formats and their relationship to self-efficacy and implementation of a new teaching strategy. *The Elementary School Journal, 110,* 228-245.

Voelkel, Jr., R. H., & Chrispeels, J. H. (2017). Understanding the link between professional learning communities and teacher collective efficacy. *School Effectiveness and School Improvement, 28*(4), 505-526. doi: 10.1080/09243453.2017.1299015

Wang, L., Tan, L., Li, J., Tan, I., & Lim, X. (2017). A qualitative inquiry on sources of teacher efficacy in teaching low-achieving students. *The Journal of Educational Research, 110*(2), 140-150. doi: 10.1080/00220671.2015.1052953

Weiner, J. M. (2011). Finding common ground: Teacher leaders and principals speak out about teacher leadership. *Journal of School Leadership, 21*(1), 7-41.

Wenner, J. A., & Campbell, T. (2017). The theoretical and empirical basis of teacher leadership: A review of the literature. *Review of Educational Research, 87*(1), 134-171.

Wilson, A. (2016). From professional practice to practical leader: Teacher leadership in professional learning communities. *International Journal of Teacher Leadership, 7*(2), 45-62.

York-Barr, J., & Duke, K. (2004). What do we know about teacher leadership? Findings from two decades of scholarship. *Review of Educational Research, 74*(3), 255-316.

Yukl, G. (1998). *Leadership in organizations.* Upper Saddle River, NJ: Prentice Hall.

2. A CASE STUDY ANALYZING INTERACTIONS IN PLCS AND PERCEPTIONS OF HOW THEY INFLUENCE COLLECTIVE EFFICACY

This study explores how school and teacher leaders and teachers work together in PLCs in ways that may influence perceptions of collective efficacy. This section sets forth the methods for the study. It will begin with a discussion of qualitative analysis and why a case study is the approach utilized for this research. The dissertation then outlines the setting and participants for the study and discusses how interviews, observations, and document review were used to collect the data. Finally, the paper describes how the data was analyzed to reach the findings and ends with a discussion of the results.

Research Questions

The research questions explored in this study are as follows:

1. What interactions take place among school leaders, teacher leaders, and teachers as they work together in a PLC context?
2. How are the interactions between school leaders, teacher leaders, and teachers in a PLC context perceived to influence collective efficacy?

Definitions

For this research, the following definitions were utilized:

Collective efficacy: "the perceptions of teachers in a school that the faculty as a whole can organize and execute the courses of action required to have a positive effect on students" (Goddard & Goddard, 2001, p. 809).

Distributed leadership: a conceptual framework that "acknowledges the work of leading and managing schools involves multiple individuals" and centers on leadership practice, "a

product of the interactions of school leaders, followers, and aspects of their situation" (Spillane & Diamond, 2007, p. 7).

Information-rich: possessing information from which "one can learn a great deal about issues of central importance to the purpose of the inquiry" (Merriam, 2009; Patton, 2002).

*Interactions: "*tasks [comprised of] macro-functions and microtasks or routines that enable the accomplishment of the broader goals" (Diamond, 2007, p. 65).

Professional learning communities: communities of teachers who work together to ensure students learn while emphasizing collaboration and focusing on student achievement outcomes (adapted from DuFour, 2004). They will be referred to hereinafter as "PLCs."

Teacher leadership: "the process by which teachers, individually or collectively, influence their colleagues, principals, and other members of school communities to improve teaching and learning practices with the aim of increased student learning and achievement" (York-Barr & Duke, 2004, p. 287-288). In this research, teacher leaders were those teachers who met the criteria above and who had both classroom responsibilities and a charge from their schools to lead their PLCs.

Overview

Because of increased responsibilities and accountability for schools and school leaders, many schools have begun to distribute leadership throughout their buildings (Harris & Spillane, 2008; Pankake, 2017; Wilson, 2016). This distributed leadership allows school leaders to share responsibilities and expertise (Harris & Spillane, 2008). Some schools distribute leadership by creating opportunities for teachers to become leaders within the building, and some schools build professional learning communities to capitalize on the expertise and leadership within the school (Neumerski, 2012; Stoll, Bolam, McMahon, Wallace, & Thomas, 2006; York-Barr & Duke,

2014). My searches did not unearth a great deal of research, however, to inform school leaders about how to best select and prepare teacher leaders or to structure and support PLCs in a way that leads to school improvement and student achievement. Schools risk embarking on this work without the benefit of empirical support (McKenzie & Locke, 2014; Struyve, Meredith, Gielen, 2014; Taylor, Goeke, Klein, Onore, & Geist, 2011).

Quantitative research has demonstrated a positive correlation between collective efficacy and student achievement (Bandura, 1993; Goddard, Goddard, Kim, & Miller, 2015; Goddard, Hoy, & Hoy, 2000; Tschannen-Moran & Barr, 2010). More recently, quantitative studies have established a positive correlation between teacher leadership and collective efficacy, as well as PLC implementation and collective efficacy (Angelle, Nixon, Norton, & Niles, 2011; Derrington & Angelle, 2013; Voelkel & Chrispeels, 2017). In spite of these findings, little qualitative research has been located that explores the interactions between school leaders, teacher leaders, and teachers as they work together in a PLC.

The analysis in this study uses the distributed leadership framework, which examines leadership activity at the school level, rather than the level of the individual leader (Spillane, 2006; Spillane et al., 2001). The framework requires one to examine leadership practice through the interactions and activities among stakeholders in the specific contexts and tasks (Gronn, 2000; Spillane et al., 2004). In other words, the framework examines how leaders and followers interact in a situation (Spillane, 2006). This dissertation utilizes the framework to consider specifically how school leaders, teacher leaders, and teachers work together within a PLC context to shed some light on perceptions of how their interactions may influence the development of collective efficacy. Insight about these interactions could help school leaders as they make decisions about how to select, prepare, and support teacher leaders and structure and

support PLCs in their school buildings. With this knowledge, school leaders could be more intentional about structuring teacher leadership and PLCs in ways designed to promote student achievement. Research in this area would contribute to the literature in areas where there currently are gaps (Angelle et al., 2011; DeMatthews, 2014; Stoll et al., 2016; Wilson, 2016; York-Barr & Duke, 2004).

Methodology

The distributed leadership framework has informed the problem of the current study, shaped the research questions for the study, and driven the proposed methodology (Merriam, 2009). Because this study utilized a distributed leadership framework, it called for the analysis of leadership activity, or the interactions among leaders and followers within a context (Spillane, Halverson, & Diamond, 2004). This distributed perspective "highlights interdependencies across seemingly disparate activities by grounding the analysis in leadership practice" (Diamond & Spillane, 2016). In this study, I examined the interactions among school leaders, teacher leaders, and teachers within a PLC framework, as well as how those interactions shaped perceptions of the development of collective efficacy. Because the research questions sought to examine interactions and perceptions, a qualitative study was utilized. Qualitative research explores how people interpret and make meaning of their experiences (Creswell & Poth, 2018; Crotty, 1998; Merriam, 2009). Specifically, this research examined the experiences of school leaders, teacher leaders, and teachers as they interacted in PLCs and how they made meaning of and perceived those experiences (Merriam, 2009). The study took a constructivist approach, as it investigated the multiple realities of educators involved in various aspects of leadership and PLCs (Crotty, 1998; Merriam, 2009).

PLCs have several participants, and they each make meaning of the community and what happens within the community in different ways. By examining the experiences of participants, this study presents several perspectives that may help schools better understand the relationships and interactions between school leadership, teacher leadership, teachers, PLCs, and collective efficacy. The study investigated how the participants perceived the work in which they engaged in their PLCs. Specifically, the study examined four aspects of the distributed leadership framework: tasks and functions, task enactment, social distribution of task enactment, and situational distribution of task enactment (Spillane et al., 2004). The study also explored how these aspects contribute to the sources of efficacy: mastery experiences, vicarious experiences, verbal persuasion, and physiological states (Bandura, 1986; Goddard et al., 2000).

Additionally, qualitative research was preferred for this study because quantitative studies have already demonstrated positive correlations between collective efficacy and student achievement, as well as teacher leadership and collective efficacy and PLC implementation and collective efficacy (Bandura, 1993; Goddard et al., 2000; Derrington & Angelle, 2013; Voelkel & Chrispeels, 2017). No qualitative studies have been located that expound on the correlations in the way this study does, and some researchers have suggested that qualitative research would be helpful in better understanding the quantitative research results (Angelle et al., 2011; DeMatthews, 2014; Stoll et al., 2016; Wilson, 2016; York-Barr & Duke, 2004). This study addressed a gap in the literature by addressing the interactions between school leaders, teacher leaders, and teachers in PLCs using qualitative methods. The desired outcome of the study was not establishing a relationship but instead providing a detailed description of interactions, drawn from the meaning constructed from participant experiences (Merriam, 2009). The qualitative

approach allowed for the study of the interactions in a natural setting and context and examination of the multiple meanings and perspectives of participants (Creswell & Poth, 2018).

There are six types of basic qualitative studies: qualitative case study, critical qualitative research, narrative analysis, phenomenology, ethnography, and grounded theory (Creswell & Poth, 1998; Merriam, 2009). This research utilized a qualitative case study because it included an in-depth description and analysis of a bounded system (Merriam, 2009). A case study allows for the investigation of phenomena when many variables and complexities are involved; this type of research provides a "rich and holistic account" of the matter under study (Merriam, 1998, p. 41). It involves placing an interpreter in the field to observe, understand, and draw conclusions (Stake, 1995). A case study is a helpful tool for exploring educational innovations, evaluating programs, and informing policies (Merriam, 2009).

In this case, because there were multiple perspectives and interactions within the PLC context, a bounded study was a beneficial mechanism for the analysis. The research is an instrumental case study, as it explored research questions through a particular case to provide insight into the problem (Creswell & Poth, 2018; Stake, 1995). Because this study aims to provide insight that can strengthen teacher leadership and PLC structures and inform how school leaders implement them in schools, the case study was a good fit for the research. A case study allowed me to take a deep dive into the inner workings of PLCs in one school to carefully describe and analyze the interactions therein that shaped perceptions of collective efficacy in that school. The case study allowed for thick descriptions and the analysis of a number of variables and complexities, such as those that relate to the framework of distributed leadership – tasks and their distribution.

Sample

In this study, I utilized purposive sampling to select participants from whom the most can be learned (Merriam, 2009; Tracy, 2013). Merriam (2009) contends that when engaging in purposive sampling, a researcher must determine selection criteria and then demonstrate why the requirements are important. In this case, the sample consisted of one middle school in a Southeastern school district. I opted to conduct a single site case study to allow for an in-depth review of the teacher leadership and PLC processes in one school before embarking on a more comparative analysis, which may be an area for future study. Analyzing one school narrowed the variables and complexities of the study.

The district was selected because, over the years, it has invested in building and supporting both teacher leadership and PLC structures. A middle school was chosen from the district because within this particular district, middle school PLCs often consist of teachers who teach in one grade-level subject area. Research has indicated that different subject areas organize for instruction in different ways, so the sample in this study will involve educators who teach in one subject area (Spillane & Hopkins, 2013). The chosen school was one in which perceptions of teacher leadership and PLC implementation were high, as determined by the recommendation of the district staff development office and results of a staff development survey discussed in further detail below.

The district staff development office was asked to recommend a school that utilized teacher leadership and had a high implementation of PLCs. They were asked to make the recommendation based on their experiences and observations in their work throughout the district, as well as the results of an annual staff development survey. The staff development survey the district utilizes in its normal practice is called the Standards Assessment Inventory

(the "SAI"). The SAI is a 50-item tool from Learning Forward that measures, among other things, perceptions of PLC implementation. In the survey, school staff answer questions about PLC practices that indicate the frequency and quality of specific actions associated with PLC implementation. Schools are assigned scores in different categories based on their responses. While the results of this survey are available to the district staff development office, the questions, answers, and scores are not published. In response to my inquiry, the staff development office provided a shortlist of schools that would be a good fit for the study based on their experiences and observations of teacher leadership and PLC implementation, as well as the results of the most recently administered SAI survey. I selected one of the schools based on fit for the study and the school's willingness to participate.

I invited Oak Park Middle School to participate in the study. Oak Park Middle School is a school that serves over 1200 students. The school provided an information-rich environment to study the matters at the heart of the research. I was aware that Oak Park Middle School had weekly PLC meetings that consisted of grade-level, content area teachers and had teacher leadership structures that provided an opportunity for teacher leaders to exercise leadership in the PLC context. I sent a recruiting email to the principal, and a copy of the email template is attached as Appendix A. Other studies also have selected schools for analysis based on well-established PLCs and the strong presence of teacher leadership (e.g., Carpenter, 2015; Paredes Scribner & Bradley-Levine, 2010). More information about Oak Park Middle School will be provided in the findings section of this dissertation.

