Abstract

Title of Document: TEACHERS' PERCEPTIONS OF THE SOURCES OF COLLECTIVE EFFICACY IN AN ORGANIZATIONAL ENVIRONMENT CONDUCIVE TO COLLECTIVE LEARNING

Letitia Marion Williams, Ph.D., 2011

Directed by: Associate Professor, Hanne B. Mawhinney, Education Leadership, Higher Education and International Education

Collective teacher efficacy has emerged as a significant predictor of student achievement and is theorized to influence teachers' actions in ways that improve student learning. Bandura's theory of efficacy formation posits that efficacy beliefs are formed from the perception and interpretation of four sources of efficacy. This qualitative study explored the organizational antecedents of collective teacher efficacy, specifically, how the organizational context of the school, conceptualized as a professional learning community (PLC) influenced teachers' perceptions and interpretations of the sources of efficacy. Teachers were interviewed and observed interacting with faculty and administrators. The study found that the PLC conditions shared vision, collective learning, and shared and supportive leadership had the most significant impact on teachers' collective efficacy beliefs. In addition, the student demographic, predominantly minority, low-income students, influenced how teachers conceptualized the teaching task

and how they assessed the competence of their colleagues. Individual-level attributes such as years of teaching experience also accounted for differences in teachers' perceptions and interpretations of efficacy sources.   Finally, the study found support for the importance of the principal's role in the development of teachers' collective efficacy beliefs.

TEACHERS' PERCEPTIONS OF THE SOURCES OF COLLECTIVE

EFFICACY IN AN ORGNAIZATIONAL ENVIRONMENT CONDUCTIVE TO

COLLECTIVE LEARNING

By

Letitia Marion Williams

Dissertation submitted to the Faculty of the Graduate School of the
University of Maryland, College Park, in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
2011

Advisory Committee:
Professor Hanne Mawhinney, Chair
Professor Melinda Martin-Beltran
Professor Carol Parham
Professor Patricia Richardson
Professor Linda Valli

I am grateful to all of my family members and friends who cheered me on and called out my name to God. I do not take you for granted and want you to know that I sincerely appreciate you.

Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction

The press to improve student learning outcomes for all students to meet the demands of the global economy, heightened by governmental regulations at the federal, state and local levels, has placed enormous pressure on schools and teachers. Current policies, such as the No Child Left Behind Act (NCLB), call for schools to narrow achievement gaps and increase learning for all students. However, all too often, current inducements for improvement, at all levels of school governance, rely on extensive performance-based accountability measures with little focus on factors that might influence teachers' capacity to facilitate student learning (Printy, 2008; Valli, Croninger, Chambliss, Graeber, & Buese, 2008). Furthermore, Evans (2009) argues that if schools are to execute plans to increase the learning outcomes for all students, teachers must believe in the faculty's capacity to do so. Collective teacher efficacy is a potentially powerful construct associated with student achievement that can impact teachers' judgments about their capability to act in ways that promote group goal attainment.

Recent research has suggested teachers' collective efficacy beliefs are a critical determinant of teachers' actions. Collective teacher efficacy, defined as "the perceptions of teachers in a school that the efforts of the faculty as a whole will have a positive effect on students" (Goddard, Hoy, & Woolfolk Hoy, 2000), has been related to teachers' motivation (Ciani, Summers, & Easter, 2008), implementation of instructional changes (Cantrell & Callaway, 2008) and ability to cope with job stress (Klassen, 2010). Moreover, teacher collective efficacy has consistently been found to be a significant predictor of student achievement over and above the impact of student socioeconomic

1

status (Adams & Forsyth, 2006; Bandura, 1993; Goddard, LoGerfo & Hoy, 2004; Goddard, Hoy, & Woolfolk Hoy, 2000; McCoach & Colbert, 2010). Collective teacher efficacy is, therefore, a cultural property of schools that reflects the faculty's belief in its ability to perform teaching tasks. Teachers' collective efficacy beliefs inform actions that can foster student achievement (Bandura, 1993). In addition, a school organizational context framed by positive collective efficacy beliefs of the faculty may tolerate the pressures now associated with high stakes accountability (Mawhinney, Wood & Haas, 2006b).

Despite the theoretical evidence that organizational processes influence teachers' collective efficacy beliefs, relatively few studies have examined the antecedents to collective teacher efficacy. Ross, Gray, and Hogaboam-Gray (2004) found school processes that contribute to a cohesive environment in which collaborative learning takes place to be a significant predictor of teachers' collective efficacy beliefs. Their findings, corroborated by later studies (Mawhinney, Wood & Haas, 2006a, 2006b), validate the assumptions that organizational factors do impact teachers' efficacy beliefs. Although an association has been clearly established researchers have yet to understand how organizational conditions influence teachers' collective efficacy beliefs thus signaling the need for further research.

Ross and his colleagues (2004) identified five school process variables that, together, predicted teachers' collective efficacy beliefs. They were: shared school goals, school-wide collaboration, fit of school plans with school needs, teacher learning opportunities and empowering school leadership. These five school processes are also conditions of organizational processes identified in studies of professional learning

2

communities (PLCs) (Webb, Graham, Vulliamy, Sarja, Hamalainen, & Poikonen, 2009; Hord, 1997, 2000, 2004; Husu & Tirri, 2007; Louis & Marks, 1998). Researchers studying school conditions that foster teacher instructional capacity have identified several organizational conditions that contribute to a cohesive environment and teacher learning (DuFour, 2004; Horn, 2010; Horn & little, 2010; Printy, 2008; Hall, 1997; Vescio, Ross & Adams, 2008). Hord (1997) concluded that schools that are PLCs exhibit the following organizational conditions: 1) shared vision, 2) collective learning, 3) shared personal practice, 4) shared and supportive leadership, and 5) supportive conditions. Explained in more detail in later sections, I use Hord's five PLC conditions to conceptualize the organizational context of the study school and the study focuses how the PLC conditions influence teachers' collective efficacy beliefs.

In the sections that follow I describe the three bodies of work used in this study: social cognitive theory, collective teacher efficacy, and professional learning communities (PLCs).

Social Cognitive Theory

Bandura's (1986, 1997) social cognitive theory provides the theoretical foundation for much of the current research on collective teacher efficacy. Social cognitive theory is concerned with human agency, the way people exercise control over the events in their lives (Bandura, 1977, 1986, 1997). Self-efficacy is "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p. 2). Self-efficacy is theorized to occupy the pivotal role in determining future behavior because it influences individuals' motivation levels, emotional states, and actions (Bandura, 1997).

3

Because people often work together to achieve common purposes, Bandura extended the concept of human agency to include collective agency. Similar to self-efficacy but on the group level, collective efficacy is defined as a group's shared belief in its capabilities to act in ways that produce projected levels of attainment (Bandura, 1997). Collective efficacy is, therefore, the product of the interactive dynamics of group members and is a potentially powerful construct for understanding how groups or organizations choose to act.

Bandura's theory highlights four principal sources of efficacy information which individuals use to construct individual or collective efficacy beliefs; mastery experiences derived from interpretations of past performances; vicarious experiences, derived from interpretations of one's own capability based on comparison with another individual; social persuasion, derived from interpretations of encouragement of feedback from others; and affective states, derived from interpretations of emotions. He emphasizes that the sources of efficacy information are not inherently enlightening but must be cognitively processed. Several scholars state that at the organizational level the cognitive processing of sources of efficacy information is influenced by contextual and environmental variables. This underscores the need to examine the organizational antecedents to the development of teachers' collective efficacy beliefs. (Gibson & Earley, 2007; Jung & Sosik, 2002; Wu, Tsui, & Kinicki, 2010). Bandura's work provides the basis for empirical and theoretical studies of teachers' collective efficacy beliefs.

Collective Teacher Efficacy

Collective teacher efficacy is defined as "the perceptions of teachers in a school that the efforts of the faculty as a whole will have a positive effect on students" (Goddard

et al. , 2000). Collective teacher efficacy does not refer necessarily to accurate assessments of the effectiveness of a school's faculty and does not have to coincide with the perceptions of an objective observer (Tschannen-Moran & Barr, 2004). A significant assumption of social cognitive theory as applied to schools is that the teachers' collective efficacy beliefs are the product of the interactive dynamics of teachers within the school context. However, researchers have only just begun to identify the ways in which the organizational context of a school influences the development of teachers' collective efficacy beliefs.

Congruent with social cognitive theory, four sources of efficacy information are also used to construct teachers' collective efficacy beliefs. Goddard et al. (2000) advanced a model that explained collective teacher efficacy as the result of teachers cognitive processing of the four sources of efficacy in light of contextual conditions impacting task accomplishment and assessment of teaching competence. Applied to schools, scholars have found that teachers' mastery experiences are derived from interpretations of past student performance. However, much less study has been conducted on the experiences that constitute vicarious experiences, social persuasion, and affective states. Researchers have made theoretical assumptions that teachers' vicarious experiences might be derived from interpretations of observing their colleagues or other schools perform a task; social persuasion might be derived from interpretations of encouragement or feedback from the school principal; and affective states might be derived from interpretations of emotional responses to stresses in the school environment (Goddard et al., 2000, 2004; Ross et al., 2004). Analysis of the four sources is then made in light of the contextual factors in the anticipated teaching task (Tschannen-Moran,

Woolfolk Hoy, Hoy, 1998). Further study is therefore needed to understand how the organizational context might influence teachers' collective efficacy beliefs by contributing to the four sources of efficacy. This study also aimed to extend the line of research on the antecedents to collective teacher efficacy by exploring the ways in which the organizational context, conceptualized as PLC conditions, might contribute to the sources of efficacy information. In the next section I briefly discuss PLCs as an organizational arrangement in schools that might influence the development of collective teacher efficacy.

Professional Learning Communities

The literature on PLCs in schools emerged in a time of change in education policy when teachers were being called upon to transform their instructional practice. Even prior to No Child Left Behind, Darling Hammond and McLaughlin (1995) asserted that the nation's reform agenda required teachers to rethink their own practice and teach in fundamentally different ways. Spurred on by the increasing complexities of teaching and learning in a context of expanding accountability for student achievement, attempts that have been made to increase teachers' ability to positively impact student learning have primarily focused on improving teachers' academic skills. There was a growing consensus that if radical changes were to be made to teachers' capacity to meet the new demands of student learning, the institutional arrangements of schools would have to be altered to maximize opportunities for collaborative relationships that foster teacher learning.

The call for schools to become learning organizations only increased with the more demanding school policy and work place contexts (Little, 1992; Louis, Marks &

6

Kruse, 1996; Senge, 2000) and the growing attempts to calibrate workplace obligations, opportunities and rewards in attempts to attract and retain teachers (Little, 1992). Changing conceptions of teacher professionalism also contributed with scholars and policy makers arguing that teacher professionalism should no longer be solely about extensive individual knowledge but about all teachers striving towards standards of excellence and collaborative relationships that foster teacher learning (Hord, 1997, 2000, 2004). Scholars began to examine high-performing schools to understand their organizational characteristics as possible precursors to student achievement (Grossman, Wineburg & Woolworth, 2001; Hord, 1997, 2000, 2004; Huffman & Hipp, 2003; Louis & Kruse, 1995). Out of this research PLCs emerged as an organizational model for supporting the fundamental changes demanded of teachers.

A PLC is an organizational context where barriers that isolate teachers are broken down and teachers come together to seek new knowledge, critique their practice, and focus on student learning. PLCs provide a model for creating the structural and relational conditions for teacher learning and have been extolled in the literature as an essential way to organize schools to maximize teacher learning (Vescio, Ross, & Adams, 2008). Much of the research on PLCs focuses on the whole school faculty. The assumption underlying this literature is that knowledge is situated in teachers' experiences and teacher learning is enhanced by active engagement with their colleagues on the faculty. Hord (1997) outlined five essential conditions of PLCs teachers' perceived in successful schools: (a) shared vision focused on student learning, (b) collective learning opportunities in which teachers discuss teaching and learning, (c) shared personal practice that allows teachers to learn by observing teachers in their classrooms, (d) shared and supportive leadership

focused on empowering teachers by increasing their influence on school decisions and, (e) supportive conditions which include the structural and relational conditions necessary for the emergence of a PLC.

Although there is an increasing amount of literature that presumes the benefits of PLCs the focus has only recently shifted to examining if the presence of PLC conditions in schools, does, in fact, impact the ability of schools to foster student learning. Scholars have found that PLCs improve teachers' sense of wellbeing and faculty cohesion (Barnett & McCormick, 2004; Webb et al., 2009; Husu & Tirri, 2007; Singh & Billingsley, 1998). However, much less is known about how PLC conditions lead to changes in teaching practice and student achievement (Vescio et al., 2008).

A few studies have found moderate relationships between PLC conditions and student achievement (Bolam, McMahon, Stoll, Thomas & Wallace, 2005; Bryk, Sebring, Allensworth, Luppescu & Easton, 2009). However, researchers suggest the relationship between PLC conditions and student achievement is indirect (Ciani et al., 2008; Goddard, Goddard & Tschannen-Moran, 2007). Earlier studies suggested that the association found between PLCs and student achievement was because the supportive collaborative and learning environment increased teachers' efficacy beliefs which led to actions that supported student learning (Hall & Hord, 2001; Louis & Kruse, 1995). Building on earlier research that suggests teachers' efficacy beliefs might be influenced by PLC conditions; in this study I used PLC conditions to conceptualize the school organizational context.

This study was conducted in Brown County Public Schools (BCPS) a school district in a suburban/rural school county. At the time of the study the district comprised thirty-two elementary schools, eight middle schools, eight high schools, one technical magnet high school, and one special education school. The school district was the seventh largest in its state and served 40, 252 students. The students were predominantly White. However, the county had an increasing minority population and at the time of the study 16 % of the district's students were African American. BCPS students also varied in terms of socioeconomic indicators. Some schools served very affluent residential areas as was reflected in very few students being eligible to receive Free and Reduced Cost Meals. Others, like the one in which the study was conducted, had over 50% of students receiving Free and Reduced Costs meals and were identified as Title I.

In 2002 BCPS developed a Master Plan which described the actions the district would take to support its efforts to increase student achievement for all students as stipulated by NCLB. Led by the district superintendent, the BCPS leadership team implemented policies aimed at increasing teacher instructional capacity and student achievement. The district's plan focused on providing teachers with extended opportunities for professional development and support for instructional change. To this end, the district focused on creating conditions that fostered the development of PLCs. Several decisions were made to provide more instructional support to teachers. BCPS shifted the instructional supervisors from district offices and housed them in school buildings. BCPS also created a new teacher mentor position to support teacher learning. The shift in the support structure resulted in teachers in the study school having direct

access to several instructional resources including the principal, assistant principal, instructional supervisor, teacher mentor, two subject specialist teachers and a data specialist.

In addition to the increased instructional support for teachers, the district's leadership team mandated that every school complete a collaborative revisioning process. Prior to the study Centerville's faculty collaboratively created a new school mission, "Empowering All to Achieve." Principals were also tasked with supporting the emergence of PLC conditions in the school. They were required to ensure teachers had many opportunities to interact as a faculty. In Centerville, the principal held weekly faculty meetings focused on professional development, grade level teams met monthly to discuss student data, and teachers worked together to plan lessons and grade student work. In addition, Learning Groups met monthly. These were groups focused on areas of interest such as Math, Reading, and Gifted and Talented instruction and they were tasked with identifying a problem in their practice and collaboratively investigating ways to address the problem.