Once the case has been selected, the sample must be chosen from within the case (Merriam, 2009). I first interviewed the principal of the school and an assistant principal who supports the development of professional learning communities. I started with interviewing the

school leaders so that they could provide me with an overview of PLCs in their school more generally and then talk about the work of specific PLCs that they believed to be a good fit for the study. Near the end of each interview with the school leaders, I asked them to identify two subject areas with PLCs and teacher leadership that would provide an information-rich context for the study. To provide guidelines for making the recommendation, the school leaders were presented with the purpose of the study, the definitions of terms used in the study, as well as the Collective Teacher Efficacy Instrument – Short Form, developed by Goddard (2002). The purpose, definitions, and instrument provided school leaders with context and criteria for recommending the content areas. The information sheet provided to the principal and assistant principal for making the recommendation is attached as Appendix B. The Collective Efficacy Instrument – Short Form (Goddard, 2002) is attached as Appendix C to this study. The school principal and assistant principal had a working knowledge of which content areas and PLCs within the school were learning and collaborating consistently for students and would be capable of providing an information-rich environment for the study. They had observed and participated in PLC meetings and had discussed PLCs in their leadership team meetings. In this context, an information-rich environment would be one in which perceptions of teacher leadership, PLC implementation, and collective efficacy were strong.

The principal and assistant principal recommended that I work with the language arts department or the science department PLCs. They indicated that teachers in all grade-levels in those subject areas were collaborating well together and working together to create student-focused instruction. After the two subject areas were identified, available members of each PLC within those two departments voluntarily completed the twelve-item Collective Teacher Efficacy Instrument – Short Form to determine which PLCs had the strongest perceptions of collective

efficacy. Based on the results of the collective efficacy scale, I selected and studied the two PLCs with the strongest perceptions of collective efficacy, two PLCs from the language arts department. This process allowed me to take into account the perceptions of school leaders and also consider the more objective collective efficacy scale to determine the participants of the study.

After the two PLC groups were identified from the recommendations of school leaders and the results of the collective efficacy scale, observations of the PLCs began. The observations provided me with an opportunity to see each participant engaged in the work of the PLC and allowed me to determine which participants may have unique perspectives on the work of the PLC. Based on the observations, I identified two teacher leaders and four teachers to be interviewed. I selected the teacher leader from each of the two PLCs to interview. I also selected four teachers based on voices and perspectives shared in the PLC meetings. I selected two teachers based on their roles as teachers of subgroups, a special education teacher and a teacher of English language learners. The final two teachers were selected based on their voice and participation in the meetings. I selected one who appeared to be a vocal, frequent participant, and one who did not vocalize or participate as frequently in the meeting. Each of the participants appeared to hold information that may be pertinent to the research questions as participants in the PLC. All seemed familiar with interactions taking place within the PLC and held and shared opinions about the work of the community and how it impacted the community members and the students they served. Eight participants in total were chosen to participate in the study to provide multiple perspectives of school leaders, teacher leaders, and teachers. Two school leaders and two teacher leaders participated in providing various viewpoints from the school leadership perspective. Four teachers (two regular education, one special education, and one English learner

teacher) participated in delivering multiple views of teacher perspectives, as well. Each participant will be described in more detail in the findings section of the dissertation.

Data Collection and Management

I collected data in three ways: interviews, observations, and document reviews. The observation and interview data were collected in digital form and stored using password-protected devices and password protected software. The digital data was backed up to prevent loss of data. All digital data was stored securely on electronic devices and clouds that are secured by facial recognition or a password. I am the only individual with access to the devices and clouds. Documents were collected in hard copy. Hard copy data that was collected was and is stored in a locked cabinet. Consent forms and any identifiable information was and is stored in a separate locked cabinet. Only I have access to the key for the locked cabinets. Data will be destroyed within three years of completion of the study. Only I will have access to the recordings and transcriptions. The subject school gave permission to utilize its site for data collection, and participants preferred to participate at that location.

The identities of schools and participants were masked in all data collected and not disclosed in the research, as they were identified only by pseudonyms (Creswell & Poth, 2018). I have not and will not share identifying information except with my principal investigator and faculty adviser. I collected participants' names and email addresses. Aside from that information, I collected only non-identifiable data. When additional identifiable information was inadvertently collected, identifiable information was redacted to the extent possible (e.g., removed from electronic records or blacked out in a hard copy documents) and stored securely and not disclosed or revealed in the research (e.g., any hard copy document containing identifiable data was redacted and stored in the locked box or cabinet referenced above).

Ethical considerations.

I ensured the ethical protection of participants and information in a variety of ways. I obtained IRB approvals and local permissions necessary to conduct the study. The selected site did not have an interest in the outcome of the study in that the site was not recognized, rewarded, evaluated, or penalized based on any findings. I disclosed the purpose of the research and associated risks, and each participant gave informed consent without coercion. A copy of the letter I used to obtain consent is attached as Appendix D. I observed norms and attempted to minimize any disruption to participants in the process of data collection. The participants did not obtain any direct benefit from participation in the study, but the research may inform the literature around teacher leadership, professional learning communities, and collective efficacy, presenting a benefit to the field of education and society. The study presented no risks to participants higher than those encountered in a typical day of life.

Interviews.

Interviews provide information when one cannot observe how someone interprets an experience (Merriam, 2009). I held one, one-hour long interview with each of the following individuals: the principal who supported the PLCs selected for the study, the assistant principal who supported the development of the PLCs chosen for the study, one teacher leader from each PLC, and two teachers from each PLC. The interviews consisted of semi-structured questions. Semi-structured questions allowed me to craft queries in advance, but then follow-up or otherwise respond to the events in the interview as they unfolded (Merriam, 2009).

Each of the one-hour interviews took place outside of the student school day at the school where the educators worked. The interviews were recorded by two electronic methods, and data was stored on a secure device and cloud. Notes were not taken, except to follow up where

necessary. The people who were interviewed were identified by a pseudonym and had the opportunity to review and clarify or modify the transcript of the interview. Although I had the opportunity to follow up with participants, no follow-up interviews were needed, as I did not encounter conflicting information or areas that required additional clarification.

The questions prepared for the interviews arose out of the conceptual framework of distributed leadership in that they explored the interactions between leaders and followers in the context of their PLC. The questions were created by referencing and adapting the elements from the Collective Efficacy Instrument – Short Form (Goddard, 2002) attached as Appendix C. The interview questions, attached as Appendix E, were designed to elicit descriptive information about the interactions that occurred in the context of the PLC and how those interactions related to the development of collective efficacy. The questions were designed to provide information on tasks conducted within and outside of the PLC, how tasks were enacted, how tasks were socially distributed among members, and how the situation impacted how tasks were enacted within the PLCs, connecting the data to the theoretical framework of distributed leadership (Spillane, Halverson, & Diamond, 2004). The interview questions specifically asked participants about interactions that happened within the PLC context. Follow up questions were asked as needed regarding who carried out the tasks and how tasks were shared or distributed. Additionally, the questions were designed to provide insight about how participants perceived the development of collective efficacy within their PLCs. The people participating in the interviews were provided with the definitions of all defined terms being utilized in the study to avoid any confusion regarding the terminology. I asked follow-up questions within the interviews to clarify information when it was necessary for better understanding.

Observations.

Observations also were used to gather data. Observations are first-hand encounters with the event being observed that take place in the natural setting for the event (Merriam, 2009). Merriam (2009) contends that when an event or situation can be observed firsthand, observation is the best technique to use. Observations are also a good fit for analyzing distributed leadership, as Spillane asserts that to examine leadership practice, one must "observe it, infer who the leaders are, and begin to explore the interactions among leaders, followers, and their situation" (Spillane, 2006, p. 84). While interviews provided insight into the perceptions of the participants, observations allowed me to observe the interactions and behaviors that form the basis of the opinions. I witnessed the interactions between participants and others that may have led to the opinions shared in interviews. Observations allowed me to see people working together and to observe subtle complexities like body language and facial expressions during interactions, which interviews cannot always sufficiently convey.

To conduct an observation, the observer should determine what to observe, considering the setting, participants, activities and interactions, conversations, and other subtle factors (Merriam, 2009). The observer should be attentive to the key events, as well as background conditions (Stake, 1995). The observer also should consider his or her own role in the event or situation (Merriam, 2009). Because observations affect who or what is observed, it is crucial to minimize the effect of the observation, as well as identify and account for those effects in interpreting the data (Merriam, 2009).

Merriam (2009) recommends a written account of the observation in the form of detailed field notes written during the observation, with more elaboration immediately following the observation. Stake similarly recommends writing up the observation while it is still fresh (1995).

Notes should include setting, activities, and behavior of participants, including direct quotes, where helpful. Notes may also include observer comments, but they should be designated as such (Merriam, 2009). In this case, I used an observation protocol adapted from Creswell and Poth (2018) that provided an area to record the date, time, place, and participants, as well as descriptive and reflective notes. A copy of this protocol is attached as Appendix F to this dissertation.

In the study, six observations of PLC meetings were conducted, three of each PLC group. I also attended one PLC meeting for each PLC prior to the six observations before collecting any data so that PLC participants would have the opportunity to meet me and to grow accustomed to my presence before data collection began. The observations took place during regular meeting times for the PLC within the school day, lasting the length of the typical PLC meeting, about an hour and fifteen minutes. The observation took place in the school's collaboration station, the location where the PLC meets typically. I observed each PLC meeting with a particular focus on the roles of participants, tasks, how tasks were enacted, and how tasks where distributed and shared from a distributed leadership perspective.

I conducted observations of the PLCs after interviewing the school leaders. The observations were used to identify the teachers I would interview in the study. I served as a non-participant, an observer who watched and took notes without involvement (Creswell & Poth, 2018). I took highly detailed and descriptive field notes during the observation and wrote reflective notes immediately following the observation using the protocol in Appendix F. In the notes, participants were referred to using an alias, and no identifying information regarding participants was disclosed. I contemplated conducting an audio recording of the PLC meeting,

but decided against it because of the risk that an audio recording may have a chilling effect on teacher participation.

Document review.

Finally, documents were collected and analyzed to provide an additional source of data. Documents are an objective source of information, in that they are not subject to influence by the presence of an observer (Merriam, 2009). Therefore, documents have the potential to reveal information and interactions that a researcher may not encounter in interviews and observations. Documents often evidence tools that people use in their practice, and therefore, can shape and evidence the interactions among leaders and followers (Spillane, 2006). The study's participants provided me with PLC meeting agendas and work created to guide the PLC's work (lesson plan review protocols). I used these documents to analyze further what tasks the PLCs carried out and how they were enacted, shared, and distributed within the PLC in connection with the theoretical framework of distributed leadership. I looked at the activities on the agendas to determine what work the PLC was doing and looked to see if roles were assigned to carry out certain tasks or complete certain work. Participants were asked to provide a copy of any such documents to me before the start of or after observations. Participants were asked in advance (when obtaining consent) to bring an additional copy of any materials created by or for the PLC to each PLC meeting that is observed.

Triangulation.

Because qualitative research analyzes multiple perceptions, it is unlikely that it can be replicated in the way that quantitative research can. In qualitative research, Merriam (2009) refers to trustworthiness as validity and reliability. A study must be accurate in measuring and logical in interpreting the meaning of measurements (Stake, 1995). To ensure trustworthiness,

Merriam asserts that a researcher must conduct research in an ethical manner. The researcher also must pay attention to how the study is conceptualized, how data is collected, analyzed, and interpreted, and how findings are presented (Merriam, 2009). The researcher must ensure the findings are credible, given the data presented (Merriam, 2009). Additionally, the researcher must ask if the results are consistent with the data collected (referred to by other writers as "dependability") (Merriam, 2009).

One of the primary ways to ensure that results are credible and dependable is through triangulation. Triangulation is the process of comparing and cross-checking data by collecting from multiple sources (Merriam, 2009; Stake, 1995). This study utilized interviews of eight people, observations of six PLC meetings, and analysis of documents. Information was analyzed as it was collected, and new data triangulated data collected earlier. Therefore, as data were collected, I reviewed and analyzed it in light of the data that had been collected previously to ensure consistency and clarity. No follow-up research was necessary to reconcile conflicting information or information that was unclear in light of more recently collected data. I also utilized member checks, in which participants were solicited for feedback as findings emerged (Merriam, 2009). I followed-up with participants to ensure that emerging finds were consistent with the participant's intent and realities of the work.

Data Analysis

Data was collected and analyzed simultaneously. I manually transcribed each interview and later listened to the interview in full while following along with the transcript to ensure accuracy. Interview transcripts and observation notes were read and analyzed multiple times. Documents that were collected were reviewed similarly. During the analysis of documents, notes, and transcripts, I started by breaking data into its smallest component parts in a

spreadsheet and by looking for information that may answer the research questions. I also looked for patterns and recurring information. Documents initially were coded by identifying bits of information in shorthand so that they may be retrieved with greater ease (Merriam, 2009). During this open coding, I used initial thoughts to code the information (Merriam, 2009). I looked at the data through the lens of distributed leadership, asking what types of interactions were occurring among the school and teacher leaders and teachers in the PLC context (Spillane, 2006). I looked specifically for information describing tasks and functions, how tasks were enacted, and how tasks were distributed and shared among members of the PLC (Spillane, 2006). I also looked for tasks that may align with the sources of collective efficacy. Particularly, I looked for interactions that might align with mastery and vicarious experiences, verbal persuasion, and affective state. I was open to other information and patterns that emerged from the data. I worked to find patterns and commonalities throughout all of the data—the interview transcripts, notes from observations, and collected documents.

Then, I engaged in the second round of coding, axial coding, to start grouping open codes based on interpretation and reflection (Merriam, 2009; Saldana, 2016). This round of coding synthesized information and constructed meaning from the data. Because I collected data and then created theories, rather than tested theories, the analysis of the data was inductive (Merriam, 2009). In this round of coding, I made a concept map of open codes and started grouping codes together based on ideas that were similar or had connections. For example, I grouped together interactions like sharing ideas and opinions, building on ideas, and decision-making. I also grouped interactions like reinforcing social connections, providing encouragement, and providing praise and recognition.