To evaluate implementation, the district studied itself. Teachers were surveyed in 2003 and then in 2005 to measure their perceptions of PLC conditions and their collective efficacy beliefs. Mawhinney, Wood and Haas (2006a) found PLC conditions to be related to teachers' collective efficacy beliefs. These findings were consistent with an earlier study that examined the relationship between school processes that support school cohesion and teachers' collective efficacy beliefs (Ross et al., 2004). However, although these studies provided evidence of a relationship between organizational conditions and teachers' collective efficacy beliefs neither study examined the specific ways in which

organizational conditions influenced these beliefs. Ross et al. (2004) speculated that the
organizational conditions they studied might have contributed to collective teacher
efficacy by contributing to the sources of efficacy information and called for further
study.

Research Problem

Understanding the factors that might enhance or hinder teachers' collective
efficacy beliefs is essential given the salience of these beliefs to teacher instructional
actions and student learning outcomes. However, thus far research on teachers'
collective efficacy beliefs has focused primarily on measuring these beliefs in relation to
student achievement (Bandura, 1993; Goddard, 2001, 2002; Goddard et al., 2000, 2004;
Goddard, LoGerfo & Hoy, 2004). While these studies have laid the basis for
understanding the potentially powerful nature of teachers' collective efficacy beliefs
more research is needed to understand the antecedents of these beliefs.

Thus far, investigations into the antecedents of teachers' collective efficacy
beliefs have identified the organizational context as a significant influence. Researchers
have also found the presence of certain specific contextual variables to be related to
teachers' collective efficacy beliefs. For example, two studies found that teacher
collaboration is significantly related to teachers' collective efficacy beliefs (Mawhinney
et al., 2006a; Ross et al., 2004). Studies have also found that leadership actions are
linked to teachers' collective efficacy beliefs (Mawhinney, Wood & Haas, 2006b; Ross &
Gray, 2006; Demir, 2008; Olivier & Hipp, 2006). These studies, however, do not explain
the ways in which the organizational context impacts teachers' collective efficacy beliefs.

This gap in the literature warrants further study that attempts to account for the influence of organizational factors on teachers' collective efficacy beliefs.

Research Purpose and Questions

Using Goddard et al.'s (2000) model of the development of collective teacher efficacy, the purpose of the study was to explore how the organizational context of the school, conceptualized as a PLC, influenced the development of teachers' collective efficacy beliefs and influenced the teachers' perceptions and interpretations of the sources of efficacy. Stake (1995) suggests selecting cases in order to maximize what can be learned from them. To this end the theoretical assumptions of social cognitive theory and the findings of prior research informed my sampling decisions. The three fourth grade teachers were selected because the fourth grade had seen significant increases on the state assessment in the years leading up to the study; the school, Centerville elementary school (a pseudonym) had seen consistent increases in student achievement although low-income students and students of color comprised a large percentage of the student population; and BCPS study data showed that teachers in the school perceived PLC conditions and expressed positive beliefs in their faculty's capacity to foster student learning (Mawhinney, Haas & Wood, 2005).

Directly related to the purpose of the study, two research questions were addressed:

1. How do professional learning community conditions influence the development of teachers' collective efficacy beliefs?
2. How do professional learning community conditions influence teachers' perception of sources of efficacy information?

Collective teacher efficacy is a promising construct for fostering understanding of the ways schools can foster school improvement and has been consistently found to be a predictor of student achievement. However, relatively few studies have been conducted to investigate the construct and most focus on measuring the effects of collective teacher efficacy. In this study, however, I explored the organizational antecedents of collective teacher efficacy. Specifically, the study explored how the organizational context of the school, conceptualized as a PLC, influenced the development of teachers' collective efficacy beliefs and influenced the teachers' perceptions and interpretations of the sources of efficacy.

Prior research studies found that organizational conditions are associated with collective teacher efficacy. This study extended these findings by demonstrating the ways in which the PLC conditions contributed to teachers' perceptions and interpretations of the sources of efficacy. The majority of research on collective teacher efficacy has focused on mastery experience. This study also contributes to the literature by demonstrating that the less studied sources of efficacy information, vicarious experiences, social persuasion, and affective states also influence teachers' collective efficacy beliefs.

Goddard et al.'s (2000) model of collective teacher efficacy is based on the assumption that the analysis of sources of efficacy is task/context specific (See Figure 1). This study contributes to the literature by substantiating this claim. However, finding that definitions of the context along the lines of the teaching task and teaching

competence influence the perception of sources, raises questions about the role and position of task and teaching competence assessments in the model.

Research on collective teacher efficacy has often focused on aggregating teachers' efficacy appraisals and focusing on inter-group differences. This study contributes to the literature by highlighting the intra-group differences that influenced teachers' perceptions and interpretations of the sources of efficacy. Although it was beyond the scope of this study, the finding points to the need for further study to examine the impact of intra-group differences on the development of collective teacher efficacy.

Finally, by highlighting the ways in which the PLC conditions influence teachers' collective efficacy beliefs the study contributes to the PLC literature and to practitioners by suggesting experiences and conditions to focus on to support the likelihood that increased teacher instructional capacity will lead to changes in instruction.

Delimitations

The study was delimited by time in the field. I spent five months collecting data beginning in the middle of the school year. It is likely that beginning data collection at the beginning of the school year, particularly with a new team, would have provided a more complete understanding of the ways in which the teachers' collective efficacy beliefs emerged.

In addition, that the sample only included teachers from one grade level precluded the possibility of seeing how organizational processes might work differently in different teams and thereby influence different interpretations of the sources of efficacy.

Professional Learning Community (PLC) - An organizational context where barriers that isolate teachers are broken down and teachers come together to seek new knowledge, critique their practice, and focus on student learning. PLCs are characterized by five conditions (a) shared vision, (b) collective learning, (c) shared personal practice, (d) shared and supportive leadership, and (e) supportive conditions.

Shared Vision - The mental image of what is important to a school that is consistently referenced for faculty's work and used as a guidepost when making decisions about teaching and learning.

Collective Learning - Processes in which faculty discuss students learning and teaching, identify related issues and problems, make plans to address student needs, and assess the impact of their actions.

Shared Personal Practice - Visiting other classrooms to observe instruction

Shared and Supportive Leadership - Focuses on empowering teachers by sharing power and decision making responsibility which, in turn, increases the school's collective ability to respond to students' needs.

Supportive Conditions - The factors that determine when, where, how, and if the faculty come together to learn, make decisions, solve problems, and create as a professional learning community. These include time to interact with other teachers, school processes that encourage communication, and open, caring faculty relationships.

Self-efficacy - Beliefs in one's capabilities to organize and execute the courses of action
required to produce given attainments

Collective efficacy - A group's shared belief in its capabilities to act in ways that produce projected levels of attainment.

Collective Teacher Efficacy – The perceptions of teachers in a school that the efforts of the faculty as a whole will have a positive effect on students.

Mastery Experience - The interpreted result of previous performance. Mastery experience is not equivalent to outcomes but rather the interpreted result of the process leading up to and including the outcome.

Vicarious Experience - The interpreted result of someone else's performance gained from observing someone model a skill or perform a task. Teachers see someone (or an organization) engage in behavior, interpret the result of their actions and use these interpretations to create and develop beliefs about their own capability to engage in similar behaviors in the future.

Social Persuasion - The interpreted result of encouragement or feedback from others about the effectiveness of the group.

Affective State - Perception of arousal, excitement or stress, concerning the teaching task that is interpreted as the organization's collective ability to function effectively in the future.

Analysis of the Teaching Task – An assessment of factors that make teaching difficult or act as constraints is weighed against an assessment of resources to facilitate learning.

Analysis of Teaching Competence – An assessment of the skills, knowledge and attitudes/dispositions the faculty possesses in relation to the teaching task.

Chapter Two: Review of Literature

The case study explored how the organizational context of a school characterized by PLC conditions influenced the development of the teachers' collective efficacy beliefs. Collective teacher efficacy is the perceptions of teachers in a school that the efforts of the faculty as a whole will have a positive effect on students. The construct has received increasing attention because it has been consistently found to predict between-school differences in student achievement. Furthermore, collective teacher efficacy has been found to be a stronger predictor of student achievement that students' socioeconomic status. Collective teacher efficacy is, therefore, a promising construct for fostering understanding of the ways schools can improve student learning outcomes (Tschannen-Moran & Barr, 2004). This finding is particularly encouraging in a policy context that demands and holds teachers accountable for student learning outcomes and suggests understanding the development of collective teacher efficacy might prove helpful to schools trying to increase student learning outcomes.

Thus far, a few studies have examined the antecedents to collective teacher efficacy with promising results. First, these studies have shown that the school organizational context is a significant factor associated with the development of teachers' collective efficacy beliefs. Studies have also begun to identify school characteristics associated with improved collective teacher efficacy (Demir, 2008; Mawhinney et al., 2006a, 2006b; Ross et al., 2004; Zambo & Zambo, 2008). These characteristics include having a shared vision, empowering leadership and extensive opportunities for teacher collaboration. However, although these studies have demonstrated that organizational

conditions predict teachers' collective efficacy beliefs they do not account for how school organizational conditions influence these beliefs. Scholars continue to call for more research on the construct because of the potential it holds for influencing teacher behavior in ways that foster student achievement (Evans, 2009).

Collective teacher efficacy theory posits that teachers' assessments of contextual factors impact their collective efficacy beliefs. Also research studies have found school contextual factors that foster teacher collaboration and learning and faculty cohesion to be associated with collective teacher efficacy. For these reasons, this study focused on understanding how the organizational context of the school, conceptualized as a PLC, influenced the development of teachers' collective efficacy beliefs.

PLC is a term used to describe an organizational context where barriers that isolate teachers are broken down and teachers come together to seek new knowledge, critique their practice, and focus on student learning. PLCs are characterized by five conditions (a) shared vision, (b) collective learning, (c) shared personal practice, (d) shared and supportive leadership, and (e) supportive conditions. The presence of the five PLC conditions have been associated with student achievement (Goddard et al., 2007; Supovitz, Sirinides & May, 2010) as well as teacher learning, trust and wellbeing (Horn, 2010; Vescio & Adams, 2008; Webb, Vuiamy, Sarja, Hamalainen & Poikonen, 2009). Although the literature does not fully explain the link between PLCs and student success the association suggests that PLCs provide a positive context for teacher action and are therefore an appropriate set of conditions for an exploration of the organizational antecedents of collective teacher efficacy.

The study explored how the organizational context of the school, conceptualized as a PLC, influenced the development of teachers' collective efficacy beliefs. The study also extended the current line of research on collective teacher efficacy by attempting to account for the ways in which the PLC conditions influenced teachers' collective efficacy beliefs by influencing their perceptions and interpretations of sources of efficacy information.

The sections that follow begin with an explanation of social cognitive theory as the theoretical foundation for the construct collective teacher efficacy. This is followed by an examination of the efficacy constructs applied to schools demonstrating the power of the construct for explaining school differences in student achievement and the need to understand the development of collective teacher efficacy. The chapter then moves to a discussion of the research on the organizational antecedents of collective teacher efficacy highlighting the need for studies to account for the influence of these factors on teachers' collective efficacy beliefs. In this section I also consider the sources of efficacy information and the need for greater understanding of how school organizational conditions influence teachers' perceptions and interpretations of these sources. Next I explain the five PLC conditions used to conceptualize the organizational context in the study and justify the use of these conditions. In the final section of the chapter the conceptual framework for the study is presented.

Review of Social Cognitive Theory

Social cognitive theory (Bandura, 1986, 1997, 2000) is concerned with human agency, the way people exercise control over the events in their lives. According to Bandura (1997) the theory adopts an agentic perspective in which individuals "analyze

the situations that confront them, consider alternative courses of action, judge their abilities to carry them out successfully, and estimate the results the actions are likely to produce. They act on their judgments" (p. 5). Bandura (1997) asserts that human agency at both the individual and collective levels must be explained using the concept of reciprocal determinism. That is that future behavior is a function of three interacting classes of determinants: cognitive, affective, and biological events; behavior; and environmental events (Bandura, 1997). Although these classes of determinants interact to govern people's motivation levels, emotional states, and actions, Bandura (1997) argues that efficacy beliefs play a crucial role in individual and group functioning because they act upon the other classes of determinants. Efficacy beliefs are therefore, a key behavioral change mechanism.

Self-efficacy.

Self- efficacy is beliefs in one's capabilities to organize and execute the courses of action

required to produce given attainments" (Bandura, 1997, p. 2). Self-efficacy beliefs influence a person's thoughts about their emotions and environmental factors that enable actions and effort in the pursuit of goals, persistence in the face of challenges, and allow persons to exercise some control over their lives (Bandura, 1986, 1993, 1997). Self-efficacy is neither a fixed ability nor a measure of skill but rather a belief about what one is capable of doing under different sets of conditions with whatever skills one possesses (Bandura, 1986; 1997). For this reason different people with similar skills or the same individual under varied circumstances may perform differently depending on their self-efficacy beliefs and these beliefs might fluctuate over time. Therefore, to function

effectively persons must not only possess skills but the efficacy beliefs that they can use their skills effectively in particular situations.

Bandura (1986, 1997) distinguishes efficacy beliefs from outcome expectancy. Outcome expectancy is the individual's assessment of the consequences of performing a task and can provide incentives or disincentives for a behavior (Tschannen-Moran, Woolfolk Hoy & Hoy, 1998). Efficacy beliefs and outcome expectancies are both future-oriented judgments. Perceived efficacy is a judgment of one's ability to perform a certain action at a certain level, whereas outcome expectations are judgments of the consequences of an action. Although Bandura recognizes the role of outcome expectancies in cognitive processing he asserts that they do not have significant predictive power related to an individual's belief in their ability to act. Although discussed later in the chapter it is important to note that the most currently used model of collective teacher efficacy combines both conceptual strands to explain teachers' beliefs in the capacity of their faculty.

Collective efficacy.

People do not live in isolation and often must work together to achieve the results they desire. While social cognitive theory focuses largely on the exercise of personal agency it also adopts a broader view of agency recognizing that people often work interdependently to attain their goals and acknowledging the broad network of sociostructural influences on human action. Perceived collective efficacy is defined as "a group's shared belief in its cojoint capabilities to organize and execute the courses of action required to produce given levels of attainment" (Bandura, 1997, p. 477). Perceived collective efficacy influences the effective exercise of collective action by

affecting "the sense of mission and purpose of a system, the strength of common commitment to what it seeks to achieve, how well its members work together to produce results, and the group's resiliency in the face of difficulties" (Bandura, 1997, p. 469). Perceived collective efficacy is therefore a central mechanism of collective agency and important to the study of organized activity.

Collective efficacy is rooted in self-efficacy and the two concepts cannot be completely separated (Bandura, 1986). There is, therefore, some interdependence between judgments of group and personal efficacy. However, it is important to note that, collective efficacy is not simply the sum of the efficacy beliefs of individual members of a group but is rather "an emergent group-level attribute that is the product of coordinative and interactive dynamics" (Bandura, 1997, p. 7). Therefore, at the group level contextual factors that contribute to the interaction of group members are likely to function as antecedents of collective efficacy. Prior studies have also validated this theoretical assumption (Ross et al., 2004; Mawhinney et al., 2006a, 2006b). For this reason, in seeking to understand the development of collective teacher efficacy the decision was made to focus on the PLC conditions because studies had shown that they contributed to positive teacher interaction and collaborative learning (Elster, 2009; Sargent & Hannum, 2009; Supovitz, Sirinides & May, 2010)

Efficacy beliefs (individual and collective) are based on four sources of efficacy: mastery experiences, vicarious experiences, social persuasion and affective states (Bandura, 1997). Mastery experiences are the most powerful sources of efficacy information because they are derived from actual task performance. The perception that a performance was successful can raise efficacy beliefs and create a sense of positive

22

expectation that the task will be successfully performed in the future. Conversely, the perception that a task was a failure can lower efficacy beliefs and contribute to lower performance expectations. Bandura theorized three additional sources of efficacy information that also contribute to efficacy beliefs. Vicarious experiences change efficacy beliefs through information gained from observing others perform a task. Social persuasion is exercised through feedback from others aimed at enabling a person to achieve what they seek to achieve. Affective states refer to efficacy information gained from emotional responses to particular situations. According to Bandura (1997) the sources of efficacy are not inherently enlightening; instead, information from these sources must be selected and cognitively processed, if it is to change a person's efficacy beliefs.

Education researchers applied Bandura's theory to the education settings and developed the constructs teacher efficacy and collective teacher efficacy. In the next section these constructs are discussed.

Social Cognitive Theory Applied to Schools

Research in many spheres has demonstrated the power of efficacy beliefs in individual and group functioning. Studies have demonstrated strong positive relationships between efficacy beliefs and a variety of outcomes including adaptability to new technology (Wang & Lin, 2006), organizational commitment and job satisfaction in the banking industry (Walumbwa, Wang, Lawler & Shi, 2004), the ability to effect social change (Fernandez-Ballesteros, Nicolas, Caprara, Barbaranelli, & Bandura, 2002), performance in sports (Watson, Chemers & Preiser, 2001) and student achievement

(Adams & Forsyth, 2006; Bandura, 1993; Goddard et al., 2000; McCoach & Colbert, 2010).

That efficacy beliefs have been found to be predictors of student achievement signals the importance of the construct to researchers and educators. In the sections that follow I outline the application of social cognitive theory to education looking at the constructs teacher efficacy and collective teacher efficacy.

Teacher efficacy.

Teacher efficacy is a form of self-efficacy specific to teachers' professional actions. Early studies of teacher efficacy found significant correlations to student academic achievement (Ashton & Webb, 1986; Moore & Esselman, 1994; Ross, 1992, 1994a; Ross & Cousins, 1993; Ross, Cousins & Gadalla, 1996). Social cognitive theory suggests that the correlations between teacher efficacy beliefs and student learning outcomes is the result of the impact these beliefs have on teachers' thoughts and feelings, their choice of activities, the amount of effort they put into accomplishing specific tasks, and the extent of their persistence in the face of challenges and failures (Bandura, 1986, 1997; Gibson & Dembo, 1984; Looney, 2003). Scholars have found teacher efficacy beliefs to be positively correlated to a number of positive teacher behaviors and dispositions. These include the ability to: effectively use new instructional methods (Palmer, 2006) integrate technology into their instructional practice (Paraskeva, Bouta, & Papagianni, A., 2008), work with culturally diverse students (Tucker, Porter, Reinke, Herman, Ivery, Mack & Jackson, 2005), and remain committed in the face of challenges (Ware & Kitsantas, 2007).

Although the construct, because of its consistent correlation to student achievement and positive teacher behaviors, has remained compelling to researchers it has been surrounded by some debate. This is largely due to the fact that two conceptual strands have informed research on teacher efficacy. According to Tschannen-Moran, et al. (1998) the first conceptual strand is based on Rotter's (1966) locus of control theory. Locus of control theory conceptualized teacher efficacy as "the extent to which teachers believed that they could control the reinforcement of their actions" (Goddard et al., 2000, p. 481). Student motivation and student performance are viewed as important sources of reinforcement for teachers. Teachers who believe that they can influence student motivation and performance are viewed as also believing that they can control the reinforcement of their actions and therefore, as having a high level of efficacy (Goddard, et al., 2000, p. 481).

The second conceptual strand informing research on teacher efficacy grew out of Bandura's (1997) work. Teacher efficacy is a type of self-efficacy, the outcome of cognitive processing in which individuals construct beliefs about their capacity to act in ways to produce specific levels of performance. Bandura (1986) maintains that the two judgments must be differentiated because although one believes that a particular course of actions will produce certain outcomes, one does not necessarily act because one may not believe that one can execute the necessary actions. For example, teachers may believe that certain instructional practices, if properly implemented in the classroom, will lead to increased student outcomes but they may not believe that they can perform these practices and are, according to social cognitive theory, less likely to attempt them. Bandura (1997) goes further, arguing that the concepts bear little to no empirical

relationship to each other and that while perceived self-efficacy is a good predictor of behavior, locus of control is only a weak predictor of behavior.

Efforts to measure teacher efficacy revealed that although the analysis of the four sources of efficacy information, outlined by Bandura, were the major contributor to teacher efficacy beliefs teachers also considered their ability to control outcomes by reflecting on the circumstances surrounding the task.   Tschannen-Moran et al. (1998) proposed an integrated model of teacher efficacy that assumes the salience of the analysis of Bandura's (1997) four sources of efficacy information but also considered judgments about the extent to which teachers believed they could control outcomes based on the task context and their own teaching competence. Tschannen-Moran et al. postulate that in analyzing the teaching task teachers weigh the importance of factors that make teaching difficult against resources that facilitate learning. These factors include the availability of instructional materials, physical conditions and school leadership. In analyzing teaching competence teachers judge their skills, knowledge, and strategies as related to the teaching context. Tschannen-Moran et al. (1998) suggest that the four sources of efficacy information are the primary contributors to teacher efficacy however, they are weighed in light of assessments of the teaching task and teaching competence.

Collective teacher efficacy.

Perceived collective efficacy is a central mechanism of collective agency and important to the study of organized activity because it influences the effective exercise of collective action (Bandura, 1997). In addition to teachers' self-referent efficacy beliefs, recognizing that teachers do not work in complete isolation, researchers have begun to explore the organizational dimension of efficacy beliefs in schools. Collective teacher

26

efficacy is defined as "the perceptions of teachers in a school that the efforts of the faculty as a whole will have a positive effect on students" (Goddard et al., 2000, p. 480).

Several studies have demonstrated a strong link between teachers' collective efficacy beliefs and student academic achievement (Adams & Forsyth, 2006; Bandura, 1993; Goddard, 2001; Goddard et al., 2000; Goddard, LoGerfo et al., 2004; Ross et al., 2004). Perhaps even more compelling is the finding that teachers' collective efficacy beliefs have been found to be a greater predictor of student achievement than students' socioeconomic status (Bandura, 1993; Goddard et al., 2000). The potentially powerful nature of the construct has prompted researchers to explore the antecedents to teachers' collective efficacy beliefs.

Collective teacher efficacy is a group-level property formed from the interaction of individual teachers' beliefs in the ability of the group to accomplish its goals. Although conceptually distinct from teacher efficacy, collective teacher efficacy is also developed from the perception and interpretation of the four sources of efficacy; mastery experiences, vicarious experiences, social persuasion, and affective states.

The scholarly debate about the relevance of the locus of control construct to the development of efficacy beliefs in education settings, explained in the discussion of teacher efficacy, is also relevant to explanations of the development of collective teacher efficacy. Goddard et al. (2000, 2004) adapted Tschannen-Moran et al.'s model (1998) to explain the development of collective teacher efficacy. Similar to the development of teacher efficacy, they propose that the sources of efficacy information are the major influences on collective teacher efficacy beliefs. In addition, teachers consider the teaching task and teaching competence when making collective efficacy judgments. The

27

collective teacher efficacy model proposed by Goddard et al. (2000) is used as the framework to understand how the organizational context of schools, conceptualized as PLCs, influenced the development of teachers' collective efficacy beliefs and influenced the teachers' perceptions and interpretations of the sources of efficacy information.

Organizational Antecedents to Collective Teacher Efficacy

Collective teacher efficacy is a promising construct for understanding the ways schools can foster student achievement and scholars have repeatedly called for more investigations of the antecedents of teachers' collective efficacy beliefs. The decision to focus on how the organizational context of the school, conceptualized as a PLC, influenced the development of teachers' collective efficacy beliefs and influenced the teachers' perceptions and interpretations of the sources of efficacy information was derived from the theoretical assumptions underpinning the construct and prior research findings.

Reasons for the focus on organizational antecedents can be found in social cognitive theory. Although efficacy beliefs are the critical determinant of behavior Bandura (1997) theorized that environmental influences also play a role in human functioning. Advancing the term reciprocal determinism Bandura (1997) asserted that people are partly the products of their environments. The organizational context of the school is the most immediate environmental factor of the faculty and, according to the theory, is a determinant of faculty functioning. Focus on organizational antecedents, namely PLC conditions is therefore warranted. In addition, a group's attainments are not only a product of their skills and beliefs "but also the interactive, coordinative, and synergistic dynamics of their transactions" (Bandura, 2000). The organizational context

of schools shapes teachers interactive transactions. This again suggests the appropriateness of this study's purpose.

Prior studies have also focused on investigating the social and organizational structures of schools to understand the development of teachers' collective efficacy beliefs (Kurz & Knight, 2003; Mawhinney et al., 2006a, 2006b; Ross & Gray, 2006; Ross et al., 2004). Three studies are discussed here.

Examining the school organizational context as a predictor of teachers' collective efficacy beliefs, Ross et al. (2004) found school processes that fostered teacher ownership of school directions; shared school goals, school-wide decision-making, fit of plans with school needs, and empowering principal leadership, positively predicted collective teacher efficacy. Past performance has consistently been found to be the most significant predictor of teachers' collective efficacy beliefs. However, in their study Ross et al. (2004) found that the school processes had a stronger influence on collective teacher efficacy than prior student achievement. In explaining this finding they suggest that their study participants did not perceive the assessment measure used in the study as valid, underscoring the context specific nature of collective teacher efficacy. Their finding organizational conditions to be predictors of collective teacher efficacy point to the value of focusing research on organizational antecedents of collective teacher efficacy. That Ross et al. did not explain how the school processes influenced the development of teachers' collective efficacy beliefs highlights the need for further study.

In another study, Mawhinney et al. (2006a) explored the relationship between school organizational conditions and collective teacher efficacy by examining the relationship between teachers' perceptions of the five PLC conditions, shared vision,

29

collective learning, shared personal practice, shared and supportive leadership, and supportive conditions and their perception of collective teacher efficacy. The study found correlations between teachers' collective efficacy beliefs and their perceptions of conditions fostering professional learning communities. In particular, Mawhinney and her colleagues (2006a) found strong correlations between teachers' perceptions of collective learning, shared vision and shared and supportive leadership with teachers' collective efficacy beliefs and concluded that "teachers' perceptions of reciprocal relationships among activities focused on dimensions of professional learning, created for them a web of sources of collective agency and in so doing enhanced their collective efficacy beliefs" (p. 48). School processes are therefore integrally related to collective teacher efficacy. Their findings also illustrate the potentially powerful impact of the cultural-cognitive structure of schools on teachers' beliefs and understanding about their world and their work (Scott, 2002).

In another study Mawhinney et al. (2006b) report the significance of teachers' perceptions of principal support to their belief that they can adapt and cope with challenges to student learning. They concluded that transformational leadership actions might be a useful way to explore the impact of shared and supportive leadership on the development of teachers' collective efficacy beliefs. Considering the body of empirical evidence that demonstrates the effects of leadership on school conditions, teacher learning, and students' learning (Leithwood & Jantzi, 2006; Leithwood, Patten & Jantzi, 2010; Printy, 2008; Wahlstrom & Louis, 2008) additional studies of the ways the organizational condition, school leadership, influenced teachers collective efficacy beliefs have emerged. These studies have consistently found transformational leadership actions

to explain a significant percentage of the variance in teachers' collective efficacy beliefs (Demir, 2008; Dussault, Payette & Leroux, 2008; Ross & Gray, 2006). However, these studies were also not designed to identify mechanisms through which school leaders influenced teachers' collective efficacy beliefs and point to the need for further research.

In an attempt to address the gaps in the literature the purpose of this study was to explore how the organizational context of the school, conceptualized as a PLC, influenced the development of teachers' collective efficacy beliefs and influenced the teachers' perceptions and interpretations of the sources of efficacy information.

In the section that follows I describe the sources of efficacy information, relating them specifically to the development of collective teacher efficacy.

Sources of Collective Teacher Efficacy

Bandura postulated four sources of efficacy information: mastery experiences, vicarious experiences, social persuasion and affective states. Just as these sources are important determinants of individual efficacy beliefs they are also critical when judging the ability of the faculty to accomplish tasks in the future. However, few studies have examined the way sources of efficacy information are perceived and interpreted at the collective level.

Goddard suggests that at the collective level "efficacy beliefs are social perceptions" (Goddard et al. 2000, p. 483). Ross et al. (2004), however, suggests that collective teacher efficacy sources are likely to be both individually and socially constructed. The differences illustrate a measurement debate about the appropriate referent level when measuring collective teacher efficacy. Ross et al. (2004) conclude that the extent to which the organizational context fosters faculty cohesion will likely be

the extent to which the sources of efficacy information are socially rather than individually constructed and a shared belief in the faculty's capacity emerges. Ross et al.'s (2004) assertions suggest that sources of efficacy information may emerge from individual teacher – to – teacher interactions as well as from interactions with the faculty as a whole and provide justification for my decision to focus on individual teachers' as the unit of analysis. In addition, the discussion underscores the importance of organizational conditions that support interaction amongst the faculty to the development of teachers' collective efficacy beliefs, validating the focus of this study.

I will now discuss the four sources of efficacy information in relation to the development of teachers' collective efficacy beliefs. Each source will be discussed in turn.

Mastery experience as a source of collective teacher efficacy.

Mastery experience, the interpreted result of previous performance, is the most powerful source of efficacy information because having performed a task provides the most authentic proof of ability to perform in the future. The perception of success tends to raise efficacy beliefs while, the perception that the performance was a failure tends to lower efficacy beliefs especially if these failures occur before a sense of efficacy is firmly established. In addition, if successes come too easily, a failure will be even more devastating to efficacy beliefs. Bandura (1997) posits that a resilient sense of efficacy requires experience in overcoming challenges through perseverant effort and that when strong efficacy beliefs are developed occasional failures have less of a negative impact. Mastery experiences are therefore important to the development of teachers' collective

32

efficacy beliefs. Successes are likely to strengthen a faculty's sense of collective teacher efficacy, and failures, to undermine it.

Researchers exploring collective teacher efficacy most often use prior school achievement scores as a proxy for mastery experience (Goddard, 2001; Ross et al., 2004, McCoach & Colbert, 2010). Goddard (2001) found that mastery experience accounted for about two-thirds of the variance in collective teacher efficacy between schools. This finding supports the assumption in social cognitive theory that collective efficacy perceptions are also informed by mastery experience.

Given that teachers' collective efficacy beliefs are socially constructed it is likely that at the organizational level, mastery experiences are associated with organizational learning. It is therefore important to understand how organizational conditions influence the perception of past performance as a success or failure. I found no prior studies that examined the ways in which the organizational context influenced the teachers' perceptions and interpretations of sources of efficacy information, pointing to the need for this study.

Although mastery experience is the most important source of efficacy information (Bandura, 1986, 1997) very little research has been conducted on what performances teachers perceive as mastery experiences. The many goals that schools are tasked with accomplishing suggest that while teaching accomplishments as measured by student academic achievement, is the most likely measure of teaching ability, teachers might perceive other past performances as evidence of their capability. For example, Ross et al. (2004) found school processes to be a more significant predictor of collective teacher efficacy than mastery experience and suggested that other measures of success were more

33

relevant. Their findings point to the importance of task specific understandings of mastery experience. This study might also shed light on the past performances teachers perceive as mastery experiences.

Vicarious experience as a source of collective teacher efficacy.

Efficacy appraisals are also influenced by vicarious experiences (Bandura, 1986, 1997). Vicarious experience is the interpreted result of someone else's performance gained from observing someone model a skill or perform a task. Viewing a successful performance can raise the observer's efficacy beliefs that they too possess the capabilities to perform a similar activity successfully. Similarly, a model's poor performance can lead to a lowering of the observer's efficacy beliefs.