Finally, I used the coded information to create categories, conceptual elements that

spanned large pieces of data (Merriam, 2009). In other words, I reviewed the research questions and asked how the groupings I had created answered the research question. As discussed further below in the findings, I grouped all interactions into four categories. Using this inductive process, I then sorted data and evidence into the categories and named the categories of interactions people-focused, purpose-focused, work-focused, and instruction-focused interactions, which answered the research questions (Merriam, 2009). Because the categories answered the research question, they were responsive to the purpose of the research (Merriam, 2009). The answers to the research questions are presented as the findings below. The findings of the research present reality from the perspectives of the participants in the study, not the researcher, although the researcher was the primary instrument of data collection (Merriam, 2009).

Limitations

Although I attempted to minimize bias or error, the research was conducted in a school district with which I have a working relationship. In spite of this relationship with the district, I did not collect data from anyone with whom I have a personal relationship. Moreover, the time of year in which the research was conducted may have influenced the interactions observed. PLCs engage in different work at different times within the school year, so observations or interviews at various times throughout the year may yield different interactions among the participants in a PLC. This data was collected near the end of the first half of the school year, from October to December, so teachers during this time period were preparing for end of the semester assessments.

Additionally, because this is a case study, the results apply only to the immediate case and will not be transferable to other populations. Case studies are conducted to learn about the

case, not to determine what is true for a more general population, so findings generally are not transferable (Merriam, 2009). However, the researcher in a case study can assist future researchers who may want to argue for transferability in that effort by providing descriptive data to allow an analysis of whether transferability would be appropriate (Merriam, 2009).

Finally, I have worked as a school leader and a teacher leader in a middle school. In this role, I have facilitated and participated in PLCs at the middle school level. Throughout this research, I worked to bracket my own experiences and opinions about PLCs to reflect more accurately the understandings and perceptions of the study's participants. Bracketing occurs when "the researcher sets aside, as far as humanly possible, all preconceived experiences to best understand the experience of participants in the study" (Creswell & Poth, 2018). In this study, I journaled about my own practices with PLCs before the analysis of data. As I collected data, I also journaled to reflect on how my own experiences are similar to and differ from those observed in an attempt to identify and remove any basis for personal biases.

Findings

The context.

Before discussing the findings, I would like to provide additional context about the school and the leaders, the followers, and the context of the current study in connection with the theoretical framework of distributed leadership. Oak Park Middle School is located outside of a large city. The school serves more than 1,200 students. The school serves a diverse population with large percentages of African American, Hispanic, and Caucasian students. More than half of the school's students qualify for free or reduced fee lunch. In 2019, Oak Park Middle School scored slightly below the state's average for middle schools using a state performance indicator.

Under the same performance indicator, the school was awarded the maximum score for school climate.

The sample of the study consisted of two Oak Park Middle School PLCs from two grade levels. Each PLC consisted of a teacher leader, regular education teachers, and one or more special education or English learner teachers. The teacher leader in each PLC held a formal position of leadership in the PLC, but each teacher leader also had a full-time teaching load and no additional planning time for serving as the teacher leader. Both PLCs in the study were supported by the principal, Mr. Malloy, and the assistant principal, Ms. Millet. Mr. Malloy was in his second year as principal at Oak Park Middle School and previously had served as principal of another school. Ms. Millet was also in her second year at Oak Park Middle School. Ms. Millet taught for seventeen years before becoming an administrator and engaged in extensive work with PLCs as a teacher.

The two PLCs met at different times each Thursday with the lower-grade level PLC meeting just after lunch and the higher-grade level PLC meeting at the end of the day. Each PLC was observed three times on the same three days for a total of six observations. The two PLCs met in a room called the collaboration station, where all five of the grade level PLCs (one for each subject area – language arts, math, science, social studies, and foreign language) met at the same time for a standing PLC meeting each week. Table 1 shows when observations occurred.

Table 1

Summary of when observations occurred.

Observation/Date	After Lunch	End of Day
Observation 1 – November 21	Lower-grade PLC	Higher-grade PLC
Observation 2 – December 5	Lower-grade PLC	Higher-grade PLC
Observation 3 – December 12	Lower-grade PLC	Higher-grade PLC

The collaboration station was a large room with five table groupings. Each subject area PLC met at a separate group of tables containing a monitor screen for displaying group work. Although multiple meetings in the same room created a buzz of conversation throughout the room, each PLC appeared to focus on its work without distraction. The room was bright with a large window allowing natural light and a view of a nearby wooded area. The room contained instructional support materials on the walls, such as expectations for PLCs and protocols that could be utilized by PLCs during their meetings. Snacks, such as popcorn, crackers, or chocolate, were available at each table grouping for participants to enjoy.

Mr. Malloy made an appearance in the collaboration station at each observed PLC meeting, specifically facilitating grade-level wide activities at two of the six observed meetings. Ms. Millet was a present and active participant within the observed PLCs at five of the six PLC meetings. Her absence from one of the PLC meetings was due to a conflict. It appeared that both Mr. Malloy and Ms. Millet participated in PLC meetings regularly.

The lower-grade level PLC was comprised on five teachers: Ms. Cameron, Ms. Roberts, Ms. Mathis, Ms. Taggert, and Ms. Sabini. Ms. Cameron served as the teacher leader for the PLC. Ms. Cameron, Ms. Roberts, and Ms. Mathis were regular education teachers. Ms. Taggert was a special education teacher, and Ms. Sabini was a teacher of English learners. Ms. Cameron has taught for 13 years, and this was her second year at Oak Park Middle School. She has a background of being a language arts teacher and a reading coach. Both Ms. Roberts and Ms. Mathis were relatively new to the school. This year was Ms. Roberts' first year at the school, and Ms. Mathis has been at the school for three years. Ms. Taggert has taught for 16 years, and this was her sixth year at Oak Park Middle School. Ms. Sabini has taught for 23 years, although this

was her third year at the school. She served as a teacher of all three grade levels at Oak Park Middle School.

The higher-grade level PLC was comprised of six teachers: Ms. Tapper, Ms. Rowan, Ms. Melvin, Ms. Locke, Mr. Pickle, and Ms. Sabini. Ms. Tapper served as the teacher leader for the PLC. Ms. Tapper, Ms. Rowan, and Ms. Melvin were regular education teachers. Ms. Locke and Mr. Pickle were special education teachers, and Ms. Sabini was a teacher of English learners. Ms. Tapper has taught for 19 years, and this was her third year at Oak Park Middle School. She has a background of being a reading specialist and instructional coach. She previously worked with Mr. Malloy at another school. Ms. Rowan has taught for 19 years and was in her eighth year at the school. Ms. Melvin has taught for five years and was in her second year at Oak Park Middle School. Ms. Locke is an experienced special education teacher at the school, whereas Mr. Pickle is newer to teaching and the school. Table 2 provides a chart of the PLC participants.

Table 2

Summary of PLC participants.

Principal: Mr. Malloy Assistant Principal: Ms. Millet	
PLC 1 (Lower-grade level PLC)	**PLC 2 (Higher-grade level PLC)**
Ms. Cameron (Teacher leader)	Ms. Tapper (Teacher leader)
Ms. Roberts	Ms. Rowan
Ms. Mathis	Ms. Melvin
Ms. Taggert (Special education)	Ms. Locke (Special education)
Ms. Sabini (English learner)	Mr. Pickle (Special education)
	Ms. Sabini (English learner)

Mr. Malloy, Ms. Millet, Ms. Cameron, Ms. Tapper, Ms. Taggert, Ms. Sabini, Ms. Rowan, and Ms. Melvin were interviewed in connection with the study. Ms. Roberts, Ms. Mathis, Ms. Locke, and Mr. Pickle were not interviewed, as teachers with similar perspectives had been interviewed. Additionally, many of the same themes were emerging from the teachers who were interviewed, suggesting that the interviews were yielding information responsive to the research questions.

This study explored interactions occurring in the context of PLCs. During the PLC meetings, however, participants referenced interactions occurring outside of the weekly scheduled PLC meeting. In interviews, teachers reinforced the notion that PLC interactions did not happen solely within the weekly, scheduled PLC meeting. Teachers also discussed numerous communications and interactions about the work outside of the PLC meetings. They referenced conversations about instruction in the hallways, the cafeteria, and in classrooms and talked about dividing work and sharing work product via email and text message outside of scheduled collaboration meeting time. This study explored those interactions occurring both within and outside the weekly PLC meeting. Specific participant voices discussing this work is highlighted later in this section.

As noted earlier, documents were collected in connection with the study. Participants were asked to provide me with copies of any documents that were created for or utilized in PLC meetings. Documents reviewed in connection with the study included two agendas for the higher-grade level PLC, guiding questions for an analysis of student work used by both PLCs, and three lesson plans that were analyzed during one of the lower-grade level PLC meetings. I have analyzed these documents and will highlight information gleaned from the documents in the discussion below.

Research question 1: The interactions.

This section will present the findings of the study. The first research question in this study asked, "What interactions take place among school leaders, teacher leaders, and teachers as they work together in a PLC?" Based on the interactions observed and data collected in connection with this study, I have divided the answer to this question into four areas of focus: people-focused interactions, purpose-focused interactions, work-focused interactions, and

instruction-focused interactions. Table 3 provides a chart summarizing the PLC interactions that will be discussed further herein.

Table 3

Summary of PLC interactions.

Area of Focus	Emergent Themes/Interactions
1. People-focused	a. Building/maintaining relationships b. Giving encouragement and recognition c. Appreciating different backgrounds d. Creating space for vulnerability
2. Purpose-focused	a. Reminding of expectations b. Reinforcing the why c. Creating structures that support the why
3. Work-focused	a. Exchanging of ideas b. Sharing and utilizing resources c. Raising the bar d. Lightening the load
4. Instruction-focused	a. Creating and evaluating assessment b. Analyzing and utilizing data c. Creating, analyzing, and modifying high-quality instruction d. Constant reflection

People-focused interactions.

Some of the interactions I observed concerned how the participants engaged with each other. These interactions centered around relationships and roles within the PLC.

Building/maintaining relationships.

One of the earliest interactions I observed in the PLC meetings were those relating to building and maintaining relationships among the members of the PLC. PLC meetings often started with a school leader referencing some type of relationship-building activity in which the group had engaged. The first PLC meeting I observed began with Assistant Principal Millet referencing a group bowling event, and individual teachers were celebrated for their bowling talent. Another meeting started with Principal Malloy commenting on holiday attire that many

teachers had worn to celebrate an upcoming holiday. Another session began with Ms. Malloy referencing a lunch the teachers had shared earlier in the week. These references to relationship-building activities were often accompanied by laughter throughout the collaboration station and served as a reminder of time members spent together, often in a social context. In her interview, Ms. Millet noted that "the core of a [PLC] really is the relationship among the individuals that are part of that [PLC]." She further stated that "if there is not that sense of trust and respect within the members of the PLC, then we don't get to the meaningful conversations about student learning and about the challenges we face." She noted that relationship-building in PLCs had been an area of focus for the school in prior years.

School leaders were not the only PLC participants who noted the importance of relationship building. One teacher leader, Ms. Tapper, indicated that members of the PLC thought of each other and checked on each other. She referred to a time that she texted a colleague when the colleague was sick to check-in and a time she inquired about how another colleague's most challenging class was progressing. Echoing Ms. Millet, Ms. Tapper said, "again, that relationship piece is so important…in a PLC." She added, "You know, I think we are careful with each other. I think we value the relationship. And I really – that's why that trusting relationship is so good for kids." Teachers also referenced the importance of relationships within the PLC. Ms. Taggert noted, "In order for us to function as a unit, sometimes, it is very difficult…. It's relationships outside of collaboration, the PLC. Outside that – you just talking to each other, as one human to another." Ms. Rowan acknowledged the importance of PLC participants building a "rapport" with each other. Ms. Taggert stated that the PLC was

> just a continuous relationship where you are building on each other, and you have to build each other up more than you tear each other down. As long as we can continue to do that, we will benefit in the end and so will our students.

School and teacher leaders and teachers all expressed the importance of relationships, and each PLC participant engaged in activities that cultivated relationships among members of the PLC.

Interestingly, like in the bowling activity and the holiday attire activity, the social relationship building activities bore no connection to the instructional work of the PLC. School leaders, however, took specific actions within PLC meetings to remind participants of the relationships they were building with each other inside and outside of PLC meetings. This demonstrates that both school and teacher leaders and teachers engaged in this interaction both inside and outside of the PLC context to benefit the work of the PLC. Promoting relationship development appeared to be a task shared by all members of the PLC, while highlighting relationships within the PLC meetings most often came from school leaders.

Giving encouragement and recognition.

Another type of interaction observed within PLCs was giving encouragement and recognition. While giving encouragement and recognition could promote relationship building and maintenance, it is discussed separately herein to more fully explore the specific instances observed in PLC meetings and discussed in interviews. Often, the encouragement and recognition I observed were more closely tied to the work of the PLC than the social relationship building discussed above. There were numerous instances where school and teacher leaders recognized and encouraged individuals in the PLC. In two PLC meetings, Mr. Malloy expressly thanked teachers for their hard work, noting that it had not gone unnoticed and that he appreciated it. He also encouraged teachers to “keep pushing through to the end.” Ms. Millet

frequently thanked teachers for meeting expectations like paying attention to struggling students and monitoring hallways during transitions. Ms. Millet also recognized instructional achievements. For example, in one PLC, she noted aloud that lessons were hitting the standards at the proficient level. In one observation, Ms. Cameron recognized a teacher for writing a good question for an assessment. In another meeting, Ms. Tapper called for applause for a teacher who made an assessment, referring to it as a "huge undertaking." She ended the session by noting, "I am so thankful for all of you. I feel that in my heart of hearts."

In interviews, leaders and teachers talked about encouragement and recognition. Mr. Malloy discussed addressing the staff at a recent faculty meeting, noting that he told teachers he was proud of them, that they were doing the right work, and to "keep on keeping on." He talked about the need to praise good results, saying, "You give credit where credit is due in front of everyone – always looking for opportunities to praise." Ms. Taggert also referred to the particular importance of encouragement from school leaders. When asked about teacher confidence, she said,

> I think it also has to do with administration because when your administration is behind you, and they're supportive of you, even when things are difficult and are like, 'I know we can get through this. Let's think together. What are we going to do?' I think it's a benefit to everybody – teachers and students they support.

She specifically discussed the assistant principal, saying "[she] is always very encouraging to us, and if she sees us struggling, she's the first one to jump in and say, 'OK … What's our goal here? And how can we get to it in a different way?'"

Ms. Tapper indicated that she was intentional about giving praise for good work to make team members feel more integral to the team. Teachers also thought they had a role to play in

encouragement and recognition. Ms. Rowan noted that "we can encourage one another when we do come across a frustration that we have that the student is not learning or that the student is not motivated." She further shared, "I feel like my role is to encourage by 'What can I do to help?'" Encouragement and recognition appeared to play a significant role for team members both inside and outside of the PLC. All PLC participants, both leaders and teachers, shared responsibility for the encouragement and praise.

Appreciating different backgrounds.

The third type of interaction observed in the PLC context was appreciating the different backgrounds and experiences of PLC members. In the six PLC observations observed, different teachers shouldered different responsibilities based on their strengths and comfort levels. For example, in one session, Ms. Mathis took the lead in presenting an assessment she had created. The entire team suggested feedback and proposed revisions, but Ms. Mathis facilitated the process of the review after completing the initial draft. Some teachers raised concerns during PLC meetings based on specific subgroups because of their experience working with those subgroups. For example, Ms. Taggert, a special education teacher, raised a concern about grading practices as they pertained to special education students. In doing so, she used her background and expertise in special education to advocate for the subgroup that she served in discussions with other members of the PLC.

Ms. Cameron, the lower-grade level PLC teacher leader, noted in her interview that "understanding that we all have diverse backgrounds, it kind of lends us to a better understanding of what could we do differently considering the groups of kids that we have." She shared that her team had a teacher with special education expertise, another with technology expertise, and another with knowledge regarding the standards and instructional coaching. She observed that

varied backgrounds help them look at instruction from different viewpoints. When asked about what PLC interactions relate to meaningful student learning, Ms. Rowan said, "I think all of us . . . bringing our strengths to the table." She noted that one teacher previously had worked at an alternative school and another had knowledge about instructional technology and media. Ms. Sabini had a background in supporting English language learners. She said, "I think all of those things and all of our strengths really help us together collectively as a team." Ms. Sabini also shared,

> And in the PLC having people that have different levels of – like brand new teacher versus me, the 23-year teacher. [Ms. Cameron], who's in the university working on a degree right now, she's seeing brand new research in language arts that she's bringing to the table. I'm constantly doing new research on the new things for ESOL. The special [education] teachers are looking – we're all looking through different lenses, so I think when we bring all of these lenses together, it is creating more diverse assessments for the students . . .

The appreciation for the backgrounds of teachers in the PLC led to a sharing of different perspectives and work distribution based on strengths in the PLC meeting. Appreciating diverse backgrounds was a task shared by all members of the PLC, both teachers and leaders.

Creating space for vulnerability.

A final type of people-focused interaction observed and discussed was creating space for vulnerability. In the second observation of both PLCs, Mr. Malloy facilitated an activity in which each PLC had a lesson evaluated by teachers who were not a part of the PLC and taught in other subject areas. Teachers were asked to consider four questions: 1) Does the work students are asked to do align with the standard at the proficient or distinguished level of the achievement

level descriptors? How do you know? 2) Does the assignment help the students master the standard at the proficient or distinguished level? Why or why not? 3) If not, how can the task be revised? 4) What leader action is next for this PLC? After teachers analyzed the lessons, the feedback was returned to the PLC so they could review and discuss their next steps based on the feedback. After discussing the feedback, Ms. Cameron, the teacher leader of the lower-grade level PLC, agreed that the lesson could have done a better job of providing students with an opportunity to evaluate, a higher-level skill. In the higher-grade level PLC, as the group reviewed the feedback, it became apparent that each teacher had modified the lesson from how it had been written. Ms. Tapper, the teacher leader, noted that the feedback was "something to think about." After the protocol, Mr. Malloy expressed the hope that the exercise shifted perspectives. Interestingly, it was the teacher leaders in both PLCs who indicated that the feedback could be used to constructively evaluate and possibly modify the lessons that had been reviewed.

Assistant Principal Millet indicated in her interview that she attempted to model vulnerability for PLC participants. She shared that her use of words like "help" and "input" signaled that being vulnerable was expected in a PLC context. She believed that respect, vulnerability, and honesty were necessary for a PLC. She noted that if a teacher expressed that he or she was not comfortable bringing a problem to the PLC, it was a warning sign that the participant may be guarded and that trust, respect, and vulnerability were not at the highest levels within the community. To increase opportunities for participants to be vulnerable, one of the most valued norms within the PLC is that it is encouraged for participants to share ideas that are in progress. Ms. Millet summarized the norm as, "[E]ven if you're just thinking about it, you need to share it. We can build on that thinking as a group." She elaborated,

> That norm has been really important for us. My observation from last year is that a lot of the teachers who did not share were teachers that felt like there may be some judgment if the idea they shared was not developed completely or just silly or not appropriate. And so I think they retreat. So this norm of "ideas that are in progress are fine - we will take it on as a group to build on that idea" has been probably our most important norm.

PLC meeting agendas reflected the norm by stating at the top, "Unfinished ideas are worth sharing." Ms. Millet expressed a desire for teachers in the PLCs to be vulnerable in thinking, "If I make a mistake, it is no big deal. My group is there. . . . [I]f I have a student and he can't learn and I'm struggling, I can bring that my PLC. And it's ok." Ms. Taggert commented that she found it refreshing when Mr. Malloy modeled vulnerability, noting that if he doesn't know the best way to accomplish something, he is transparent about it and takes action to find a solution. The teacher said, "Oh, wow! He really cares what's happening and . . . wants to find out a better way for us . . ."

Teacher leaders also stressed the importance of vulnerability in their interviews. Ms. Tapper noted that she intentionally expressed to teachers in the PLC when a lesson did not go well in her classroom. She said that if it's not going well for other teachers, they can be more comfortable with that, and if it was going well, they could feel more confident and share their successful strategies. Ms. Cameron expressed that members of her PLC were trying to be more vulnerable, noting, "So we've been willing to just dig deeper and be vulnerable in saying, as well, I don't understand. I don't know what that looks like. What are we supposed to be doing?" She noted that one of the practices of the PLC to increase vulnerability was putting work out on display and understanding that not everyone is going to think the same way and may offer

feedback. In terms of modeling and creating space for vulnerability, the school and teacher leaders seemed to exercise most action.

Purpose-focused interactions.

Some of the interactions I observed focused on how the purpose of the PLC was reinforced with participants. These interactions centered around why participants were doing the work in which they were engaged within the PLC. These interactions related to the larger purpose of the PLC and its work.

Reminding of expectations.

One of the purpose-focused interactions I observed was reminding of expectations. Ms. Millet primarily initiated this type of interaction, and it appeared that it was routine for her to share expectations in this manner at PLC meetings. In the first observed PLC meeting, Ms. Millet frequently reminded participants of expectations as specific topics were discussed among PLC members. She addressed expectations regarding grading, supporting struggling students, and assessment. In another PLC meeting, she reminded participants of expectations regarding parent communications. In another, she talked about expectations for student behavior and expectations that all student work be aligned to the instructional standards. Sometimes the expectations were announced before the start of the PLC and addressed to the larger grade-level audience. Other times, the expectations were shared in an organic discussion of the topic or as the result of an inquiry within the PLC. Every time I observed a reminder of expectations in a PLC meeting, it was initiated by Ms. Millet.

Reinforcing the why.

Another interaction that I categorized within this area of focus is reminding PLC participants of the purpose of the work, or reinforcing the why. School leaders most often

initiated this interaction in connection with reminding PLC participants why they engaged in particular aspects of PLC work. In connection with setting forth expectations regarding grading, Ms. Millet told participants that they want to work to benefit all students by making sure grades reflect students' understanding of the standards. When introducing a student work analysis protocol, the principal was clear that the purpose of the protocol was to provide an opportunity for professional growth and learning.

Principal Malloy shared in his interview that his involvement in PLCs was built around his "setting the vision for the whole school and setting the expectations . . ." He indicated that his role was "more of the ten thousand foot view," and that assistant principals focused more on the day-to-day, detailed work with teachers unless more of his involvement was warranted. He noted that the PLCs sometimes started with a short, positive video to remind members that the work of the PLC is "always about the kids, and that's why we are doing this work." He also shared that when questioned by a set of teachers about the purpose of the PLC, he had a conversation with them and provided in writing the purpose, the why, and the plan going forward. He noted that when he joined the school, he set the focus: "Look – here is what we stand on. We stand on teaching the [standards] and teaching at high levels. Those two things. That's what we do. Period. End of discussion."

When asked about the role of teacher leaders in PLCs, Mr. Malloy noted that they "carry out the vision and mission of the school." He said that he supported assistant principals with carrying out the mission and vision, that assistant principals supported their team leads, and that team leads supported their teachers. He noted, "That's that whole alignment piece – trying to get all those arrows going in the right direction." Ms. Cameron viewed her role in the same way: "I'm always looking top-down – what are we supposed to be doing? And I really focus on what's

the heart of everything." In my observations, the task of reinforcing the why was largely carried out by school and teacher leaders as they guided and directed the work of teachers in the PLC context.

Creating structures that support the why.

Another interaction related to the purpose of the PLC is creating structures that support the mission of the PLC. As noted earlier, the school has dedicated time and physical space for PLCs to engage in collaborative work and learning. Teachers had schedules that provided time for their PLC work during the school day. During PLC work, protocols were utilized, like the one the PLCs used to analyze and receive feedback regarding their lessons. Other members of the school community, like the media specialist and an instructional coordinator, came to engage in collaborative work with one of the PLCs during one observation. Mr. Malloy described the supporting structures as follows:

> So we all meet in one room – it's our collaboration station. And then we have different tables, so language arts all meet together and every time they meet, the AP is there and then we have the department lead for that grade level. Some people call them team leads.

Ms. Millet also discussed creating supportive structures. She noted,

> I think my role is to have a really good sense of where people are, build some structures to help create the professional learning community and then slowly start introducing some of those constructs or things we need to put in place just a little at a time so that bit by bit we can do those things with fidelity and they don't become just compliance – it just becomes part of what we do every day.

Ms. Millet also talked about creating opportunities to build capacity in the teacher leaders of the PLCs. She described how she met with teacher leaders at the beginning of the school year to set goals for their leadership and the PLC work. She said that the goals varied based on the knowledge and experience of each teacher leader. She talked about working with each teacher leader to provide specific support based on their needs and to build their leadership capacity through their work with the PLCs. Both school leaders worked to create structures that allowed teacher leaders and teachers to do the work supporting the vision and mission of the school, teaching the standards, and teaching at high levels.

Work-focused interactions.

Additionally, PLC participants engaged in several interactions that pertained to accomplishing the work of the PLC. Work-focused interactions that I observed concerned how the PLC carried out its work. These interactions concerned how work was shared and distributed among members of the PLC.

Exchanging of ideas.

All PLC participants frequently exchanged ideas. This exchange of ideas included inquiring, sharing, building on, and seeking information. In PLC observations, I noted numerous instances of inquiry. School leaders, teacher leaders, and teachers all asked questions of each other. Some questions pertained to logistics, such as when the group anticipated finishing something. Other questions related to instruction, such as whether the group would want to use an activity as an activating strategy. Assistant Principal Millet often asked probing questions, discussed further in the section about raising the bar. Members of the PLC often shared their own ideas with the group. The shared ideas included matters such as grading practices, grouping strategies, and instructional strategies that may be a good fit for a particular lesson or standard.

When ideas were shared within PLCs, other group members sometimes would build on the ideas in keeping with the group's norms. For instance, in one PLC meeting, the PLC was discussing the best instructional focus for a specific time. Ms. Melvin suggested that students revisit haikus. Ms. Millet built off of that idea, noting aloud that her idea was in progress, and suggested that students develop the story of their middle school experiences in the form of ten haikus. Ms. Rowan then built on that idea by suggesting a text that could be used to model the expectations for the exercise.