Several scholars assume that collective teacher efficacy is also enhanced vicariously (Goddard et al., 2004; Ross et al., 2004). However, there is some debate surrounding what constitutes vicarious experience at the collective level. Goddard et al. (2004) interpreted vicarious experiences at the collective level to be organizational learning from other organizations especially those that attain similar goals in the face of familiar opportunities and constraints (Goddard et al., 2004, p. 5). Therefore, a school replicating the successful programs of another school would be a possible example of the way vicarious experience provides information to influence belief at the whole group level in schools. However, some researchers express doubts about the likelihood that teachers have the opportunity to observe other schools. Considering that teachers' collective efficacy beliefs evolve from information and experiences combined through interactions with other teachers, Ross, et al. (2004) suggest that vicarious experiences will also come from increased interaction among teachers. Ross and his colleagues

(2004) posit that in teacher interactions knowledge is exchanged and as teachers experience the benefits of learning from their colleagues their belief in the ability of the faculty as a whole will increase.

There is yet insufficient research to be definitive about how organizational learning affects the development of teachers' collective efficacy beliefs. By examining the way the PLC conditions influenced teachers' perceptions and interpretations of sources this study may shed light on this issue.

Social persuasion as a source of collective teacher efficacy.

Social persuasion is the interpreted result of encouragement or feedback from others about the effectiveness of the group (Bandura, 1997). While social persuasion alone may not be able to permanently increase efficacy beliefs it can bolster change if the positive feedback is perceived to be realistic (Bandura, 1997). Bandura suggests that social persuasion will most often be perceived in the encouragement of significant others and is likely to result in greater effort being exerted to accomplish a task. Social persuasion has the greatest impact on persons who believe that they can produce effects through their actions (Bandura, 1997).

Scholars assume that persuasory information influences the development of teachers' collective efficacy beliefs. According to the literature social persuasion at the school level may entail encouragement of feedback from the school principal (Goddard et al., 2004; Goddard, LoGerfo et al., 2004; Mawhinney et al., 2006b; Tschannen-Moran & Barr, 2004), another administrator (Goddard et al., 2004; Mawhinney et al., 2006b), and other teachers (Goddard et al., 2004; Mawhinney et al., 2006b). Here again, little is known about the sources of encouragement teachers perceive as persuading them of a

faculty's effectiveness. Ross et al. (2004) suggest that the nature and extent of the interactive dynamics of a faculty will likely determine whether they can be persuaded that they constitute an effective team. Therefore organizational processes that support faculty cohesion are likely to influence teachers' perception of social persuasion. The gaps in the literature indicate the need for more research and the relevance of the current study.

Affective states as a source of collective teacher efficacy

Affective states are the interpreted result of perceptions of arousal, excitement or stress, concerning a task (Bandura, 1997). Affective states contribute to an individual's perceptions of capability or can debilitate performance. Researchers assume that schools, as organizations, can also react to stress. For example, Goddard, et al. (2000) theorized that efficacious schools are able to tolerate pressures and crises and, in fact, learn to cope with disruptive forces. On the other hand less efficacious schools react to disruptive forces in dysfunctional ways (Goddard, et al, 2000). The current context of schools suggests the possibility that positive emotions might emerge after student success on high stakes tests and negative emotions from school failures on similar measures. It is, therefore, important to understand how schools deal with the constant pressure for performance.

One recent study found that collective teacher efficacy mediated the effect of stress from student behavior on job satisfaction (Klassen, 2010). Another study examined how collective teacher efficacy, job stress, and collectivism are associated with job satisfaction in three countries. They found collective teacher efficacy to predict job satisfaction across settings (Klassen, Usher, & Bong, 2010). Both studies provide

evidence that affective states do act as a source of collective teacher efficacy and that organizational conditions, such as student behavior, do influence the development of teachers' collective efficacy beliefs. Ross et al. (2004) speculate that organizational conditions that foster collaboration among teachers might create a sense of peer support that might reduce the effects of job stress. A focus of this study was to explore how the organizational context of schools, conceptualized as PLC conditions, influenced the teachers' perceptions and interpretations of the sources of efficacy information.

Summary: Discussion of Sources of Collective Teacher Efficacy

The preceding discussion of sources of collective teacher efficacy information underscored the need for increased knowledge of the ways in which the organizational context of schools influences the development of these beliefs. Although educational researchers accept Bandura's (1997) theoretical argument that collective efficacy beliefs are constructed from the same sources of information used in the development of self efficacy beliefs further study is needed to understand how teachers perceive sources of efficacy information about their faculty's capability.

Theoretical arguments and empirical evidence (Mawhinney et al., 2006a, 2006b; Ross et al., 2004) both demonstrate that organizational processes influence collective teacher efficacy. The preceding discussion of sources also suggests that teachers' efficacy beliefs might be formed in interactions with their colleagues, making it likely that organizational conditions that support faculty interaction, collaboration and cohesion are also likely to support the social construction of collective teacher efficacy. Taken together these statements suggest that examining organizational conditions as antecedents to collective teacher efficacy is warranted. In this study PLC conditions were used to

conceptualize the organizational context. The following sections will discuss the appropriateness of this decision in light of the literature.

Rationale for using PLC Conditions to Conceptualize the Organizational Context

Ross and his colleagues (2004) identified five school process variables that, together, predicted teachers' collective efficacy beliefs. They were shared school goals, school-wide collaboration, fit of school plans with school needs, teacher learning opportunities, and empowering school leadership. That the current research on PLCs identifies organizational conditions that contribute to a cohesive environment and teacher learning that mirror the school processes Ross and his colleagues (2004) identified suggests the appropriateness of the PLC conditions to conceptualize the organizational context in this study.

In addition, recent research has found PLC conditions to be associated with student achievement (Bryk et al., 2009; Goddard et al., 2007). Relating back to the overarching social cognitive theory, efficacy beliefs are the critical factor shaping actions. Thus the finding that PLC conditions are related to student achievement suggests that these conditions positively impact teachers' collective efficacy beliefs. That interest in school districts promoting PLCs in schools has increased (Horn & Little, 2010), also provides another reason for understanding how these organizational conditions influence the development of teachers' collective efficacy beliefs. The school district in which this study was carried out provides an example. The district implemented a policy to foster the development of PLC conditions in schools to increase teacher capacity and student learning outcomes. The district's focus on fostering PLC conditions also provided

38

justification for using PLC conditions to conceptualize the organizational context in this study.

Professional learning communities in the literature.

A body of research spanning more than 25 years demonstrates the importance of school conditions that support collegial teacher interaction and learning to school improvement (DuFour, 2004; Hord, 1997, 2000, 2004; Horn & Little, 2010; Huffman & Hipp, 2003; Little, 1982; Louis, & Kruse, 1995; McLaughlin & Talbert, 2001; Retallick, 1999; Wong, 2010). The term PLC is often used to describe an organizational context where barriers that isolate teachers are broken down and teachers come together to seek new knowledge, critique their practice, and focus on student learning (Hall & Hord, 2001; Hord, 1997, 2000, 2004; Horn, 2010; Louis, 2006; Sztajn, Hackenberg, White & Allexsaht-Snider, 2007; Shank, 2006; Supovitz, Sirinides & May, 2010; Louis & Kruse, 1995).

Based on an extensive review of research Hord (1997) concluded that schools that are learning organizations demonstrate the five organizational conditions: (1) shared vision; (2) collective learning; (3) shared personal practice; (4) shared and supportive leadership; and (5) supportive conditions (Hord, 1997). PLCs are grounded in two assumptions. First, that knowledge is situated in the day-to-day experiences of teachers and, second, that active participation in PLCs will increase teachers' knowledge and enhance student learning (Vescio et al., 2008, Wong, 2010). PLCs that function effectively support ongoing teacher learning through professional development and exchanging ideas. As a result, coherence is created across teaching practices and collective responsibility among teachers for student learning (Shank, 2006).

Although there is widespread agreement about the benefits of schools operating as PLCs, several scholars argue that PLCs may not lead to teacher learning or to changes in teachers' instructional practice. Persistent privacy norms (Little, 1999; Lortie, 1975; Hargreaves, 1993; Putnam & Borko, 2000; Supovitz, 2002), contending with disagreement (Achinstein, 2002; Grossman, Wineburg & Woolworth, 2001), insufficient structural support (Levine & Marcus, 2010; Skerrett, 2010), and the urgency of multiple tasks often related to high stakes testing (Quinn, 2009; Valli, Coninger, Chambliss, Graeber & Buese, 2008) may hinder teacher collaboration. Despite the difficulties involved in attempting to develop and maintain PLCs focused on instructional practice, the decision was made to utilize PLC conditions to characterize the organizational context because research consistently finds teacher collaboration to be a significant factor in the success of school reform (Huffman & Hipp, 2003; Little, 2003; Louis & Kruse, 1995; Louis & Marks, 1998; McLaughlin & Talbert, 2001; Strahan, 2003; Youngs & King, 2000). For example, studies demonstrated that PLC conditions in a school contributed to higher levels of support for achievement and improved pedagogy (Louis & Kruse, 1995; Skerrett, 2010; Sargent & Hannum, 2010). Researchers have also found PLC conditions to be linked to differences in student achievement between schools (Bryk, Sebring, Allensworth, Luppescu & Easton, 2009; Bolam, McMahon, Stoll, Thomas & Wallace, 2005; Goddard, Goddard & Tschannen-Mora, 2007; Hughes & Kritsonis, 2007). For example, in their large-scale study of school reform in Chicago, Bryk et al. (2009) found measures of PLC conditions predicted student outcomes in reading and mathematics.

40

The purpose of the study was to explore how the organizational context of the school, conceptualized as a PLC, influenced the development of teachers' collective efficacy beliefs and influenced the teachers' perceptions and interpretations of the sources of efficacy. Each PLC condition will be described in turn.

PLC condition: shared vision.

The first PLC condition, shared vision, is the mental image of what is important to a school that is consistently referenced for faculty's work and used as a guidepost when making decisions about teaching and learning (Hord, 1997; Leo & Cowan, 2000). Louis et al., (1995) emphasize the need for communities to have "a core of shared beliefs about institutional purposes, practices, and desired behavior" (p. 29). Specifically, teachers in PLCs should envision students as academically capable and picture the learning environments and instructional processes needed to produce success for all students (Hord, 1997). Leo and Cowan (2000) suggest that shared vision will lead to a sense of collective responsibility for student learning.

Social cognitive theory suggests that the emergence of collective teacher efficacy as a school property is fostered by school cohesiveness. It is therefore likely that the consensus that emerges from having a shared vision will positively influence the development of teachers' collective efficacy beliefs.

PLC condition: collective learning.

PLCs are based on the premise that collective learning provides the means for sharing responsibility for student learning and working together to improve student learning outcomes (Reichstetter, 2006). Collective learning consists of faculty discussing student learning and teaching, identifying related issues and problems, making

41

plans to address student needs, and assessing the impact of their actions (Hord, 1997).

Vescio, Ross and Adams (2008) state that PLCs are based on the assumption that

teachers benefit from the resources each brings to the group and collective learning is

therefore central to PLCs. Putnam and Borko (2000) also argue that the knowledge

sharing and creation that occurs in collective learning is central to PLCs. They write,

"When diverse groups of teachers with different types of knowledge and expertise come

together in discourse communities community members can draw upon and incorporate

each other's expertise to create rich conversations and new insights into teaching and

learning" (Putnam & Borko, 2000, p. 8).

Underscoring the need for collective learning in schools several studies focus on

ways to enhance teachers' conversations and teacher learning suggesting structures and

conversational routines that foster opportunities to learn (Horn, 2010; Little, 2003; Shank,

2006; Skerrett, 2010). Studies have shown positive relationships between teacher

collective learning and instructional change (Curry, 2008; Elster, 2009; LeCornu, 2010).

For example, Elster (2009) found that participating in collective learning opportunities

Biology teachers' instructional practice became more student focused and competence-

based.

Related to the purpose of this study Ross et al. (2004) suggest that by interacting

with their colleagues teachers might acquire teaching strategies that enhance their

perception of the capacity of the faculty.

PLC condition: shared personal practice.

Shared personal practice, which entails visiting other teachers' classrooms, helps

to strengthen the connections between teachers by serving as a means of confronting the

privacy norms that persist in schools (Dearman & Alber, 2005; King & Newmann, 2000).   As teachers visit each other's classrooms, they mentor and coach each other and discuss real teaching problems. In this way teachers more openly practice their craft. Hall and Hord (2001) argue that it is in the context of shared personal practice that teachers make a commitment to making significant changes in their teaching practice.

The structure of schooling is such that even with increasing attention to teacher collaboration opportunities to visit other teachers' classrooms are not often available to teachers. However, it is likely that these opportunities would allow teachers to observe the instructional successes and challenges of other teachers, thereby providing them with vicarious information about the teaching competence of the faculty.

PLC condition: shared and supportive leadership.

Shared and supportive leadership focuses on empowering teachers by sharing power and decision making responsibility which, in turn, increases the school's collective ability to respond to students' needs (Feger & Arruda, 2008; Hord, 1997). Wahlstrom and Louis (2008) argue that the ways in which principals and school leaders share leadership is not well understood and suggest broadening how supportive leadership is defined to include both the formal and informal enactment of leadership roles.

Studies have continued to investigate the role leadership actions play in promoting PLC conditions and outcomes. Researchers have found leadership actions to impact teachers' opportunities for collective learning and teachers' collegial relationships (Barnett & McCormick, 2004; Leithwood, Patten & Jantzi, 2010; Printy, 2008; Singh & Billingsley, 2001; Supovitz, Sirinides & May, 2010). In addition, school leaders set conditions for PLC by the ways in which they manage resources, interact with teachers

and students, support or inhibit social collaboration, and interpret policy (McLaughlin & Talbert, 2001). These actions are likely to influence the development of teachers' collective efficacy beliefs by creating a sense of well being that causes teachers to feel confident about their faculty's ability.

PLC condition: supportive conditions.

Supportive conditions are the factors that determine when, where, how, and if the faculty come together to learn, make decisions, problem solve and create as a PLC (Hord, 1997; 2004). Two types of conditions are necessary for PLCs to function (1) structural conditions, and (2) social and human resource conditions. According to Louis, Kruse and Bryk (1995) structural conditions include time to meet, physical proximity, interdependent teaching roles, communication structures, and teacher empowerment. The social and human resources include openness to improvement, trust and respect, access to expertise, supportive leadership, and socialization.

Supportive conditions provide the infrastructure and basic requirements for faculty to be able to function as a PLC (Hall & Hord, 2001). It is likely that the openness and trust present in a PLC engenders a sense of cohesion that might foster good feelings about the faculty.

In summary, the five PLC conditions provide an appropriate way of conceptualizing the organizational context for this study. By fostering collaboration and teacher learning PLC conditions are likely to influence teachers' collective efficacy beliefs and their perception of the sources of efficacy information.

This study integrated social cognitive theory, the research on collective teacher efficacy and the research on PLCs to explore how the organizational context of schools, conceptualized as PLC conditions, influenced the development of teachers' collective efficacy beliefs and influenced the teachers' perceptions and interpretations of the sources of efficacy information. Figure 1 depicts the conceptual framework used in the study. Teachers' collective efficacy beliefs were not measured in this study and so are not included within the boxed section of the framework.