Participants also talked about the importance of exchanging ideas in their interviews. As referenced earlier, Ms. Millet talked about the PLC norm of sharing ideas in progress and the importance of building on that thinking as a group. She also said, "[P]art of professionalism is sharing that knowledge you own or that you have or that somehow exists within you . . ." Ms. Tapper said that conversations in PLCs make participants feel like, "I've got people to support me with some fresh ideas, some new ideas" or "I have somebody who's given me something I can try that's new with a student." She said she seeks to empower teachers in the PLC by saying things like, "You have got this. We have some solutions for you. You know what, try this and let me know how it's going." Ms. Rowan shared that to help students who have difficulty learning, "it helps to talk about what strategies we're using collectively, individually, and just to share ideas about what you are doing to help [struggling students]." Ms. Taggert indicated she could ask her colleagues for advice because she was "not in the boat alone." She could say, "OK, this is the problem that I had in this situation. What did you do?" She also talked about becoming more comfortable sharing ideas, saying things like, "This really worked for me. Can we try this?" She said, "[A]s the year goes on each school year, we kind of are able to see each other's strategies as beneficial, as helpful." Ms. Melvin shared an experience from a previous year in

which she approached a teacher leader for advice regarding reaching a challenging class. Exchanging ideas was a prevalent interaction observed and discussed in interviews. The task of exchanging ideas was shared among all participants in the PLC, both leaders and teachers.

Sharing and utilizing resources.

Additionally, PLC participants shared and utilized local, district, and state resources. In the PLC meetings, PLC participants were observed referencing, sharing, and using instructional standards, instructional texts, lesson plans, instructional calendars, local common assessments (housed on district assessment platforms), student work analysis protocols, district pacing guides, district assessment blueprints, and state achievement level descriptors. Using these tools appeared to help participants use a common language and develop shared expectations for how quality instruction and assessments should look. Often, these resources were utilized as the PLC participants developed assessment items or discussed specific instructional strategies.

School leaders referenced in their interviews reliance on district resources for guidance in the work of PLCs. Mr. Malloy observed, “[I]n an organization like [district], we have so many resources coming from the district.” He spoke of how district planning tools support teachers in PLCs, especially those who may be new to teaching. Ms. Tapper indicated that her PLC had been referencing a district digital resource platform to review resources that support PLC work. Several teachers talked about creating resources and sharing them with other PLC members on a local online platform they refer to as “the vault.” Ms. Rowan indicated, “[W]e’re all using the same resources, we might just be going about it in a different way.” Ms. Melvin talked about how instructional planning was easier when the PLC was able to refer to and build upon resources created and used successfully in previous years.

One resource to which several participants referred was district professional learning. Ms. Tapper said that she participated in district professional learning, and then, she organically integrated what she learned in the PLC meetings. She said that she referenced the new knowledge as the group discussed aspects of instruction that were impacted by the teaching. Ms. Rowan noted that district professional learning provided opportunities for "meaningful conversation that otherwise you might not have because of various obstacles, meetings, a planned agenda, et cetera." She noted that the learning led to the development of skills within the PLC. All PLC participants used and emphasized the importance of resources. All participants in the PLC used and referred to the resources, not just the school and teacher leaders. Additionally, all participants appeared to find value in using the resources.

Raising the bar.

Another work-focused interaction I observed is referred to in this dissertation as "raising the bar." Ms. Millet primarily initiated this interaction, but her act of raising the bar often was recognized by other PLC participants. Throughout the PLC observations, Ms. Millet was observed asking probing questions that pushed or redirected the thinking of the PLC members. For example, in one observation, teachers were discussing the items that should be on an upcoming assessment. After several moments of teachers talking without referencing the depth of knowledge levels for which students would be responsible, the assistant principal asked teachers what depth of knowledge levels were represented on the district assessment. This question shifted teachers' thinking about which items may be most appropriate and gently provided guidance in terms of a helpful resource. Teachers then started thinking and talking about how the question should be asked at the appropriate level of rigor.

In another PLC meeting, teachers were making a common assessment consisting of ten constructed response items. Ms. Millet asked whether teachers were creating ten rubrics or whether they had another process for standardizing and calibrating grading. The question prompted teachers to think about a different type of assessment that may be more easily standardized to ensure the assessment was a common experience for all students. When a discussion followed about whether students were able to use a text on the assessment, Ms. Millet asked, "Are we assessing the standard or their memory?" Again, the question shifted the dialogue about what questions on the assessment would look like and what resources students should consult to demonstrate mastery of the standard.

One PLC worked on a project-based learning assignment. In the PLC meeting in which they started discussing the project, they shared ideas about which standards would be assessed and various technologies that could be used to present student work. Ms. Millet asked, "What is the driving question? A lot of times that will drive how kids want to respond. The driving question will drive the outcome of what kids want to communicate." The teachers shared that they had not developed a driving question. Ms. Millet then suggested that teachers may want to start planning the project with the driving question in mind because that question may drive all other aspects of the learning. Planning continued with a new commitment to developing a driving question, and at the end of the meeting, Ms. Tapper said to the assistant principal, "I knew you'd have something really good that we'd have to think about."

Ms. Millet's actions of raising the bar are consistent with how Mr. Malloy views the role of the school leader in PLCs. In his interview, he stated, "I think ultimately the leader role is to push a little bit, but know when to push. . . . Sometimes you've got to raise the bar." He noted that some teachers when working with a leader who pushes appropriately, say things like, "'Man,

I'm working harder than I've ever worked in my life.' You know, but in a good way, in a good way."

Teachers also recognized Ms. Millet's actions. After one PLC meeting, Ms. Cameron jokingly told her, "You made us think too hard today!" Ms. Cameron in her interview stated about Ms. Millet,

> She's been a catalyst for us thinking differently about how we assess and what we are assessing. . . . [S]he's got us thinking critically about what we are doing as teachers and then how to be more efficient when we do it. . . . She wants us to think efficiently about how we are teaching and assessing standards. So she has been really good about that. And she has real and honest conversations with us about what the work should look like. . . . She pushes back a lot. She questions why are we doing this? What is this for? Do you really think this will get us to the heart of the standard? . . . So she's just kind of forcing us to think differently about everything we do.

Ms. Rowan indicated that she thought the assistant principal's role was sometimes "asking questions to get us to go in a certain way or to think deeper about something . . ." She also indicated that if a school leader is not at a PLC meeting, the meeting "becomes more about day-to-day minutia and checking off our boxes. And less about high leverage collaborative activities of student learning." Asking probing questions to push the thinking of PLC participants was a task that I saw only the assistant principal carry out. However, her raising the bar shifted the thinking and dialogue for all PLC participants.

Lightening the load.

Although Ms. Millet raised the bar in the PLC context, she also worked to lighten the load. In PLC meetings, she offered to display items on the screen for the group or offered to look up and share resources like achievement level descriptors and assessment stems when the PLC was working on generating an assessment. In one PLC meeting, she offered to create a draft assessment for the group based on the PLC's discussion to "take something off of their plates." She often helped teachers think of ways to streamline assessments to lighten the grading requirements or to eliminate unnecessary or duplicative inquiries. She would ask questions like, "How do we fine-tune what we want to grade to make it a quicker process?" She offered suggestions like, "Look for ways for students to demonstrate mastery that do not involve creating and assessing brand new assignments." She encouraged the PLC to use resources they already have so they could focus on student learning rather than creating new materials.

Teachers seemed to recognize Ms. Millet's efforts. Ms. Cameron said,

> She really understands how much work could be on our plate. And how much work we do have on our plate. . . . It takes a lot, but it takes a lot of meaningful work, as opposed to just busywork. She against that, too – no busywork.

Ms. Melvin also said Ms. Millet stressed the importance of "not killing ourselves with grading, but also making sure that we are grading for mastery of the standards and not just completion grades." The assistant principal took actions inside and outside of PLC meetings to help lighten the load of teachers, and teachers appeared to recognize and appreciate her efforts.

Instruction-focused interactions.

The PLCs in this study also engaged in interactions that centered on high-quality instruction. These interactions concerned the work in which PLC participants engaged in an attempt to create and deliver instruction designed to promote student achievement.

Creating and evaluating assessments.

The PLCs observed spent a significant amount of PLC meeting time creating and evaluating common assessments. In one meeting, the lower-grade level PLC spent the majority of the meeting time revising an assessment initially created by Ms. Mathis. The team worked to identify which standards should be assessed and which should be removed from the assessment as drafted. PLC members discussed the depth of knowledge at which each standard should be assessed. Teachers referenced the district assessment blueprint, district assessment stems, and state achievement level descriptors. In another PLC meeting, the same participants discussed a different upcoming assessment. The discussion centered on whether the assessment would consist of a project, multiple-choice questions, or constructed response questions. The PLC members weighed how each could be graded in such a way to yield consistent assessment practices in each classroom.

The higher-grade level PLC also discussed assessment in one of their PLC meetings. In their meeting, the team considered an upcoming common assessment. They focused on point values that should be assigned to various portions given that some aspects of the test were more demanding than others. The PLC also talked about a project-based learning opportunity at another PLC meeting. While discussing the project, teachers referred to social studies and language arts standards, as well as technology resources that could support the learning. The team discussed the need for a driving question before engaging further with the planning and

agreed that a driving question would assist in determining the best method for assessment of student learning.

Mr. Malloy indicated that creating and utilizing robust assessments was a central role of the PLC. He stated, "[O]ne of the things I learned early on is that if you get that common assessment right and it is right, it is one hundred percent spot on, you immediately change the mindset of that teacher to 'here's my target, this is where I've got to get them.'" He said that when he recently addressed his faculty, he said, "[I]n our PLCs, we always start with a good assessment. We've always got to make sure we are assessing at the proficient and distinguished level." He also shared that all teachers should be taking the assessment themselves before they start teaching the material. Ms. Cameron indicated that her PLC had improved its skills in developing assessments this year. She said, "We got a lot better at assessment practices. And then using those in order to create activating strategies or what we do on a daily basis with the students." Ms. Rowan shared that her group developed common assessments together and calibrated those that were written essays by bringing exemplars and working to make sure they were assessing consistently. All members of the PLC were actively engaged in the task of creating assessments, although sometimes one teacher may take the lead in preparing an initial draft.

Analyzing and utilizing data.

The PLCs also analyzed data and used data to determine the next instructional steps. In one PLC meeting, Ms. Millet shared that the group would be analyzing student work. Ms. Millet suggested that the standard for the work that would be analyzed be selected by looking at assessment data to determine which standard had the most significant variance in assessment results by class. Other than that reference, data was not explicitly examined or discussed in the

six PLC meetings I observed; however, school leaders, teacher leaders, and teachers all referenced analyzing and using data in their interviews.

Mr. Malloy indicated that he expected that PLCs examine their assessment data using a specific protocol. Ms. Millet also stated the importance of data in the work of the PLC: “But in terms of our goal here – I am always thinking in terms of numbers. We have a very transparent approach to data, and to me, that can be very powerful.” She talked about how reviewing data could be encouraging or discouraging: “So you have to neutralize that someway somehow. I think a lot of that has to do with the dialogue that we use when we are looking at data.” She stated that she attempted to discuss data in a way that promoted a growth mindset, focusing on the next steps for students. She pushed teachers to look at data collectively and ask, “What is our data telling us about us? Is there a practice that we need to change as a department? Is there a practice that maybe we’re not implementing with fidelity as a department?”

Both teacher leaders indicated that student assessment data in their PLCs was consistent and without variation among the members. Ms. Tapper noted that student test scores were within a couple of percentage points of each other for every test. She indicated that she used conversation framing when the PLC analyzed data. She said, “I’ll say, ‘I think it is important to be mindful of those kids that are struggling. And I think moving forward, we need to be more intentional about meeting their needs.” She said she attempted to make the conversation more goal-focused, rather than one that dwelled on deficiencies. Ms. Cameron noted that they had strong assessments and were now working with how to “use this data to drive our kids and push them in the right directions.” She indicated that her PLC looked at the data “to see what . . . standards we really need to focus on. And then we use that information to put into our daily lessons, be it just a minilesson or an activating strategy.”

Ms. Rowan indicated, "[S]ince our data is pretty consistent - that's why I feel like we're doing a good job." She said if one teacher's scores were higher, she would ask, "What did you do? How did you deliver that?" Ms. Sabini indicated that she enjoyed discussions about data among PLC members,

> diving down into the data, really going through and looking at every single question. Trying to figure out, well, why did 70% of my kids miss this question? What was it about the question? Was it the academic vocabulary? Was it the distractors that got them? And then having that conversation among everybody and hearing how the gifted kids did, how the special [education] kids did, how the general [education] kids did. And being able to compare my kids to that has been fascinating to me.

Ms. Sabini also recently started reviewing students' own assessment data with them in a way that mirrored the work of the PLC. She said, "And that was something that came out of the PLC. I would have never thought to look at each individual kid's answers and figure out which [standards] they're struggling the most with and then kind of individualize." Ms. Melvin shared that the PLC was "always referring back to [the data]." Analyzing and using data to drive instruction was a task in which every participant in the PLC engaged.

Creating, analyzing, and modifying high quality instruction.

Members of the PLC also engaged in creating, analyzing, and modifying high-quality instruction. The best example of this area of focus was in the two PLC meetings, discussed above, during which each team participated in the protocol where teams examined each other's lessons. Teachers reviewed the lessons of teachers in other content areas by reviewing the standards, the achievement level descriptors, and the student's and teacher's actions indicated in

the lesson. They looked for alignment with the standard, as well as whether the student work reached the proficient or distinguished achievement level descriptor. Each teacher left feedback on the lesson. Teachers then returned to their subject area PLCs and reviewed the feedback from other teachers. They considered the feedback and discussed possible modifications to the lessons based on the feedback from other teachers. At a later PLC meeting, the higher-grade level PLC walked through the pacing calendar. As they discussed upcoming standards, teachers shared strategies that could be used to most effectively address the standard.

Ms. Tapper emphasized that the PLC was "super [standards] hyper-focused." She said one of the teachers in the PLC had even stated, "In all my years of teaching, I have never been this [standards] focused." Ms. Melvin noted in her interview that Ms. Tapper was "very much driven by the standards." Ms. Tapper said that sometimes she would send an email dividing up instructional planning tasks because the PLC meeting is not as efficient if the group is just brainstorming. She noted, "[I]f we bring things we have created or some solid ideas for instruction, then we can kind of say, 'Let's tweak that. I love that.'" She addressed the quality of instruction the PLC aimed to provide,

> So you're guaranteeing that [students] are getting instruction at the level that they are supposed to be learning at if you teach at a distinguished level. So I really think that's how we've kind of worked together on making sure that every single day is meaningful. That every day we are teaching at this higher level of learning and that we are expecting – obviously we are scaffolding – but we have the same expectations for our accelerated learners as we do for our [special education] kids.

Ms. Rowan indicated that PLCs provided the opportunity for conversations "to find that one thing that will work for students." She could ask, "Have you tried this? What did you try? What

did you do?" She indicated the PLC discussed several things like "variety of lessons. And variety of activities in the classroom. And making sure we are doing things in a varied manner versus sit-and-get or all group work or all teacher-led or all independent work." The PLC provided a forum for teachers to collaborate to create high-quality instruction based on the standards for learning.

Additionally, the PLC members specifically focused on differentiating to meet the needs of all students. In PLC meetings, members would raise questions about specific subgroups of students. In his interview, Mr. Malloy shared that he encouraged his faculty to differentiate and remediate. He talked about the importance of scaffolding to help students experience success. Ms. Millet noted that when the PLC started talking about reaching every student, special education teachers were brought more into the conversations in the PLCs. She said that some special education teachers "have really started being comfortable in being a voice for students that have difficulty learning."

Ms. Tapper shared that "it is really, really challenging for a teacher to plan enough and well enough to meet the needs of every student." Because of this, she asserted it is helpful to have a team of teachers to work to address different student needs. Ms. Cameron indicated that her PLC also talked about the different groups of students they serve. She said they "come from the same foundation, but ask, "[H]ow can we scaffold that?" She said,

> [I]t really just depends on the kids that we have in our classes that we could really talk about – these are the scaffolds that they are going to need. But again, that's just fueled from what are their deficiencies? What are we seeing in the data? What are we seeing historically?

Almost all teachers interviewed indicated that they discussed concerns about and needs of their specific students within the PLC. Ms. Rowan shared,

> One thing that we've worked on is differentiation, making sure that we are helping all of our learners, not just our lower level learners, but also our gifted learners, and how we can push them and motivate them to do more and achieve more, and have greater motivation.

The many varied voices on the team helped the PLC address the needs of all learners through differentiation.

Every member of the team participated in the task of creating, analyzing, and modifying high-quality instruction. Sometimes, teacher leaders divided up these tasks among PLC members, but often the PLC as a whole reviewed, modified, and used the work product. All teachers, not just the teacher leaders, were engaged in creating and sharing materials.

Constant reflection.

Finally, members of the PLC appeared to engage in constant reflection regarding their instructional practices. In the first observed PLC, participants reflected on their pacing and their assessment. In two other PLCs, the communities reflected on the lessons they had prepared. PLCs talked about a future protocol to reflect on student work samples. In his interview, Mr. Malloy indicated that the school leadership team spent time reflecting and strategizing about PLCs. He described the work of PLCs as "[b]eing reflective, identifying needs, and then doing the right work with those needs. And then being reflective about that. It's a never-ending process." He noted that when PLCs see success they should ask, "Why is it working? Why did it work with this group of students? If it can be done here, it should be able to work in these other areas."

Ms. Tapper talked about reflection as instruction was in progress. She talked about checking in with teachers about how lessons or assessments were going throughout the day in hallway conversations or via email or text. Ms. Cameron talked about reflecting while analyzing data and asking questions about what the data revealed and demanded of the PLC. Ms. Taggert said the PLC has been about "collaboration, working together, and professional learning. What can we do to improve what we've done before that didn't work?" She discussed reflecting after an assessment by asking, "Why did that happen? Why is that? And what was difficult about this assessment or this assignment that we thought was going to be easier for them?" She also talked about asking after reviewing data, "[W]hat can you do differently or how did this impact students? How can you improve for next time?" Reflection played an essential role in the work of the PLC. Every participant in the PLC engaged in reflective work.

Research question 2: Influence on collective efficacy

The second research question in this study asked, "How are the interactions between school leaders, teacher leaders, and teachers in the PLC context perceived to influence collective efficacy?" I have divided the answers to this question into five areas of interactions that align with sources of collective efficacy: celebrating success, modeling, creating work that will be shared with and used by others, cultivating a mindset of continuous improvement, and sharing experiences. Each area and how that area influenced perceptions of collective efficacy are discussed in more detail below.

Interactions allowed opportunities to celebrate success.

The participants in the study appeared to gain confidence from interactions that allowed them to celebrate their own successes and the successes of others within the PLC. Mr. Malloy stated in his interview, "[N]othing breeds success like success. You have to get small wins,

right?" He added, "You have to find those small wins, you have to celebrate them, and then you've got to build upon them. That creates momentum." He indicated that one of the ways school leadership did this was to praise positive results. Ms. Tapper indicated that she tried to provide opportunities for teachers to share their classroom success because it "gives [them] a chance to feel more confident." Ms. Sabini summed up her feelings by stating,

> By having that opportunity and knowing that every Thursday I'm going to sit down with my peers that have become friends and have meaningful conversations, and like I said, not just focusing on what we have done wrong, but almost celebrating what we've done right, has helped me kind of keep my eye on the prize and realize that even if my kids aren't making what they should be making on the interim and the district assessment or even the summatives, if I am seeing some growth, . . . then that is a success.

Celebrating success was perceived to encourage teachers and help them feel more confident in their work and the work of the PLC.

Interactions allowed opportunities to model and observe modeling.

One of the ways PLC participants perceive PLC interactions to influence collective efficacy is by providing opportunities for modeling. PLC interactions allow participants to see best practices within PLCs modeled, as well as best practices in classroom instruction. By participating in the PLCs, participants had the opportunity to experience and participate in assessment creation and analysis, the pacing of instructional units, review and revision of lessons based on peer feedback, and design of a project-based learning unit.

Participants also discussed the importance of this modeling in their interviews. For example, Mr. Malloy explained how PLCs modeled for new teachers the way to do the right

work. He noted that if a new teacher comes into a PLC doing the right work and using district resources, that new teacher would learn to do the right work and have the right mindset about instructional work from the start. He said, “So you’ve got someone that is coming in there, they’ve got to get on board. They are surrounded; they are immersed in all that is going on.” He also referred to the teacher leaders as the “lead model.” As the lead model, they could model the right actions and the right mindsets for members of the PLC. Ms. Millet also addressed how the PLC can support a teacher with specific problems in the classroom:

> But the PLC really serves as a place where, or should serve as a place where teachers can go when a student doesn’t want to learn. So if you’ve really established a solid PLC, that teacher who does – has a student that doesn’t want to learn, “Say you know what? I don’t even know. I’m out of solutions with this student. And I’ve tried this on my own. What am I going to do next?” They should know or feel like, “I’m going to bring this to the PLC. I’m going to gather some student work. We are going to use a student work analysis protocol and I’m going to bring this to the PLC and we’re going to sit down and we’re going to look at this work, and I’m going to get some feedback from that PLC.” That would be the ultimate way that a PLC should serve to support a teacher that is in that place.

She also shared that “just from the dialogue of problem-solving in a PLC, you get solutions to problems that you’re not even thinking about maybe bringing to the PLC.” She said the benefit to that approach is that everyone is invested in the learning of that student, not just the teacher in that particular classroom. She also discussed using PLCs to set up peer observations so that PLC members could model instructional approaches for each other.

Ms. Tapper agreed that PLCs provide an opportunity for newer teachers to share in the experiences of more veteran teachers. However, she pointed out that newer teachers do not just implement the experienced teachers' lessons; rather, the community builds instructional material together. Ms. Cameron shared that modeling "was the key piece that got a teacher to move in the right direction." She noted that sometimes "[w]e don't want to do something because we don't know what it looks like." She explained that her PLC had done peer observations and that her classroom had been videotaped to show how to model to students. She said after the peer observations, teachers sat in a classroom to discuss what they observed and reflected on how those practices could transfer to their own classrooms.

Ms. Rowan talked about how a newer teacher and member of the PLC was intentionally seated during PLCs near a more veteran teacher who taught a similar group of students. Ms. Taggert indicated that she would welcome peer observations in her classroom to spark more discussion about the needs of her students. Ms. Taggert also shared that school leaders encouraged teachers to interact with other schools that could serve as models for effective instruction. These modeling opportunities help teachers feel more confident in their work in the PLC and the classroom.

Interactions allowed opportunities to create work.

In connection with the PLC, many teachers noted PLC interactions provided an opportunity to create instructional work, and several mentioned that it was meaningful that others used the work they created. For example, in one PLC meeting, teachers reviewed a draft of an assessment together making edits, but one teacher in the group had initially drafted the assessment. Ms. Cameron explicitly recognized the teacher in the meeting for her skill in creating assessments.

Ms. Tapper shared that "sometimes I feel like I am doing a majority of the work and other times I feel like I really try to allocate or ask for volunteers to take something on that is coming up." She said she often provides an agenda with to-do items that PLC participants need to complete inside and outside of the meeting. She observed that praising the contributions of others on the team benefits everyone by motivating team members to contribute and follow through. She said sometimes the PLC divides up instructional planning work among team members. She shared that "[W]e all need to feel confident enough to know that what we are bringing to the table does not need my ok. . . . I think it's best for the team for everybody to feel like what they are bringing to the table is quality." Ms. Cameron shared that her PLC created and constructed instructional materials together. Instructional work may be divided up for preliminary drafts, but the work was reviewed and refined by the PLC as a whole.

Ms. Rowan shared that her PLC divided up instructional work and that the practice of dividing the work led to teachers developing skills in those areas. She noted that "I don't know that we are necessarily developing those skills collectively together, but I think that individually, we are. And then bringing it back to the group for the good of the group." Ms. Taggert indicated her PLC all worked together but "assigned tasks to come up with the best possible lessons what we can to teach the variety of students that we see." Ms. Sabini indicated that she didn't share her instructional ideas at first, but later decided to share with her PLC. She said,

> It makes me feel like a professional. It makes me feel needed. And I know that people are using some of the strategies and ideas that I've come up with. I'm using theirs. So that part of the PLC has been fantastic.

Ms. Melvin shared, "I feel like I have contributed a lot more to the actual PLC and the actual planning, and things I brought to the table were actually used or implemented." All participants

in the PLC had opportunities to create, share, and receive feedback on their work. These practices enabled them to develop skills and see that other participants found value in their work.

Interactions allowed opportunities for continuous improvement.

Participants in the PLCs, particularly the school leaders, expressed a commitment to cultivating a mindset of continuous improvement in PLC participants. Mr. Malloy talked several times about new teachers coming into functioning PLCs and being surrounded by the right instructional mindset. He encouraged teachers to reflect on their teaching practices. Ms. Millet shared,

> The notion though is that if I, as a teacher, believe that I have a support system, I can continually learn. That if I have a support system in my PLC, I will always have a group where I can develop skills that I might feel are in some type of deficit. So I essentially build a growth mindset because of the support that the PLC provides.

Ms. Rowan noted that within the PLC, "there's that continual push of, 'How can we do this better?" Ms. Taggert said her PLC asks, "What can we do to improve what we've done before that didn't work?" She added that members ask, "OK, so why are we doing the same thing over and over and over again? Why aren't we trying to improve? Or why aren't we making this better than before?" All PLC participants appeared to recognize a process for continuous learning and improvement within the PLC that led them to believe they were always getting better.

Interactions allowed opportunities for shared experiences.

PLC participants also alluded to the importance of shared experiences within the PLC. Ms. Millet noted, "…when teachers feel alone, it is much harder to dig yourself out of a hole if you are not feeling confident about the work that you are doing. But this whole notion of having

multiple thinking partners that you can go to is important." Ms. Cameron shared, "We are not individuals anymore. We are now a collaborative team that is trying to see what's going to promote the students being successful." Ms. Tapper noted, "I think being on the same page absolutely builds the confidence in what we are doing in the classroom." When questioned about students who may not want to learn, she indicated, "I think it is a conversation we do need to have as a professional learning community because it happens to all of us. And it doesn't mean we are failing . . .." She said the conversations help teachers see they are not alone, so they should not give up, and that they have people to support them with fresh ideas. She said it helps teachers to know that "everybody is dealing with this."