Figure 1

The Conceptual Framework
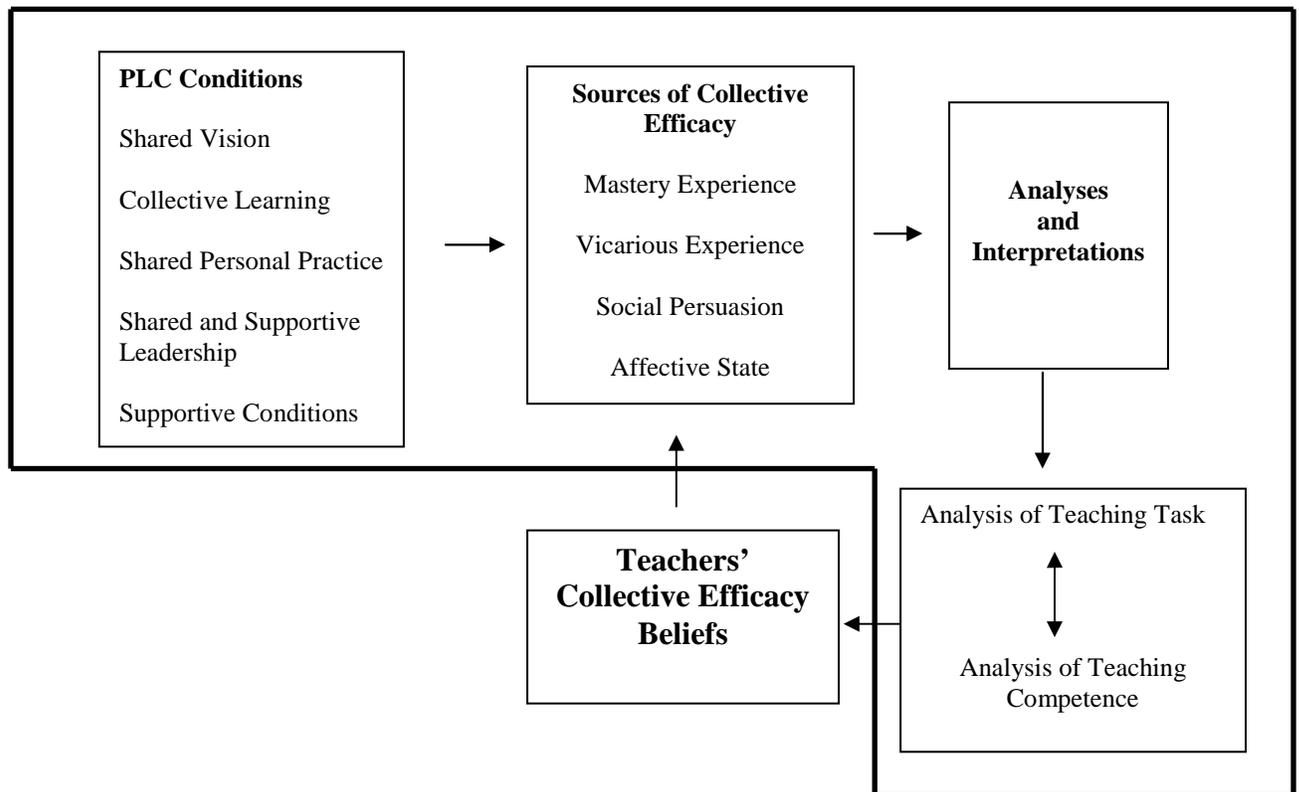
Chapter 3: Methodology

This study focused on how the PLC conditions; shared vision, collective learning, shared personal practice, shared and supportive leadership, and supportive conditions influenced the development of the collective efficacy beliefs of three fourth grade teachers in one elementary school by contributing to their perceptions and interpretations of the sources of efficacy; mastery experiences, vicarious experiences, social persuasion, and affective states. The study did not focus on measuring their collective efficacy beliefs; the aim of many prior studies on collective efficacy. Instead, the study explored the antecedents of teachers' collective efficacy beliefs by focusing on how the organizational context of the school, conceptualized as a PLC, influenced the development of teachers' collective efficacy beliefs and influenced the teachers' perceptions and interpretations of the sources of efficacy.

This chapter outlines the rationale for the study design and describes the data collection and data analysis procedures used in the study. The chapter concludes with a presentation of the steps that were taken to validate the study's findings.

Rationale for a Qualitative Case Study

Creswell (1998) defines qualitative research as "an inquiry process of understanding based on distinct methodological traditions of inquiry that explore a social or human problem. The researcher builds a complex, holistic picture, analyzes words, reports detailed views of informants, and conducts the study in a natural setting" (p. 15). For Denzin and Lincoln (1994) qualitative research involves "the studied use and collection of a variety of empirical materials…that describe routine and problematic moments and meaning in individuals' lives" (p.2). This study sought to answer the

questions; (1) How do the professional learning community conditions influence the development of teachers' collective efficacy beliefs? (2) How do professional learning community conditions influence teachers' perception of sources of efficacy information? Social cognitive theory holds that collective efficacy beliefs emerge as individuals cognitively process efficacy information. The research question, therefore, required participants to give voice to their perceptions and explain their thinking, the assumption being that data from their verbalized cognitions was valid. The underlying assumptions in qualitative inquiry are that social experiences are given meaning by the participants and that their responses to questions about beliefs, behavior, and effects are valid as evidence of the existence and nature of the phenomena (Maxwell, 1996). These assumptions also underlie my research question and provided a rationale for my decision to undertake a qualitative study.

Creswell (1998) also advanced several reasons that enhanced the rationale for undertaking a qualitative study. They included (a) detailed exploration of the topic was needed because the phenomena is not well understood, (b) the study focused on individuals in their natural setting, and (c) the researcher constructed her role as an active learner who told the story from the participants' perspectives, and not as an external expert who passes judgment. Creswell's third reason was particularly important for this study. Teachers' collective efficacy beliefs are not fixed abilities or measures of skills (Bandura, 1997) but beliefs about faculty capability in the future. It was therefore important that, as the researcher, I focused on their perceptions and not pass judgments on their beliefs. Qualitative methodology allowed me to collect and analyze data in ways congruent with the assumptions of the study's conceptual framework. Further

47

justification for my undertaking a qualitative study came from the calls from scholars in the field advocating the use of qualitative methods to explore the ways the organizational processes of the school impact teachers' efficacy beliefs (Henson, 2002; Labone, 2004; Tschannen-Moran et al., 1998; Wheatley, 2002). For example, Labone (2004) wrote, "Researchers investigating the development of teacher efficacy beliefs should consider the use of more intensive qualitative methodologies that enable detailed investigation of the processes involved in such reflective practices, and the impact of these practices on the development of teacher efficacy beliefs" (p. 346).

Answering the research question required a qualitative method that took into account the variety of variables (i.e. personal factors, behavior, and environmental factors) involved in the development of teachers' collective efficacy beliefs. I chose the case study method because it would enable the uncovering of significant factors characteristic of the phenomenon (Merriam, 1988). In addition, the study fit the criteria of a case study outlined by several researchers (Bogdan & Biklen, 1998; Merriam, 1988; Stake, 1995 Yin, 2003). This study explored a little-known phenomena (i.e. the organizational antecedents of teachers' collective efficacy beliefs), focused on a bounded system (i.e. each teacher participant), took into account the participants' natural context (i.e. the personal factors, behavior, and environment) and privileged their perspectives (i.e. the teachers' perception of sources of efficacy).

Defining the Case

Miles and Huberman (1994) define a case as "a phenomenon of some sort occurring in a bounded context" (p. 25). When considering what the case is, and is not, they suggest that there is a "heart" or focus of the case and a boundary that may be

48

defined by the setting. In this study the case or unit of analysis was defined based on the conceptual framework. The purpose of the study was to explore how the organizational context of the school, conceptualized as a PLC, influenced the development of teachers' collective efficacy beliefs and influenced the teachers' perceptions and interpretations of the sources of efficacy. The unit of analysis in this study was the individual teacher. The study therefore focused on three cases. The five PLC conditions served as the boundary of the case. Bounding the case in this way helped me make strategic choices in the field. For example, when I wanted to observe opportunities for collective learning, I used examples of collective learning discussed in the literature, such as meeting to discuss issues, meeting to plan lessons, and meeting to analyze data, to select places to observe the teachers interacting with their colleagues.

Social cognitive theory is clear that although collective efficacy is an emergent group level property it is the result of individual cognition about group capability (Bandura, 1997). In addition, Bandura (2000) suggests that focusing on individuals along with their interactions with the group may provide more understanding of the development of collective efficacy in contexts where group members function somewhat independently. Bandura's arguments also underscore the appropriateness of the study's focus on individual teachers because although teachers are part of a faculty they often work independently.   This qualitative case study explored how the organizational context of the school, conceptualized as a PLC, influenced the development of teachers' collective efficacy beliefs and influenced the teachers' perceptions and interpretations of the sources of efficacy.

Stake (1995) advocates selecting cases "to maximize what we can learn" (p. 4).

To this end, purposive, theory-driven sampling strategies were used to select a site and

cases likely to generate data to answer the research question. The study focused on three

fourth grade teachers in Centerville Elementary School (a pseudonym). The decision was

based on prior knowledge of the school district's efforts to foster PLCs in schools, the

school's improvement in student achievement, the school's student demographics, and

access to the participants.

The names of the study participants, the school and county have been changed to

maintain anonymity.

District-wide school improvement initiative.

Centerville Elementary School was located in the Brown County Public Schools

(BCPS), a school district that had undergone a large scale improvement initiative aimed

at increasing teacher instructional capacity and student achievement by nurturing PLC

conditions in schools, thereby increasing teachers' collective efficacy beliefs

(Mawhinney, Haas, & Wood, 2005; Mawhinney, Wood, & Haas, 2006a, 2006b). BCPS

district leadership created a Central Leadership Team that collaboratively steered the

changes being made. Several personnel changes were implemented to provide increased

instructional support to teachers. Although school principals maintained responsibility

for their schools, instructional supervisors, previously housed in a central office, were

moved to school buildings. These instructional supervisors assisted with teacher

evaluations and were also available to provide professional development training. In

addition, a non-evaluative teacher mentor position was created and assigned to schools to

provide professional development and individualized instructional support for teachers. School principals were to encourage the development of school wide PLCs that would focus on instructional challenges and try to collaboratively develop strategies to meet those challenges.

BCPS also wanted to study the initiative and surveyed all teachers in June 2003; prior to implementation of the BCPS district initiative in an effort to gauge teachers' perceptions of PLC readiness and their collective efficacy beliefs. The teachers were again surveyed after two years of implementation, in June 2005. The first survey utilized items from two instruments, the School as Learning Organization survey, to assess readiness for professional learning and the Collective Efficacy Scale to measure teachers' collective efficacy beliefs (Mawhinney et al., 2005). Analysis of the first survey found teachers' perceptions of PLC conditions and collective teacher efficacy were higher in elementary schools than in middle and high school, teachers' perceptions of PLC readiness and their perceptions of collective efficacy were related, and teachers' collective efficacy beliefs were a significant predictor of reading proficiency in elementary schools (Mawhinney et al., 2005). The 2005 results found correlations between total PLC scores and the Collective Efficacy scores. In addition they found that three of the five PLC conditions, collective learning, shared vision and shared and supportive leadership had strong correlations with collective teacher efficacy (Mawhinney et al., 2006a).

Sampling decisions for the study were made in an attempt to maximize what could be learned to answer the research question. The policy focus of BCPS on the development of PLC conditions and developing teachers' collective efficacy beliefs along

with empirical evidence of correlations between PLC conditions and teachers' collective

efficacy beliefs made the district a potentially rich location for the study. The decision to

focus on an elementary school was also guided by the data. Other studies have found

measures of teachers' collective efficacy beliefs to be higher in elementary schools. That

these findings were corroborated in BCPS informed the decision to focus on an

elementary school.

Student achievement and student demographics.

Social cognitive theory states that collective efficacy beliefs potentially impact

results because they guide actions (Bandura, 1997) and in educational settings,

researchers have found that teachers' collective efficacy beliefs are associated with

student achievement (Adams & Forsyth, 2006; Bandura, 1993; Goddard et al., 2000;

Ross et al., 2004). This study did not measure teachers' collective efficacy beliefs,

however, the findings of several other studies suggest that higher student achievement

might indicate higher collective teacher efficacy beliefs. The school, Centerville was

selected because of the steady improvement in student performance on the state

assessment in the two years prior to the study. The fourth grade was selected because

their scores on the state assessment showed the most improvement throughout the school.

In 2005 the percentage of fourth grade students scoring a passing grade or above on the

state math assessment was 73.5%. In 2006 this number increased to 81.3%. Centerville

was also selected because of the demographics of the student population. Research

suggested that teachers' collective efficacy beliefs might be most relevant and most

difficult to foster in schools that serve minority, low-income populations (Evans, 2009).

The diversity of the school had steadily increased and in 2007, at the time of the study,

the student body was predominantly comprised of minority students of low

socioeconomic status and was designated a Title I school. That Centerville ES,

specifically the fourth grade teachers, served a low-income, predominantly minority

community and had increasing test scores provided a compelling reason to conduct the

study at the school.

Access.

After selecting Centerville ES as a potential site and the fourth grade teachers as

the desired participants, contact was made with the district research office. Initial contact

was facilitated by my advisor who had supported the district's efforts to research its

actions. After reviewing the IRB the district research office granted permission to

conduct the study but left the decision to participate up to the school principal and the

fourth grade teachers. No agreement was made to provide the district with my findings.

 I contacted the principal with a description of my study and requested permission

to conduct the study at her school. Pleased by the request, because she saw it as

indicative of the progress Centerville had been making, the principal agreed to meet with

me. After our initial meeting at the school she gave her support to conduct the study at

Centerville ES. Again, no agreement was made to provide the principal with my

findings.   The principal informed me that the fourth grade team had changed and only

one member from the prior team remained. One teacher had retired and another

transferred to a different grade level. I decided to meet the new fourth grade team. The

principal shared the project description with the team and let the teachers know that their

participation was voluntary. The team asked to meet me to discuss the study before

agreeing to participate. When we met in February 2007 I described the study and

discussed what would be required of them in terms of time for interviews and observations. One teacher wanted assurances that their names would not be used. I assured them that when reporting the findings their names as well as those of all participants, the school and the county would be changed. All three teachers agreed to participate in the study.

The new team comprised Ruth Samuels, a longstanding fourth grade teacher, George Whitman, a fifth grade teacher who moved to fourth grade, and Jennifer Merry, a teacher who was in her first year as a teacher at Centerville having transferred from another BCPS school. The decision to continue data collection focusing on the new fourth grade team was based on several factors. First, I felt that the situation where teachers move across grade levels is relatively common and so would be a naturally occurring aspect of any school context. Second, the opportunity to focus on a new team might also provide insight into how PLC conditions influence the development of a collective identity and so influence the development of teachers' collective efficacy beliefs (Gibson & Earley, 2007). Third, the personal differences in the teachers might provide information about other factors that influence the development of teachers' collective efficacy beliefs. Finally, both the principal and teachers were willing to participate in the study.

Data Collection

Tschannen-Moran, et al., (1998) asserted the need for interpretive case studies in the study of teacher efficacy arguing that "interviews and observational data can provide a rich, thick description of the growth of teacher efficacy….[and] are needed to refine our understanding of the process of developing efficacy" (p. 242). This study relied on

54

teacher interviews, administrator interviews, and observations of teachers interacting with their colleagues. I also used documents to provide information about the school context. In the following sections I describe the data sources in greater detail.

Interviews.

The purpose of the study was to explore how the organizational context of the school, conceptualized as a PLC, influenced the development of teachers' collective efficacy beliefs and influenced the teachers' perceptions and interpretations of the sources of efficacy. Stake (1995) stated that "The interview is the main road to multiple realities" (p. 64). Based on the assumption that interviews provided the best means to access the cognitive processing of teachers they were relied on heavily in this study.

Each teacher was interviewed twice using a semi-structured interview protocol (see Appendices A and B for teacher interview protocols). The semi-structured format allowed me to include a list of questions that I determined to be critical to my understanding of the influence of PLC conditions on the development of the teachers' collective efficacy beliefs, while permitting me the flexibility to approach each participant differently, depending on the opportunities for understanding that emerged as the conversation evolved. In this way the semi-structured interview format furnished me with a rich description of each participant's perspective (Bogdan, & Biklen, 1998). Interview questions focused on understanding the ways in which the PLC conditions influenced teachers' beliefs in the faculty's capability to accomplish the teaching task. In these conversations teachers voiced the past outcomes, experiences and activities (the sources of efficacy) that they referenced as evidence about the capability of the faculty to accomplish the teaching task.

The first teacher interview had three major sections. First, initial questions were asked to provide comparative personal information on all teachers. These questions focused on their teaching experience, education and motivations for teaching. Social cognitive theory suggests that collective efficacy beliefs are task related; individuals develop beliefs about the group's ability to accomplish particular tasks. Related to the theory the second set of questions was posed to determine how teachers conceptualized the teaching task and teaching competence. The third set of questions focused on teachers' perceptions of the PLC conditions and how they contributed to teachers' beliefs in the faculty's capability. The second teacher interview occurred near the end of data collection. These interviews followed a similar format but asked specifically about the observed faculty interactions. This interview was also used to clarify responses from the first interview and preliminary data analysis.

Using the conceptual framework as a guide, interviews focused on understanding how the teachers' developed their collective efficacy beliefs. However, the terms of the conceptual framework were not used in the interview questions. For example, to understand each teacher's vision of the teaching task teachers were asked to respond to the statement: "Teachers are asked to meet many goals and accomplish many tasks. Of all the things you do as a teacher, identify the one you think is most important." After their initial response probing questions were asked to until I had a clear sense of the teacher's primary objective (Ashton, & Webb, 1986). In order to ascertain the sources of efficacy teachers perceived they were asked "How can you tell the faculty can achieve the objective you identified?"

To gain a better understanding of the school context I also interviewed the principal, the instructional supervisor and the teacher mentor once (see Appendix C for administrator interview protocol). These interviews focused on understanding the school's organizational structure, the opportunities all teachers in the school had to work together, and the ways in which school administrators supported teachers. Based on the literature that suggests school leaders, particularly the principal, play a significant role in the faculty's vision each administrator was asked about their vision of the teaching task and teaching competence. Because the focus of the study was on the teachers' collective efficacy beliefs, references to the administrators are provided from the perspective of the teachers rather than from the perspective of the administrators. Administrator interviews signaled questions to ask teachers, potential places to observe, and facilitated triangulation of the data. However, administrator perspectives are not reported in the findings unless their actions were surfaced by the teachers.

All interviews were recorded with the consent of the participants and then transcribed using Microsoft Word. I transcribed the first three teacher interviews and hired a professional transcriptionist to transcribe the other interviews. I reviewed each interview for errors. The transcripts were stored as word processing files, saved in rich text format and entered into NVivo 8 for analysis. Each teacher was interviewed twice. On average the first interview lasted 1hour and 30 minutes and the second 1 hour. Each administrator was interviewed once for an average of 30 minutes. In all cases, I relied on the participants to secure a quiet space prior to conducting the interviews. All interviews were conducted at the school either during or immediately after the school day.

Observations.

Stake (1995) cautioned researchers using observations in their data collection methods to remember that the case is the target. Observations work the researcher toward greater understanding of the case but issues determine what is observed (Stake 1995). I bore this advice in mind when selecting spaces to observe. Here again the conceptual framework determined the decisions made in the field. The study explored the ways by which PLC conditions influenced the development of teachers' collective efficacy beliefs. Research on the development of collective efficacy suggests that group interactions are particularly important to the emergence of the group-level property because in their interactions individuals monitor performance, address challenges, share impressions, and negotiate meaning, and through their interactions, develop their collective efficacy beliefs (Jung & Sosik, 2003; Tasa, Taggar, & Seijts, 2007). For this reason, observations targeted instances where the study teachers interacted with other faculty members and with administrators.

The understanding of PLC used in this study reflected Hord's (1997, 2000, 2004) conceptualization of the construct. Hord's (1997) School as a Professional Learning Community survey outlined four characteristics of collective learning: discussing issues and sharing information with colleagues about substantive student-centered educational issues, discussing the quality of their teaching and learning, making and implementing plans and assessing the impact of their actions. Teachers were asked to recommend times and events in their daily routines when I would be able to observe them engaged in these activities. The teachers suggested faculty meetings, grade level team meetings, team meetings where they graded student work and professional development sessions. I

58

initially used the teachers' suggestions when I chose places at which to observe them interacting with their colleagues and with administrators. However, as the study progressed I realized that much teacher interaction occurred in spontaneous and informal spaces. As a result, I also observed the teachers at lunch in the faculty lounge.

During the observations I took field notes, which I read immediately after the observations and filled in any gaps. In addition to the descriptive field notes, after rereading the notes I wrote reflective memos where I outlined my impressions of what I had observed, questions it raised, and ideas to follow-up on in the second interview. Many of the observations took place with other teachers present. In these group settings, such as faculty meetings, I sat with at least one fourth grade teacher. Information from the observations informed the questions posed during the second teacher interviews.

Document analysis.

Marshall and Rossman (1999) contend that the "history and context of a specific setting come, in part, from reviewing documents" (p. 116). While I relied heavily on interviews and observations I collected and examined several documents including the text from the school's website, the school's profile on the state's website, the school improvement plan, agendas from meetings, the school calendar, and the state assessment reports for 2005 - 2007.

All of the documents collected focused on the school as a whole and provided insight into the official goals and values of organizational members and the broader school context. I also used the information from the documents to refine interview questions.

Data collection activities and timeline.

For this study, all of the interviews occurred at mutually agreed upon times. Data collection began in February 2007 when the teachers invited me to observe them grading an assessment and continued until June 2007. I observed both regularly scheduled meetings such as grade level team meetings and faculty meetings, special events such as the all day professional development session, and informal interactions such as the teachers talking in the faculty lounge. Very few problems were encountered with scheduling interviews or gaining access to the primary participants. However, there were changes to the published meeting schedules that I had planned to observe. The grade level team meetings, for example, were changed from twice a month to once a month. Also during the five months both George and Ruth had family emergencies and were away for some time. For this reason, only two of the three primary participants were present for some of the scheduled observations. In addition, there were a few changes to scheduled faculty meetings. For example, in March I was supposed to observe a faculty meeting in which there would be teacher led professional development but this session was cancelled. However, I was fortunate in that the teachers were consistent in their participation and observations and interviews occurred as scheduled. Table 1 summarizes the data collection activities that occurred in this study.

Table 1

Data Collection Activities

Date	Activity	Participant(s)	Data Sources Collected
February 1	Introductory meeting with principal and school tour	Principal	Field notes
February 6	Meeting team	Jennifer Merry George Whitman Ruth Samuels	Field notes
February 12	Faculty meeting	Jennifer Merry George Whitman	Field notes Agenda

Date	Activity	Participant(s)	Data Sources Collected
		Ruth Samuels Faculty	
February 22	Team grading assessment	Jennifer Merry George Whitman Ruth Samuels	Field notes
March 6	Interview	Ruth Samuels	Interview transcript
March 22	Interview	Jennifer Merry	Interview transcript
March 22	Lunch in faculty lounge	Jennifer Merry George Whitman Ruth Samuels Math specialist ESL teacher Fifth grade teacher	Field notes
March 26	Faculty meeting	Jennifer Merry George Whitman Ruth Samuels Faculty	Field notes Agenda School newsletter
March 28	Interview	George Whitman	Interview transcript
March 29	Grade level team meeting	Jennifer Merry George Whitman Ruth Samuels Principal Specialist teacher	Field notes Hand out – data sheet
April 2	Professional development day	Jennifer Merry George Whitman Ruth Samuels Faculty	Field notes Agenda Handouts
April 16	Faculty meeting	Jennifer Merry George Whitman Ruth Samuels Faculty	Field notes
April 16	Lunch in faculty lounge	Ruth Samuels Math specialist ESL teacher	Field notes
April 24	Interview	Principal	Interview transcript School improvement plan School newsletter
April 26	Interview	Instructional supervisor	Interview transcript
May 11	Peer observation	Jennifer Merry Third grade teacher Students	Field notes
May 11	Interview	Teacher mentor	Interview transcript
May 16	Peer observation	George Whitman	Field notes
May 17	Peer observation	Ruth Merry Third grade teacher Students	Field notes
May 22	Peer observation debriefing	Jennifer Merry Third grade teacher	Field notes
June 4	Interview	Jennifer Merry	Interview transcript
June 4	Grade level team meeting	Jennifer Merry George Whitman Third grade team Fourth grade team	Field notes

Date	Activity	Participant(s)	Data Sources Collected
		Principal Instructional supervisor Specialist teacher Math specialist Reading specialist	
June 5	Interview	George Whitman	Interview transcript
June 13	Interview	Ruth Samuels	Interview transcript

Data Analysis

Marshall and Rossman (1999) caution qualitative researchers about the messiness of qualitative data analysis and the non-linearity of the process. Miles and Huberman (1994) concur with Marshall and Rossman's (1999) depiction of the complexity of qualitative data analysis but attempt to provide tools to impose some structure on the process. Miles and Huberman (1994) conceptualized qualitative analysis as consisting of three sets of activities that often occur concurrently until the study is completed. These are data reduction, data display and conclusion drawing and verification. I used their categories to describe how the data analysis in this study occurred. I also included the section data management to describe how the data was organized before I began data analysis.

Data management.

All interviews and field notes were transcribed into Microsoft Word and then stored electronically. Each document was labeled with the date, the participant's name and a brief description of the focus of the interview or observation. Interview transcripts were sent electronically to the participants for checking. Hard copies of all interviews, field notes, and documents were also kept in files in my home office.

The transcribed data were uploaded into NVivo and stored in labeled folders based on the type of data such as interviews, observations, documents, memos, and field notes. I created a tree node called Interview Sections and all the data coded under each

section heading was coded at a child node of the same name. This allowed me to retrieve

and analyze everything coded under a particular heading in the interview transcripts. I

created three case nodes in NVivo, one for each of the three fourth grade teachers. The

decision to treat each fourth grade teacher as a case in NVivo allowed me to bring

together all the data that related to a particular case. Also, cases in NVivo can be

assigned attributes. I assigned the following attributes to the three cases: Gender,

Teaching Experience (in years), Years at Centerville ES, Education, and Career Goals,

and used the attributes to compare cases in data analysis.

Data reduction.

Codes are "tags or labels for assigning units of meaning to the descriptive or

inferential information compiled during a study" (Miles and Huberman, 1994, p. 56).

Qualitative researchers often suggest developing a preliminary list of codes prior to

fieldwork (Bogdan & Biklen, 1998; Miles & Huberman, 1994). Using the research

question and conceptual framework as a guide I created a list of broad coding categories.

The first category, sources of efficacy, contained the codes mastery experiences,

vicarious experiences, social persuasion and affective states. The second category,

organizational context contained the codes shared vision, collective learning, shared

personal practice, shared and supportive leadership and supportive conditions. The study

sought to understand how PLC conditions influenced the development of teachers'

collective efficacy beliefs. The third category was called influence. Ross and his

colleagues (2004) found school conditions to be predictors of teachers' collective

efficacy beliefs. In their discussion they suggested possible ways by which the

organizational context could influence these beliefs by influencing teachers' perceptions

of sources of efficacy. Their implications were used to create the codes access to teachers, collegiality, and goals in the influence category. The fourth category was analysis and included the codes teaching task and teaching competence. The fifth category, called issues, initially contained no codes. The issues category was created to store codes that did not immediately fit into one of the four coding categories but seemed relevant to the question (Beazley, 2007).

Miles and Huberman (1994) caution that clearly defined categories are essential. I, therefore, created a definition for each of these preliminary codes. These definitions became decision rules that guided what was coded into each category and helped to ensure that, over time, my coding, was consistent. For example, mastery experience was defined as, the interpreted result of previous performance. Mastery experience is not equivalent to outcomes but rather the interpreted result of the process leading up to and including the outcome.

Whenever I coded at the mastery experiences node and when I reviewed my coding I used this definition to decide if what was coded met the criteria for mastery experiences.

Coding began with the first set of teacher interviews and progressed to other sources. Bogdan and Biklen (1998) suggest that coding move from descriptive to explanatory and from larger general codes incorporating a wide range of activities to smaller subcodes from which patterns and explanations are inferred. Coding began by using what Beazley (2007) calls bucket coding and Miles and Huberman (1994) refer to as descriptive coding. As I read through the data, portions of text were placed into initial coding categories. For example when a teacher described meeting to discuss issues and share information, examine the quality of their teaching and student learning, make plans

to address student needs or assess the impact of their actions, the text was coded in the node collective learning. Large passages of text were coded to ensure that the context of the event or the story was not separated from what was being described. I also used multiple codes to capture what was happening in a single passage of text. For example, when Ruth was asked how she knew the teachers in the school could meet the objectives she had outlined she said,

> We have our meetings for academically meeting their needs. We sit down, we look at data. It's changed now, it's only going to be once a month. It was twice a month. It's a formal situation where we sit down and look at data. Really we track to see what's going on with a student, why aren't they being successful and we track what we have done. And we make, we used to call it a pyramid of intervention. You know like very general interventions, you know classroom, things that we've [the teachers] done, then out of room stuff that leads up to helping them be successful.

This passage of text was initially coded at the nodes collective learning, supportive conditions, mastery experiences, and access to teachers.

For example, this study sought to explore the events, activities and outcomes teachers perceived as sources of efficacy. When the data revealed an event, activity or outcome as a source of efficacy a subcode was created under the relevant code. For example, the teachers often talked about student growth or academic improvement as a success outcome. Under the code mastery experiences I created the code growth. I repeated this process several times, reading the transcripts and field notes to ensure a consistent and more complete set of codes was developed. During coding I also began

65

writing memos that reflected the broad categories initially created; sources of efficacy, PLC conditions, influence, analysis and issues. I used the memos to record my thoughts about emerging patterns and themes.

After the first round of coding I used the NVivo reporting function to generate node reports that included all the text coded at a particular node. Each coded passage was reviewed to ensure that it fit the definition of the code. Passages that did not fit the definition were removed. I also checked to see that the coded passages included complete meaning segments. When in doubt, I checked the data sources and, if necessary, expanded the code to include more text.

The second round of coding proceeded in a similar manner to the first. I moved between the raw data and the coded data and continued to memo to capture my thoughts and to keep a record of decisions that I had made. The large codes were divided into smaller subcodes as needed. For example, I made the decision to create subcodes that described particular activities under each of the PLC conditions. The categories were drawn from the literature as well as from the data. For example, several subcodes were created under the code shared and supportive leadership. Hord (1997) outlined one leadership action, shared decision making, as relevant to the development of PLCs. A node titled shared decision making was created. However, when I reviewed the coded data it was apparent that the teachers in the study perceived other leadership actions and subcodes were also created to reflect the data. These included interpreting outcomes, managing resources, buffering, providing spaces for learning, and supporting teachers.

Data displays.

Miles and Huberman (1994) define a display as "an organized, compressed assembly of information that permits conclusion drawing" (p. 11). The coding that I had done so far primarily consisted of placing segments of text into categories. To move beyond descriptive coding to answer the question of influence I reviewed the themes and patterns I had described in memos as well as the conceptual framework and developed a list of If-Then statements to further reduce the data and generate displays. For example, I created the statement: IF the principal interacts with teachers THEN teachers will learn instructional strategies (vicarious experiences). To explore this relationship I created a matrix coding query with shared and supportive leadership and vicarious experiences by case (i.e. each teacher). Figure 2 shows a screenshot of the query shared and supportive leadership and vicarious experiences (VE).