Ms. Taggert indicated that "[It] kind of motivates us that we are not in this boat alone. That there's other teachers having the same struggle. So you can kind of feed off each other." Ms. Melvin shared that looking at data reminder her that "we all struggle with the same things. . . . [I]t is a lot more unifying. And it makes me feel not alone and not like a [bad] teacher." She said, "It was a nice reminder to have that other teachers also struggled, even [veteran teachers] that have been teaching forever and that were really good at it and are really good at it." Some teachers perceived shared experiences as a form of encouragement. Ms. Rowan said it was an encouragement to know, "We can do this. We are a team. And we're all in this together." Shared experienced appeared to help the PLCs feel more strongly about the ability of the PLCs to accomplish their work.

Discussion

The purpose of this research was to identify interactions among school leaders, teacher leaders, and teachers in a PLC context and examine how those interactions were perceived to influence collective efficacy. As discussed below, the findings of this research were consistent

with and built upon existing research pertaining to distributed leadership, efficacy, teacher leadership, and PLCs.

First, this research explored the leadership activity found in the interactions between school leaders, teacher leaders, and teachers in PLCs (Spillane et al., 2004). This study revealed that all stakeholders initiated interactions within the PLCs that were critical to the work. Although at times certain stakeholders initiated particular aspects of the PLC work, the interactions appeared to be interdependent and contributed to the functioning of the PLCs. It was clear that the school leaders, teacher leaders, and teachers had cordial and productive working relationships and a positive environment within the PLCs. All participants appeared highly engaged in initiating people-focused interactions within the PLCs. Within the people-focused interactions that were observed, school leaders, teacher leaders, and teachers all played a role in building relationships, giving encouragement and recognition, appreciating different backgrounds, and creating space for vulnerability.

Some tasks, however, were initiated primarily by one type of PLC participant. For example, school leaders initiated a number of the purpose-focused interactions like reminding of expectations, the vision, and the purpose of PLC work. The assistant principal engaged in raising the bar and lightening the load in PLC meetings. These interactions appeared to be of great value to the team with many team members expressing appreciation for the role that school leaders played within the PLCs. Some expressed that the role of school leadership pushed the team to ask hard questions and continuously improve.

In the area of work-focused interactions, all stakeholders were involved in exchanging ideas and sharing and utilizing resources. All PLC participants also initiated and were involved in the instruction-focused interactions. Teacher leaders appeared to play a valuable role in

facilitating and organizing for the work. Both Ms. Tapper and Ms. Cameron indicated they were strategic and intentional about how they facilitated the work and development of instruction. Teachers recognized the role that Ms. Tapper and Ms. Cameron played in ensuring the PLC was productive. Teachers appeared to take the lead in sharing and contributing ideas and instructional work and resources. These teacher contributions resulted in perceptions of better relationships, teacher learning, and creation of high-quality work for students. So even where certain stakeholders initiated particular types of actions, the interactions seemed to work together interdependently to accomplish the work of the PLCs.

Spillane asserted that four concepts make up the distributed leadership framework: leadership tasks and functions, task-enactment, social distribution of task enactment, and situational distribution of task enactment (Spillane et al., 2004). In this study, leadership tasks and functions included cultivating and making space for relationship development and appreciation of strengths, setting forth the vision and expectations for the work, probing to raise the bar of the work, lightening the load, and supporting instructional work by being present and focusing on planning high-quality instruction. Teacher leaders also worked on developing and maintaining relationships in the PLCs, encouraging and appreciating teachers, creating a safe space to exchange ideas and resources, and facilitating the development of high-quality instruction and assessment driven by student needs as demonstrated by the data. Teachers worked on maintaining relationships and showing vulnerability, exchanging ideas and resources, and collaborating to develop high-quality instruction and assessment driven by student achievement data.

As anticipated by the distributed leadership framework, the interactions in the PLCs were broadly shared among school leaders, teacher leaders, and teachers. Some of the PLC work was

distributed to certain teacher team members. For example, some teachers took a lead role in certain matters, such as creating an initial draft of an assessment or drafting initial lesson plans, even though those teachers did not serve as formal leaders in the PLCs. PLC participants took into account the strengths of participants in deciding who would carry out what tasks and functions. Often, work that was distributed was reviewed and modified by the PLCs as a whole before it was finalized and used. PLC participants shared a common purpose of creating high-quality instruction to increase student achievement, and work they did in the PLCs was to accomplish that purpose.

The work of the PLCs occurred both in the PLC meeting setting and outside of that setting in school hallways, classrooms, and the cafeteria. PLC work also occurred via email and text message. Some aspects of the work were formal (*e.g.*, meeting, using protocols), while other elements were informal (*e.g.*, checking in with each other, discussing lesson modifications in real-time). Sometimes the PLCs worked with formal protocols, while other times the PLCs used informal conversation and inquiry to drive the work. District resources were located on a digital platform, and the work of the PLCs was contained on a Google Suite the PLCs called "the vault."

As noted in the literature review, Bandura identified four primary sources of efficacy: mastery experiences, vicarious experiences, social persuasion, and affective state (Bandura, 1986). Goddard et al. argued that these sources also extend to the organizational level and the concept of collective efficacy (2000). The interactions that occurred within the PLCs forming the basis of this study provided opportunities for participants to experience interactions that aligned with these sources. Members of the PLCs had an opportunity to engage in mastery experiences when they participated in strong instructional planning in their PLCs and when they created work

for the PLCs that was shared and utilized by others. Teachers said that when they shared their ideas and when other members of the PLCs used their work, it increased their confidence. Participants in the PLCs also had vicarious experiences when they heard about how their peers implemented instruction in their classrooms or observed how they created and revised assessments in PLC meetings. Participants shared that hearing about these experiences helped them feel as if they may be able to take similar actions. Additionally, PLC participants talked about how they received encouragement from other members of the PLCs. Because of this encouragement, many participants said they felt like they were not alone and as a team, they could be persistent in the face of challenges. Finally, participants talked about how strong relationships within the PLCs and praise, gratitude, and recognition caused them to have a more positive affective state. These connections between the interactions identified in this study and the sources of collective efficacy demonstrate how participants in the study connected their work with the perceived development of collective efficacy.

Implications

The school level and time of year may have influenced the results of the study. Future studies may want to expand into other content areas and school levels, as they may organize for instruction differently. Additionally, this study provides a snapshot of the work of PLCs within the window of a few months. A study that collected data throughout an entire school year, or even longer, may present a more complete picture of the work of a PLC.

Another area for future research involves the role of the school leader. As noted earlier, one participant stated that in the absence of Ms. Millet, the nature of the work could change so that the PLC was not as focused on “high leverage collaborative activities,” but rather “day-to-day minutia.” This sentiment was expressed by only one teacher interviewed in connection with

the study, and no differences were observed in the work of the PLC in the one session in which Ms. Millet was not present. However, given this statement, an area for future analysis may be an exploration of whether PLC interactions differ when school leaders are present or absent. Research also may seek to determine how to build capacity in teacher leaders to strengthen their ability to lead some of the purpose-focused and "raising the bar" type of work in a PLC. Ms. Millet alluded to one way this type of support can occur when she described her meetings with teacher leaders to set goals for their growth as leaders within the PLCs. Research also may look into how school leaders can implement a gradual release of responsibility in this regard while supporting teacher leaders and PLCs. Research into these areas may help school leaders ensure teacher leaders are building capacity to learn about, practice, and initiate purpose-focused interactions and other interactions that elevate the work of the PLCs. If teacher leaders are able to initiate these types of interactions, the PLCs may continue to grow in their ability to implement high-leverage activities, even in the absence of school administration.

The findings from this study offer insight into the interactions that occur within PLCs that may promote the development of collective efficacy. These insights may shape how school leaders aim to support teacher leaders and structure PLCs within their schools. School leaders may desire to be intentional about creating opportunities to remind PLC participants of the purpose of PLC work. As school leaders work to select and support teacher leaders, they may want to consider some of the interactions in which teacher leaders may be expected to engage, especially those concerning instructional leadership. They may look for potential leaders with strengths in those areas and consider how they may build capacity in future teacher leaders to facilitate this type of work through relevant learning and experiences. They may also seek to structure PLCs in such a way that promotes some of the interactions in the study, providing the

time and space for the participants to engage in relationship-building and shared experiences that may promote the development of collective efficacy.

Conclusion

This study explored the interactions that occur within a PLC and how those interactions may influence the development of collective efficacy. Through a qualitative case study approach utilizing the distributed leadership framework, this study added to the literature that explores what lies behind the quantitative research that asserts a positive correlation between teacher leadership and PLCs and collective efficacy. This study identified four types of interactions that occurred between school leaders, teacher leaders, and teachers in the PLC context: people-focused interactions, purpose-focused interactions, work-focused interactions, and instruction-focused interactions.

It found that PLC participants worked together to build and maintain relationships, gave each other encouragement and recognition, appreciated diverse backgrounds, and created space for vulnerability. It found that school leaders reminded PLC participants of expectations, reinforced the purpose of the PLC work, and created structures that enable PLC participants to do the work. It found that all PLC participants exchanged ideas and shared resources, and school leaders worked to raise the bar while simultaneously lightening the load. Finally, it found that all PLC participants created assessments, analyzed data, created high-quality instruction, and engaged in constant reflection. While most interactions were shared among participants, some tasks were distributed to promote efficiency of work. However, even the work that was distributed was reviewed by the whole PLC for feedback before use. The tasks were interdependent and together, contributed to productive PLC work.

The study also analyzed how the interactions within the PLCs were perceived to

influence collective efficacy. The findings demonstrated that PLC interactions provided opportunities for participants to model both effective PLC practices and quality instructional practices. The study also showed that PLC interactions provided an opportunity for teachers to create work for themselves and other teachers, enabling teachers to learn more and feel more confident in PLC work. PLC interactions reinforced a commitment to continuous improvement by providing opportunities for learning and reflection. Finally, PLC interactions created the opportunity for participants to enjoy shared experiences and feel that they were part of a team and not alone in their work. The findings of this study contribute to the literature surrounding distributed leadership, teacher leadership, PLCs, and collective efficacy and provide information to school leaders as they select and support teacher leaders and create and develop PLCs in schools in a meaningful way that supports the development of collective efficacy and promotes student achievement.

References

Angelle, P. S., Nixon, T. J., Norton, E. M., & Niles, C. A. (2011, November). *Increasing organizational effectiveness: An examination of teacher leadership, collective efficacy, and trust in schools.* Paper presented at the meeting of the University Council for Educational Administration, Pittsburgh, PA.

Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist, 28*(2), 117-148.

Carpenter, D. (2015). School culture and leadership of professional learning communities. *International Journal of Educational Management, 29*(5), 682-694. doi: 10.1108/IJEM-04-2014-0046

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and design: Choosing among five approaches* (4th ed.). Thousand Oaks, California: Sage Publications, Inc.

Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research process.* Australia: Allen & Unwin.

DeMatthews, D. (2014). Principal and teacher collaboration: An exploration of distributed leadership in professional learning communities. *International Journal of Educational Leadership and Management, 2*(2), 176-206.

Derrington, M. L., & Angelle, P. S. (2013). Teacher leadership and collective efficacy: Connections and links. *International Journal of Teacher Leadership*, *4*(1), 1-13.

Diamond, J. B. (2007). Cultivating High Expectations in an Urban Elementary School: The Case of Kelly School. In Spillane, J. P. & Diamond, J. B. (Eds.), *Distributed leadership in practice* (pp. 63-84). New York, New York: Teachers College Press.

Diamond, J. B., & Spillane, J. P. (2016). School leadership and management from a distributed perspective: A 2016 retrospective and prospective. *Management Education, 30*(4), 147-154.

Goddard, R. (2002). A theoretical and empirical analysis of the measurement of collective efficacy: The development of a short form. *Educational and Psychological Measurement, 62*(1), 97-110.

Goddard, R.D., Goddard, Y.L., Kim, E.S., & Miller, R. (2015). A theoretical and empirical analysis of the roles of instructional leadership, teacher collaboration, and collective efficacy beliefs in support of student learning. *American Journal of Education, 121*(4), 501-530.

Goddard, R. D., Hoy, W. K., & Hoy, A. W. (2000). Collective teacher efficacy: Its meaning, measure, and impact on student achievement. *American Educational Research Journal*, *37*(2), 479-507.

Gronn, P. (2000). Distributed properties: A new architecture for leadership. *Educational Management Administration & Leadership, 28,* 317-338.

Harris, A., & Spillane, J. (2008). Distributed leadership through the looking glass. *Management in Education, 22*(1), 31-33.

McKenzie, K. B., & Locke, L. A. (2014). Distributed leadership: A good theory but what if leaders won't, don't know how, or can't lead. *Journal of School Leadership*, *24*(1), 164-188.

Merriam, S. B. (2009) *Qualitative research: A guide to implementation and design.* San Francisco, California: Jossey-Bass.

Merriam, S. B. (1998). *Qualitative research and case study applications in education.* San Francisco, California: Jossey-Bass.

Neumerski, C. M. (2012). Rethinking instructional leadership, a review: what do we know about principal, teacher, and coach instructional leadership, and where should we go from here? *Educational Administration Quarterly*, *49*(2), 310-347. doi: 10.1177/0013161X12456700

Pankake, A., & Abrego, Jr., A. (2017). *Lead with me: A principal's guide to teacher leadership* (2nd ed.). New York, New York: Routledge.

Paredes Scribner, S. M. P., & Bradley-Levine, J. (2010). The meaning(s) of teacher leadership in an urban high school reform. *Educational Administration Quarterly*, *46*(4), 491-522.

Patton, M. Q. (2002). Qualitative research and evaluation methods (3rd ed.). Thousand Oaks, CA: Sage.