Figure 2

Screenshot of NVivo Query

	A : Jennifer	B : George	C : Ruth
1 : 1a Teacher decisionmaking and VE	0	0	0
2 : 1b (Not Hord) Manage Resources and VE	0	0	0
3 : 1c(Not Hord) Buffering and VE	0	0	0
4 : 1d (Not Hord) Data available and VE	0	0	0
5 : 1e (Not Hord) Modeling Vision and VE	0	0	0
6 : 1f (Not Hord) Spaces for Learning and VE	1	1	1
7 : 1g (Not Hord) Providing Support and VE	0	0	1
8 : 1h (Not Hord) Big Picture and VE	0	0	0

Conclusion drawing and verification.

Miles and Huberman (1994) identify conclusion drawing and verification as the third stream of qualitative analysis. In this section I describe how I came to produce the findings presented in chapters four and five. I continue to use the example provided in the preceding section. The query in figure 2 returned very few results. Yin (2003) underscored the importance of actively looking for disconfirming evidence and thinking about rival explanations. Before drawing conclusions from this query I ran several text queries to search for possible data related to this relationship that I might have missed. For example, I searched for the words principal, training, demonstrations, development, and Valerie (the principal's name). I read the results of these text queries to see if I had missed data that indicated a relationship between the principal and vicarious experiences. After verifying that the matrix query results were accurate I read each coded segment and drew conclusions about the ways leadership actions the teachers described influenced their perception of vicarious experiences.

That the query returned few results I interpreted as a finding, that is, the principal's actions were not a significant factor influencing teachers' perception of vicarious experiences. The queries located the relevant text based on my coding. In the query depicted in Figure 2 a coded segment from George read as follows: "Actually all three of us ended up this past fall taking a Ruby Payne course on poverty. It was taught here, Valerie got it here because she figured it would encourage people to take it." George went on to express how much he and his colleagues had learned that was relevant to teaching at their school. After reading the actual text for each case and comparing them I realized that the teachers expressed similar views. I concluded that the principal

indirectly influenced teachers' perception of vicarious experiences by providing spaces

for teacher interaction and professional development. I repeated the process of creating

matrix coding queries based on If-Then statements, running the queries and checking the

results, comparing the case and drawing conclusions. The results of the data analysis are

presented in chapters four and five.

Validity

Maxwell (1996) defined validity as "the correctness or credibility of a description,

conclusion, explanation, interpretation, or other sort of account" (p. 87). That the district

in which this study was conducted had implemented a policy aimed at increasing

teachers' collective efficacy beliefs was a potential validity threat because the teachers

could have felt pressured to participate and speak favorably about the school and district.

To help ensure the internal validity of this study I openly discussed with the participants

the voluntary nature of their participation, that every effort would be made to maintain

anonymity and that no report would be made to the principal or the district. I recorded all

interviews, reviewed the transcripts and had the participants review the interviews for

accuracy.

Data source triangulation (Stake, 1995) was also used to ensure the

trustworthiness of the findings presented in this study. I made every effort to verify what

teachers were describing in their interviews using other data sources, specifically,

observations, memos and documents. Mathison (1988 as cited in Merriam, 1988)

suggests that in addition to using multiple data sources triangulation should focus on

ensuring that the researcher has a holistic understanding of the situation or context.   To

develop a robust understanding of the school I visited the school regularly during the time

of data collection. I also took advantage of opportunities to observe both formal and

informal interactions among the faculty. For example, all three teachers described their

low anxiety levels as they prepared for the state assessment and the principal's role in the

reduced stress of the faculty. Being at the school on a regular basis allowed me to

observe the calm in the school during the final weeks before the state assessment. The

interviews and my own impressions together created a holistic understanding of the

faculty that I used to construct the findings presented in the chapters that follow.

Creswell (1998) also suggests that qualitative researchers examine negative cases or

discrepant data during analysis. I used the query function in NVivo to search for and

verify associations and to look for disconfirming evidence.

      In chapters four and five I present the findings of the study.

Chapter 4: Findings: Case Descriptions and Shared Vision

The purpose of the study was to explore how the organizational context of the school, conceptualized as a PLC, influenced the development of teachers' collective efficacy beliefs and influenced the teachers' perceptions and interpretations of the sources of efficacy.   The study, therefore, focused on the antecedents of collective efficacy rather than the measurement of the teachers' collective efficacy beliefs. PLC was defined as an organizational context where barriers that isolate teachers are broken down and teachers come together to seek new knowledge, critique their practice, and focus on student learning. To operationalize organizational context five PLC conditions were focused on; shared vision, collective learning, shared personal practice, shared and supportive leadership, and supportive conditions.   Figure 1 shows the conceptual framework used to guide the study and the encased boxes show the focus of the study: the antecedents to the development of teachers' collective efficacy beliefs.   Implicit in the conceptual framework is that organizational conditions influence the development of teachers' collective efficacy beliefs by influencing their perception of efficacy sources.

The results of the study indicated that PLC conditions influenced teachers' collective efficacy beliefs by creating conditions in which teachers perceived the four sources of efficacy information: mastery experiences, vicarious experiences, social persuasion and affective states. The structure of the findings chapters reflects the conceptual framework. In reporting the findings there are five major sections, one for each PLC condition. I described the PLC condition as perceived by the participants and how the particular condition influenced individual teacher's perceptions of the sources of

efficacy: mastery experiences, vicarious experiences, social persuasion and affective states.

I chose to explore the way PLC conditions influenced the development of teachers' collective efficacy beliefs by using case studies of three individual teachers Ruth Samuels, George Whitman, and Jennifer Merry. The unit of analysis in this study was the individual teacher. I interviewed each teacher and observed them interacting in a variety of settings with each other as a team and with the faculty as a whole. In the findings I described each teacher's perception of the way the PLC conditions influenced their perception of the sources of efficacy. The unit of analysis in this study, the individual teacher, is warranted when considering that although collective efficacy is a group level construct to better understand how collective efficacy beliefs are developed researchers must focus on individual teacher's perceptions of efficacy sources. In addition, schools have been described as operating with mid-level degrees of interdependence and by extension that collective efficacy beliefs in schools may be constructed from reference to the individual as well as to the group.

This chapter includes descriptions of the school and the individual teachers followed by a detailed description of the shared vision that influenced teachers' perceptions and interpretations of efficacy sources by determining the events, opportunities, and outcomes that were relevant to accomplishing the teaching task. Chapter five reports the way the PLC conditions collective learning, shared personal practice, shared and supportive leadership, and supportive conditions each influenced the teachers' perception of the four sources of efficacy. I then describe findings that resulted

from multiple queries across cases that show how each of the five PLC conditions influenced the perception of the sources of efficacy.

Centerville Elementary School

Centerville Elementary is located in a rural/suburban area in the Mid Atlantic region of the United States. The school opened its doors in 1969 and had a capacity of just over 500 students with an average enrollment of 450 in Pre-K to Grade 5. Centerville is part of Brown County Public Schools (BCPS), a school district serving a predominantly White, middle income community. The diversity of the school had steadily increased and in 2007, the time of the study, the student body was 50% African American, 35% White, 12% Hispanic, 2% Asian and 1% American Indian. More than half of Centerville's students (54.5%) participated in the Free and Reduced Lunch Program and the school was designated a Title I school.

Centerville had a highly qualified teaching faculty, 96% of the teachers were certified and 47% had masters' degrees. The faculty had been very stable with many teachers having taught at the school for over seven years and some for as many as 25 years. The principal was in her fourth year as principal at the school but had been a principal for 7 years at another school district. The assistant principal was in her first year in administration after having been a resource teacher for 15 years at another elementary school in the county. Scores on the statewide assessment had seen improvement from 2004 to the time of the study and the fourth grade students had done particularly well. The increasing academic achievement of the school, in general, and the fourth grade, in particular, were two reasons for the sampling decisions made in this study. Next I describe the three fourth grade teachers.

Ruth Samuels was a fourth grade teacher at Centerville Elementary School and

had been teaching for twelve years. Eleven of those years had been at Centerville ES.

Ruth's discovery that she should be a teacher came through experiences she had as a part-

time employee while she was still in college. Initially she had declared Psychology as

her major but did not enjoy the courses and found herself becoming much more

passionate about the work she did with kids on her part-time job. She changed her major

to Elementary Education and went on to become a teacher. Ruth chose to start her

teaching career in Brown County, where she had grown up. After her first year at West

Elementary School, a school in the county serving wealthier families, she was transferred

to Centerville.

Ruth defined the goal of the school as focusing on learning, "making kids feel

successful, be successful, and preparing them for the next stage of their education."

Describing the student population at Centerville Ruth said:

> We're serving a military [base] so we have a lot of transient kids coming and
>
> going to where their parents are being stationed. We've got kids that have parents
>
> going to war. We've got homeless families here that are being sent here. We've
>
> got families that you know at the end of the month they're moving, moving,
>
> moving.

Always aware of the student demographic, Ruth's goals were to help them learn and she

wanted to reach them and ensure they were "learning, well rounded people." Ruth was

well respected at Centerville and also believed herself to be an effective teacher. When

asked to assess her practice she attributed her success to her relationship with children

and said, "I just care about the kids and in return they care about me and they want to please me and then that means they learn." Improvement in student outcomes was also very important to Ruth and she spoke with pride about the growth in student performance and the high expectations she had for her students. She took students' performance personally and was concerned that they show improvement annually. She believed it was a sign of her and the faculty's effectiveness.

In addition to being the most experienced fourth grade teacher in terms of years of teaching experience, Ruth was also a teacher leader. She was part of the school leadership team and a member of the school improvement team; she talked about the positive, supportive relationships that she experienced as part of the faculty. Ruth often referred to the school as a family and a community. Her years of experience and positions of leadership gave her a broader view of Centerville ES. Ruth was very knowledgeable about the school and often spoke of the way things were done "at Centerville". She talked often about the information she got in different meetings that gave her knowledge of the whole school and not just her classroom. She believed in the school and the education it provided its students. She said:

> We're very lucky here and we know it. We think that we're like the best kept secret. Because a lot of people have a bad image of Centerville. But you think what you want but a lot of people who say those things don't have kids at our school. They're just talking from I don't know what. But I'd have my child here.

Ruth was also able to compare Centerville to other schools when she interacted with other teachers in her masters with Administrator certification program. Her belief in the school was validated. She recalled many times when describing how they did things at

the school the teachers in her classes would be amazed. She concluded, "I think we're better, well not better but we do things here differently that I think are more positive. It's much more cohesive here." She thought she was fortunate to be at Centerville and said, "I don't plan on going anywhere."

George Whitman: Second Career Teacher

George Whitman was a fourth grade teacher at Centerville ES and had been teaching for 11 years. Ten of those years had been at Centerville. George had been a lawyer in the coastguard before becoming a teacher. He had wanted to become a teacher as a child but didn't. However, teaching was always at the back of his mind. He taught Sunday school regularly over the years and when he retired from the Coast Guard he began working as a substitute teacher in Connecticut. George enrolled in college to get his teaching credentials and had a job lined up at an inner city Catholic school. When the school was closed for financial reasons he and his wife decided to move back home to Brown County. He enrolled in education courses and got his teacher certification. Not getting a full time position immediately he accepted the position as long term substitute at Children's School. In the following year he was offered a full time position at Centerville and had been teaching there since.

George defined his goal for education as developing good citizens. He believed it was his job to develop traits such as respect, honesty, and hard work. He also believed that he was to foster a love of learning in his students that would help them to succeed in the future. George lamented the push for test scores because he believed that although success on these measures "might be a decent goal" there were other, more fundamentally important things that were needed to have children become successful

adults. In addition, he felt that the highly transient nature of the student population meant that the tests were not a true measure of the learning that had taken place. For George growth was important and he often suggested different ways to assess students such as comparing advancements in reading level from year to year. When he felt frustrated he admitted thinking "I'd rather teach at a private school." However, he planned to remain at Centerville until it was time to retire.

George was cognizant of the fact that many Centerville students lived in poverty and believed that they needed extra support and care to be successful. He was a big advocate for extra role activities and said, "I feel I am being paid for as a professional to show the flag at the occasional school dance. To take part on family math night or reading night, things like that." When asked why extra role involvement was so important to him he said that it conveyed to students that they were cared for which was essential to their learning.

George reported that he enjoyed and benefitted from the camaraderie of the faculty. As someone who came into teaching the nontraditional way he worked closely with his colleagues often seeking them out for advice. He talked about the importance of being able to "bounce ideas off of each other" and admitted that he did not think he would be as good a teacher if he worked in isolation. In addition to learning from his colleagues he valued their feedback. Although he believed he was a good teacher he felt personally validated by certain interactions with his colleagues. He said, "You know whenever I come up with something and they want to borrow it I say well, "Good I'm doing something right." Especially not having come up with a traditional education background where you majored in education."

Jennifer Merry: The New Teacher on the Block

Jennifer Merry was a fourth grade teacher and had been teaching for four years. At the time of the study she was completing her first year at Centerville ES.   Jennifer had grown up in Brown County and attended Brown County schools. She always wanted to be a teacher and by seventh grade was volunteering in BCPS summer school. In college she majored in Elementary Education and spent many of her summers during her undergraduate years teaching summer school in the county. After graduating she returned to Brown County and was hired by the district as a fourth grade teacher at Highland Elementary School. Highland ES was in an affluent part of the county and was known for low teacher attrition rates and high test scores.   Although Jennifer felt her first years at Highland were a "baptism by fire" she did not regret the experience and believed it was the reason for much of her instructional skill. She said, "I think it [Highland] was a great place for me to cut my teeth the first three years, and learn curriculum." Her experience at Highland was not perfect but it set a standard for her that she used to evaluate other schooling experiences.

After teaching for two years Jennifer enrolled in a master's degree program in Human Resources and Administrator I certification. She loved learning new things and enjoyed the coursework, the collaborative conversations with colleagues, and the opportunities for reflection. Jennifer described the impact of her graduate education on her teaching practice. She said, "When I started my masters degree program that's when I learned so much more…it's what administrators are looking for in the classroom and I'm thinking I need to do that." She welcomed learning new strategies and tried to incorporate them into her teaching. Enrollment in the program also increased her focus

on school leadership and often allowed her to identify effective and ineffective leadership and teaching behaviors. Jennifer also attributed her success as a teacher to what she learned in her master's program. Although she was a novice teacher at the time of the study she had very definite ideas of what it meant to be a teaching professional. Both her graduate courses and the leadership and faculty at Highland ES emphasized data-driven instruction. Jennifer believed that she was responsible for students' test scores and that those scores were a measure of her effectiveness. Referring to the state test she said, "It does reflect on me. My name goes home on these kids' scores."

An avid learner, Jennifer valued working with colleagues and sharing expertise. She looked forward to times when she could exchange ideas with her colleagues and believed her collaborative nature was a mark of her teacher professionalism. In her own estimation her best year at Highland was her last year there when she worked closely with her team, meeting regularly to plan instruction and monitor curriculum pacing. Her worst year, the "year from hell," was when there was significant friction in the team and most of the time she worked in isolation. Although she wanted the opportunity to make her own decisions for her classroom she said, "I like to share ideas. I like to know I don't have to reinvent the wheel. [And] I think when you work together the results can be better for the kids." She was very aware of district policies and knew that BCPS had restructured their district level leadership and created a new mentor teacher position. Jennifer wanted to be a mentor teacher and believed that having her masters' would qualify her for the position. However, she reasoned that to really set her application apart she needed more than one type of school experience and began looking at the Title I schools in the county. She said, "The reason I wanted to come to a Title I school was so

that I could learn and get a different experience." Jennifer looked at the test scores and teacher stability of the county's Title I schools and decided to transfer to Centerville ES.

Table 2 summarizes the attributes of the three teachers in the study.