Saldana, J. (2016). The coding manual for qualitative researchers. Thousand Oaks, CA: Sage Publications.

Spillane, J. P. (2006). *Distributed leadership*. San Francisco, California: Jossey-Bass.

Spillane, J. P., & Diamond, J. B. (2007). Taking a Distributed Perspective. In Spillane, J. P. & Diamond, J. B. (Eds.), *Distributed leadership in practice* (pp. 1-15). New York, New York: Teachers College Press.

Spillane, J. P., Halverson, R., & Diamond, J. B. (2004). Towards a theory of leadership practice: A distributed perspective. *Journal of Curriculum Studies*, *36*(1), 3-34.

Spillane, J. P., Halverson, R., & Diamond, J. B. (2001). Investigating school leadership practice: A distributed perspective. *Educational Researcher*, *30*(3), 23-28.

Spillane, J. P., & Hopkins, M. (2013). Organizing for instruction in education systems and school organizations: How the subject matters. *Journal of Curriculum Studies, 45*(6), 721-747.

Stake, R.E. (1995). *The art of case study research*. Thousand Oaks, California: Sage Publications, Inc.

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

Struyve, C., Meredith, C., & Gielen, S. (2014). Who am I and where do I belong? The perception and evaluation of teacher leaders concerning teacher leadership practices and micropolitics in schools. *Journal of Educational Change, 15*(2), 203-230.

Taylor, M., Goeke, J., Klein, E., Onore, C., & Geist, K. (2011). Changing leadership: Teachers lead the way for schools that learn. *Teaching and Teacher Education, 27*(5), 920-929.

Tracy, S. J. (2013). Qualitative research methods: Collecting evidence, crafting analysis, communicating impact. Sussex: John Wiley & Sons, Ltd.

Tschannen-Moran, M., & Barr, M. (2010). Fostering student learning: The relationship of collective teacher efficacy and student achievement. *Leadership and Policy in Schools. 3*(3), 189-209.

Voelkel, Jr., R. H. & Chrispeels, J. H. (2017). Understanding the link between professional learning communities and teacher collective efficacy. *School Effectiveness and School Improvement, 28*(4), 505-526. doi: 10.1080/09243453.2017.1299015

Wilson, A. (2016). From professional practice to practical leader: Teacher leadership in professional learning communities. *International Journal of Teacher Leadership, 7*(2), 45-62.

York-Barr, J., & Duke, K. (2004). What do we know about teacher leadership? Findings from two decades of scholarship. *Review of Educational Research, 74*(3), 255-316.

APPENDICES

APPENDIX A

Email Script for principals at select middle schools:

Dear [Principal],

My name is Toni Ross Weir, and I am a student researcher at Georgia State University. I am in the Ed.D program in the College of Education and Human Development. I am also an assistant principal in Gwinnett County Public Schools. I am conducting a study called "Perceptions of How Leadership Interactions Influence the Development of Collective Efficacy in Professional Learning Communities." This research proposes exploring the interactions between school and teacher leaders and teachers in professional learning communities. Research questions are as follows: 1. What interactions take place among school leaders, teacher leaders, and teachers as they work together in a PLC context? 2. How are the interactions between school leaders, teacher leaders, and teachers in a PLC context perceived to influence the development of collective efficacy? This research could influence how school leaders select and support teacher leaders and structure and support professional learning communities in schools.

Your school has been identified as one that may have rich information for the study because of the extent of PLC implementation and teacher leadership. Participation in the study would entail one interview with you and one interview with an assistant principal. Based on those interviews and your recommendations, participants of six PLC groups would complete a short 12-item survey. Based on those survey results, two PLC groups would be observed three times each during their normal PLC meetings, and between six and ten teachers (to be identified from the observations) would be interviewed for one hour. Additionally, documents created by and utilized in the PLC meetings would be collected and analyzed.

Please let me know if your school would be willing participate in the study. You may reach me via email or my cell phone at 713.922.0320. I look forward to hearing from you.

APPENDIX B

School Leader Information Form

Purpose of the Study: This research proposes exploring the interactions between school and teacher leaders and teachers in professional learning communities. Using a distributed leadership framework, it seeks to examine the interactions that take place in professional learning communities to learn about how they may influence perceptions of collective efficacy. Perceptions of collective efficacy have been positively correlated with student achievement (Bandura, 1993; Goddard, Hoy, & Hoy, 2000), and in 2016, researcher John Hattie declared it the greatest factor impacting student achievement (Donohoo, 2017). Additionally, both teacher leadership and professional learning community implementation have been positively correlated with higher perceptions of collective efficacy (Angelle, Nixon, Norton & Niles, 2011; Derrington & Angelle, 2013; Voelkel & Chrispeels, 2017). Understanding more about how interactions between leaders and teachers in professional learning communities influence the development of collective efficacy will provide valuable knowledge about how teachers and leaders work together in professional learning communities. This insight, along with future research, may eventually enable school leaders to prepare and support teacher leadership and professional learning community implementation with research-based best practices that may lead to increased student achievement.

Definitions in the Study:
For this research, the following definitions will be utilized:

Collective efficacy: "the perceptions of teachers in a school that the faculty as a whole can organize and execute the courses of action required to have a positive effect on students" (Goddard & Goddard, 2001, p. 809).

Distributed leadership: a conceptual framework that "acknowledges the work of leading and managing schools involves multiple individuals" and centers on leadership practice, "a product of the interactions of school leaders, followers, and aspects of their situation" (Spillane & Diamond, 2007, p. 7).

*Interactions: "*tasks [comprised of] macro-functions and microtasks or routines that enable the accomplishment of the broader goals" (Diamond, 2007, p. 65).

Professional learning communities: communities of teachers who work together to ensure students learn, while emphasizing collaboration and focusing on student achievement outcomes (adapted from DuFour, 2004).

Teacher leadership: "the process by which teachers, individually or collectively, influence their colleagues, principals, and other members of school communities to improve teaching and learning practices with the aim of increased student learning and achievement" (York-Barr & Duke, 2004, p. 287-288). In this research, teacher leaders will be those teachers who meet the criteria above and who have both classroom responsibilities and a charge from their schools to lead their PLCs.

Items from the Collective Efficacy Instrument – Short Form (Copyright © Goddard & Hoy, 2003)

1. Teachers in the school are able to get through to the most difficult students.

2.¤Teachers here are confident they will be able to motivate their students.

3. If a child doesn't want to learn, teachers here give up.

4. Teachers here don't have the skills needed to produce meaningful student learning.

5. Teachers in this school believe that every child can learn.

6. These students come to school ready to learn.

7. Home life provides so many advantages that students here are bound to learn.

8. Students here just aren't motivated to learn.

9. Teachers in this school do not have the skills to deal with student disciplinary problems.

10. The opportunities in this community help ensure that these students will learn.

11. Learning is more difficult at this school because students are worried about their safety.

12. Drug and alcohol abuse in the community make learning difficult for students here.

APPENDIX C

Collective Efficacy Scale – Short Form
(Copyright © Goddard & Hoy, 2003)

Directions: Please indicate your level of agreement with each of the following statements about your school from **strongly disagree** to **strongly agree**. Your answers are confidential.	**Strongly Disagree**	**Disagree**	**Somewhat Disagree**	**Somewhat Agree**	**Agree**	**Strongly Agree**
1. Teachers in the school are able to get through to the most difficult students.						
2. Teachers here are confident they will be able to motivate their students.						
3. If a child doesn't want to learn, teachers here give up.						
4. Teachers here don't have the skills needed to produce meaningful student learning.						
5. Teachers in this school believe that every child can learn.						
6. These students come to school ready to learn.						
7. Home life provides so many advantages that students here are bound to learn.						
8. Students here just aren't motivated to learn.						
9. Teachers in this school do not have the skills to deal with student disciplinary problems.						
10. The opportunities in this community help ensure that these students will learn.						
11. Learning is more difficult at this school because students are worried about their safety.						
12. Drug and alcohol abuse in the community make learning difficult for students here.						

APPENDIX D

Georgia State University
Informed Consent

Title: Perceptions of How Leadership Interactions Influence the Development of Collective Efficacy in Professional Learning Communities
Principal Investigator: Sheryl C. Moss
Student Principal Investigator: Toni Ross Weir

Introduction and Key Information
You are invited to take part in a research study. It is up to you to decide if you would like to take part in the study.
The purpose of this study is to explore the interactions between school and teacher leaders and teachers in professional learning communities. Research questions are as follows: 1. What interactions take place among school leaders, teacher leaders, and teachers as they work together in a PLC context? 2. How are the interactions between school leaders, teacher leaders, and teachers in a PLC context perceived to influence the development of collective efficacy? This research could influence how school leaders select and support teacher leaders and structure and support professional learning communities in schools.
Your role in the study will last no more than eight total hours over one year.
You will be asked to do the following: complete a 12-item survey, be observed in your regularly occurring professional learning community sessions on three occasions, be interviewed one time for a period of one hour, and provide documents created during or utilized by your professional learning community. Please note that not every participant will be selected for each stage of the study.
Participating in this study will not expose you to any more risks than you would experience in a typical day.
This study is not designed to benefit you. Overall, we hope to gain information about how teacher and school leaders and teachers work together in a PLC context to influence the development of collective efficacy. This research could influence how school leaders select and support teacher leaders and structure and support professional learning communities in schools.

Purpose
The purpose of the study is to explore the interactions between school and teacher leaders and teachers in professional learning communities. You are invited to take part in this research study because you are a school leader, teacher leader, or teacher involved in a middle school professional learning community. A total of no more than 60 people will be invited to take part in this study.

Procedures
If you decide to take part, you will:

- complete the 12-item Collective Teacher Efficacy Instrument. It is anticipated that the instrument will take less than twenty minutes to complete in one sitting. This instrument will be completed at a time convenient to participants.

- be observed in your professional learning community. Observations will occur in the regularly occurring professional learning community meetings for the regular time period of the meeting. Three meetings will be observed for each professional learning community. All observations will occur within the span of one year. The researcher will take notes during the observation. The observations will occur in the normal location for professional learning community meetings.
- be interviewed. You will be interviewed one time for a period of not more than one hour. The interview will be audio recorded by two different means. All interviews will occur in the span of one year. The interview will take place at your school or other location of your choosing.
- be asked to provide documents created by or utilized in your professional learning community. All document collection will take place within the span of one year.

Please note that not every participant will be selected for each stage of the study.

Future Research

Researchers will not use or distribute your data for future research studies even if identifiers are removed.

Risks

In this study, you will not have any more risks than you would in a normal day of life. No injury is expected from this study, but if you believe you have been harmed, contact the research team as soon as possible. Georgia State University and the research team have not set aside funds to compensate for any injury.

Benefits

This study is not designed to benefit you personally. Overall, we hope to gain information about how teacher and school leaders and teachers work together in a PLC context to influence the development of collective efficacy. This research could influence how school leaders select and support teacher leaders and structure and support professional learning communities in schools.

Alternatives

The alternative to taking part in this study is to not take part in the study.

Voluntary Participation and Withdrawal

You do not have to be in this study. If you decide to be in the study and change your mind, you have the right to drop out at any time. You may skip questions or stop participating at any time. You may refuse to take part in the study or stop at any time. This will not cause you to lose any benefits to which you are otherwise entitled.

Confidentiality

We will keep your records private to the extent allowed by law. The following people and entities will have access to the information you provide:

- Sheryl C. Moss and Toni Ross Weir
- GSU Institutional Review Board
- Office for Human Research Protection (OHRP)

We will use a pseudonym rather than your name on study records. The information you provide will be stored on password protected devices and software. If you are interviewed, the interview will be audio recorded by two means and transcribed. The audio recording and transcription will be destroyed one year after the completion of the research. Internet software and email may be utilized in this study. Data sent over the internet may not be secure. Internet-based software utilized will be password protected. When we present or publish the results of this study, we will not use your name or other information that may identify you.

Contact Information

Contact Sheryl C. Moss at 404.413.8277 or smoss13@gsu.edu or contact Toni Ross Weir at 713.922.0320 or tweir1@student.gsu.edu:

- If you have questions about the study or your part in it
- If you have questions, concerns, or complaints about the study

The IRB at Georgia State University reviews all research that involves human participants. You can contact the IRB if you would like to speak to someone who is not involved directly with the study. You can contact the IRB for questions, concerns, problems, information, input, or questions about your rights as a research participant. Contact the IRB at 404-413-3500 or irb@gsu.edu.

Consent

We will give you a copy of this consent form to keep.

If you are willing to volunteer for this research, please sign below.

_____

Printed Name of Participant

_____ _____

Signature of Participant Date

_____ _____

Principal Investigator or Researcher Obtaining Consent Date

APPENDIX E

Interview Questions

1. Describe how PLC interactions relate to meaningful student learning for students who have difficulty learning or face challenges in learning.

2. Describe how PLC interactions relate to teacher confidence regarding the ability to motivate students.

3. Describe how PLC interactions relate to teacher persistence when it appears that a student does not want to learn.

4. Describe how PLC interactions relate to teachers developing skills to produce meaningful student learning.

5. Describe how PLC interactions relate to teacher belief that all students can learn.

6. What other interactions in PLCs influence meaningful student learning for all students?

APPENDIX F

Observation Protocol

Event:	**Date:**
Location:	**Time:**
Participants:	
Descriptive Notes:	**Reflective Notes:**