Table 2

Case Comparison Summary

Attributes	Ruth	George	Jenifer
Years Teaching	12	11	4
Years at Centerville	11	10	1
Teacher Certification	Bachelor's degree Elementary Education	One year education coursework for certification	Bachelor's degree Elementary Education
Highest Teaching Qualification	Masters in Education with Administrator certification	Teacher certification	Enrolled in Masters in Education with Administrator certification
Holds Teacher Leadership Position	Yes	No	No

<u>*Rationale for Presentation of Findings*</u>

The sections that follow explore the ways in which PLC conditions; shared vision, collective learning, shared personal practice, shared and supportive leadership, and supportive conditions influenced teachers' collective efficacy beliefs. The conceptual framework theorized that PLC conditions would influence teachers' collective efficacy beliefs by contributing to the four sources of efficacy; mastery experiences, vicarious experiences, social persuasion and affective states. The findings show how each PLC condition contributed to the perception of each of the sources of efficacy.

In each section the ways in which PLC conditions influenced all three teachers' perceptions of the sources of efficacy are discussed highlighting the similarities and differences in the teachers' perceptions and interpretations. The teachers in the study did

not explicitly discuss sources of efficacy or PLC conditions. Instead they spoke of goals, experiences, challenges and overcoming challenges that reflected their perceptions and interpretations of mastery experiences, vicarious experiences, social persuasion and affective states. In addition, PLC conditions did not have equal influence on teachers' collective efficacy beliefs. The data showed that teachers referenced three PLC conditions more than the others in their description of sources of efficacy: having a shared vision, opportunities for collective learning, and shared and supportive leadership. The data also showed that while all three teachers held very similar views of their colleagues' abilities and often perceived similar sources of efficacy they differed in the value they placed on some sources of efficacy information as opposed to others. These differences were often the result of their personal beliefs about schooling, drawn from their experiences and sense of personal teacher efficacy. For this reason the findings reported depict each teacher's perspectives and highlight areas of difference.

The exploration of the ways in which PLC conditions influenced the teachers' collective efficacy beliefs begins with the PLC condition Shared Vision. Collective efficacy beliefs are based on individual teachers' beliefs in the groups' capabilities to produce successful outcomes. The result of the study was that the shared vision teachers articulated was a vision of the teaching task, that is, the goals or outcomes the faculty outlined for their context and the actions/activities required to accomplish them. The shared vision of the teaching task also influenced the interpretation of the four sources of efficacy. For this reason Shared Vision is presented first. In the following chapter the ways in which the PLC conditions collective learning, shared personal practice, shared

and supportive leadership, and supportive conditions influence the participants'
perception of sources of efficacy are reported.

Shared Vision: Contributor to the Sources of Efficacy

Shared vision is defined as a mental image of what is important to a school, and is
used as a guidepost when making decisions about teaching and learning.   Having a
shared vision was not explicitly talked about but was reflected in the similar goals,
activities and outcomes that guided the teachers' instructional practice. Having a shared
vision influenced the perception of sources of efficacy by focusing attention on particular
past performances, models and feedback and guided their interpretation of the
information as mastery experiences, vicarious experiences, social persuasion and
affective states.

In interviews as well as when observing the teachers working together, shared
vision was comprised of a vision of the teaching task and a vision of teaching
competence. The teaching task was defined as the goals or outcomes the faculty outlined
for their context and the activities required to accomplish them. Teaching competence
referred to the skills, knowledge and attitudes that teachers must possess to successfully
accomplish the teaching task. Shared vision was evident in the decisions they made, the
priorities they shared and the actions they took. It also influenced the teachers'
perceptions and interpretations of the sources of efficacy.   The significance of shared
vision as an influence on teachers' collective efficacy beliefs was made more apparent
when cross case analysis revealed that this PLC condition operated in concert with other
PLC conditions to influence the teachers' perceptions of mastery experiences, vicarious
experiences, social persuasion and affective states. For this reason I describe the

82

teachers' vision of the teaching task and teaching competence and then report the ways in which shared vision was central to their perception of the sources of efficacy.

Vision of the teaching task.

Ruth, George and Jennifer all articulated a similar vision of the teaching task that was school specific and focused on addressing student poverty and supporting student learning. They did, however, differ in the aspects of the vision they emphasized which was borne out in their perceptions and interpretations of the sources of efficacy. This will be discussed later. For all three teachers, addressing the issues that derived from students' low economic status was central to their work. However, differences in the emphasis placed on actions to address students' poverty varied depending on the years of experience working at Centerville. Ruth and George clearly were stronger advocates of the vision of the teaching task as requiring an almost missionary attitude towards students' needs. They were clear that successful teaching at Centerville required that teachers do all that they could to address issues related to students' poverty. George said, "Just about any study you find there's a correlation between poverty and academic success. As one goes down, the other usually goes up." He often spoke of the importance of teachers taking actions to support low-income students' needs. Ruth concurred and elaborated on the way teaching at Centerville included addressing students' needs. She said:

> Well a lot of times we're aware of situations. Like we know of students that are
> living in motels. That are homeless. We know what they're facing but we still
> have the same expectations for them, so we, as a school, we seem to go out of our

way to support them as a family, as students, to get them what they need to be successful.

For Jennifer, this was her first year in a Title I school. Having recently transferred from a school serving a much more affluent community the "baggage" that Centerville students came with had a significant impact on her vision of the teaching task. She said, "The way I look at what I do really changed being in two very different environments." Jennifer spoke about her caring for her students, how she made time for them to do their homework because they might not be able to do it at home and how she encouraged them to see themselves as successful in the future. She believed the focus had to be on "doing what was best for the kids." However, Jennifer expressed limits on the actions that she, as a teacher, could take to address students' needs. She said:

Other than to be a supportive influence in their life you can't fix it. You know what I mean? You know we can't go around giving everybody rent money you just can't, you can't. You do what you can. I mean we give them the jackets and breakfast and you know what I mean. There's only so much we can do for them.

Jennifer had been teaching at Centerville for only a few months at the time of the study and her vision of the teaching task did change to include actions and activities to address student poverty. It is likely, however, that being new to the school, she felt somewhat overwhelmed by the needs of her students. In addition, her short time in the school did not allow her to adopt the commitment to teaching as addressing the non-academic needs of her low-income students reflected in Ruth and George, longstanding members of the Centerville faculty.

All three teachers shared a context specific vision of the teaching task focused on addressing student poverty and supporting student learning. The mission statement, "Empowering all to Achieve", developed by the faculty in the months preceding the study, encapsulated a broader view of positive student learning outcomes than simply meeting benchmarks. Jennifer, Ruth, and George envisioned a value-added view of student learning. Many Centerville students came to school lacking the skills expected of children in their age group and although teachers believed that students were accountable for their learning, each teacher recognized that, in many cases, students were far behind their peers in other schools. Therefore, while meeting county and state benchmarks was a central aspect of the teaching task, and they all wanted their kids to perform well, growth in student performance, even if it did not meet the benchmarks, was also important. Their discussions provided a good example of the way the vision of student learning outcomes was used. The vignette below describes a conversation that occurred in the faculty room among the three teachers as they discussed student performance on a reading assessment:

> Over lunch the teachers talked about a reading assessment they had given and how their kids had done. Jennifer (who taught the high reading group), spoke excitedly about her class. She said, "Except for three kids everyone got A's". Ruth and George congratulated her and shared their own students' performance. Ruth (who taught the lowest reading group) said, "I'm happy with my kids. These scores are so much better. No one got below a C." George had not completed scoring his test but so far the students were performing better than they did on the last assessment (observation, May, 11, 2007).

The vignette shows the way in which success was evaluated based on students' prior performance and although students' in the lowest group might only manage to get B's and C's, their performance was celebrated as a successful learning outcome. Learning was envisioned as value added and not simply meeting a certain benchmark.

Vision of teaching competence.

The teachers' vision of teaching competence was derived from their vision of the teaching task as context specific and focused on addressing student poverty and supporting student learning. A vision of teaching competence is an image of the skills, knowledge and attitudes the faculty outlines that teachers must possess to successfully accomplish the teaching task. In interviews with teachers, two aspects of competence emerged as central to accomplishing the teaching task: experience supporting the learning of students in poverty and care.

Central to teaching competence at Centerville was experience working with low-income children. Experience was about knowledge of both specific instructional and behavioral strategies. Repeatedly in interviews the teachers used some version of the term "dealing with *these* kids" [emphasis added] to indicate that teaching students in poverty required a particular set of instructional and behavioral management skills that could only be gained by time in the classroom with such children. When asked why experience dealing with students in poverty was so important, George responded, "I think the more years you've been teaching you've had more of the kids with different academic problems and behavior problems and hopefully you're going to draw on that experience." Ruth, herself an experienced teacher, also placed great value on experience as central to teaching competence. Referring to Centerville's faculty and the years of experience

86

many teachers had at the school Ruth concluded, "We're more competent working with the population that we work with."

Interestingly, although Jennifer was the least experienced teacher and had not taught students in poverty prior to transferring to Centerville, she too expressed a vision of teaching competence in which experience with the particular student demographic was essential to successfully carrying out the actions necessary to fulfill the teaching task. Jennifer transferred to a Title I school to learn how to successfully teach children from low-income families. She chose Centerville because of the years of experience many of the teachers had at the school and concluded, "I would think that most of them know how to deal with these students." For all three teachers years of experience working with low-income students was necessary if teachers were to successfully facilitate student learning.

One exception to this was raised in the case of Jennifer. Although she did not have previous experience teaching in a Title I school, both Ruth and George valued her experience with the Math curriculum. Jennifer had transferred from a school that had piloted the Math curriculum that was being taught in Centerville for the first time that year. Both teachers drew on her expertise with the curriculum. In this case relevant curriculum knowledge was also perceived as necessary to accomplish the teaching task.

Demonstrating a caring attitude towards students was also seen as important to accomplishing the teaching task. Analysis comparing the attributes years at Centerville and care showed that while all three teachers articulated the need to demonstrate care for students, only George and Ruth, the teachers with years of experience teaching at Centerville articulated a vision of a competent teacher as a caring teacher. George often spoke about the need for students to feel that their teachers cared for them. When

87

explaining his belief in the faculty's ability to be successful he said, "I think we all care about our kids. That's kind of intangible, but you can tell." Ruth also was explicit in her articulation of care as essential to teaching competence. Similar to George, Ruth expressed the belief that the teaching task necessitated kids feeling that "someone cares about them." She believed in the faculty's ability to be successful because "All the teachers here really do care about their kids." Jennifer did take note of the ways in which the faculty was "very supportive of the kids" and described ways in which she put her kids first. However, she did not explicitly articulate a vision of care as central to teaching competence. This may have been a reflection of both her being new to the school and her prior experience in an affluent school where the vision of the teaching task was different and fulfilling the teaching task might not have required overt demonstrations of caring.

Table 3

Shared Vision Summary

Component	Illustration
Vision of Teaching Task	
Addressing Poverty	A lot of them come from terrible home situations so we just try to make life better for them (Ruth)
	Dealing with a lot of our students having grown up in poverty (George)
	There's only so much we can do for them. (Jennifer)
Facilitating Learning	The kids learning is their first priority (Ruth)
	The goal is to get them one year along or even better (George)
	The scores are going up and getting better (Jennifer)
Vision of Teaching Competence	
Experience	There's something to be said for teachers who have more experience…we're more competent

		working with the population that we work with (Ruth)
		She taught all of her years at this school…I just respected her a lot. (George)
		They've done this longer and they know (Jennifer)
	Care	Letting kids know someone cares about them (Ruth)
		We're all darn good teachers….we all care about our kids (George)
		Teachers are very supportive of the kids (Jennifer)

Table 3 summarized the teachers' vision of the teaching task and teaching competence for Centerville ES. In the next sections I describe the ways in which the shared vision of the teaching task and teacher competence influenced teachers' collective efficacy beliefs by shaping their perception of mastery experiences, vicarious experiences, social persuasion and affective states.

Shared vision: contributor to mastery experiences.

Mastery experience is the interpreted result of previous performance. Teachers engage in a task, interpret the results of their actions and use their experience to develop beliefs about group capability. When all three teachers described mastery experiences the commonly held vision of learning as growth over time was central to their perception of past successful performances and the interpretation of those performances. Shared vision, therefore, influenced teachers' collective efficacy beliefs by influencing the definition of successful outcomes. However, the data showed that their personal beliefs, where different from the shared vision, also influenced how they interpreted perceived mastery experiences. Teachers filtered the shared vision of learning through their own personal beliefs/vision.

Ruth, Jennifer, and George all perceived success when students met benchmarks, however, they also all perceived, as successful, performance improvements in learning outcomes that might not meet state and county benchmarks. When describing mastery experiences all three teachers talked about the school's value-added vision of learning. Perhaps most notable was Jennifer who had transferred from a school where test scores were the main measure of success and she admitted that in choosing to transfer to Centerville she looked at their test scores. In the months at the school her recognition of the needs of the students altered her vision of the teaching task and influenced her interpretation of the data. When describing mastery experiences the value-added vision of learning influenced her interpretation of past performances. Using an example from her own practice Jennifer said, "I had a little girl, the first couple of math tests I mean bombing them, I mean like thirty-three percent. Well when she got like a sixty-seven I mean I was putting a sticker on that thing because that's huge, that is huge. And no I know it's not an A but that has shown growth."

Ruth was also a proponent of the state assessment and thought it was "a great test" that provided a true reflection of the students' ability because it aligned with the state curriculum. Similar to Jennifer, when Ruth described mastery experiences, the vision of learning as growth over time was central to her interpretation. Assessment results that did not necessarily meet state or county benchmarks were also perceived as successful performances because they were an improvement over previous results. She referenced her own practice in which she taught the lowest math group and recalled how she perceived their C grades as success because, prior to the instructional intervention, they were failing. When asked about why she believed the faculty would be successful in

90

the future, Ruth's words conveyed the sense of value added with each year in the school. She said:

> Because I know the students I'm receiving. You know there have been so many pieces put in place for them to be successful in fourth grade. So I know that if I was getting kids that weren't able to read or didn't love school, then it would alert me. But that's not the case. I get kids ready to learn, wanting to learn. They come with a lot of knowledge, skills. So I know somebody along the way put them there.

George expressed a somewhat different view from his colleagues that added complexity to the concept of a shared vision and its influence on teachers' collective efficacy beliefs. Although he believed in the shared vision of learning as value-added and interpreted outcomes on assessments in this way George admitted that he was personally opposed to the emphasis on testing. Referring to performance on high stakes tests he said, "That's the measure Valerie [the principal] gets measured by. We get measured by it. I think it's unfortunate because I think again it's [about] turning out kids who are going to help society rather than hurt society." George recognized that meeting Adequate Yearly Progress (AYP) was a school goal and although he could not ignore the state test, he consistently focused on other measures such as reading level that he perceived as more beneficial to student. Referring to his own practice he said, "If a kid comes into my classroom in fourth grade reading at a second grade level and he or she leaves reading at a third grade or better level I consider myself successful." Similarly, George perceived mastery in the efforts the team made with students that resulted in improvements in reading that showed students had "moved one grade level or more."

When all three teachers perceived past successful performance as mastery experience, the shared vision of learning as value added was central to their beliefs. The findings also showed that personal beliefs also impacted the perception of efficacy sources.

Shared vision: contributor to vicarious experiences.

When all three teachers described instructional modeling, the shared vision of teaching competence as experience with the population was used as a guidepost to interpret the credibility of the modeler and the relevance of what was modeled. In addition, the data revealed that years of teaching experience and years of experience teaching at Centerville impacted the extent to which the shared vision influenced the perception of vicarious experiences; George and Ruth, the two teachers who had been at the school longer, more often referenced the shared vision when interpreting modeled experiences.

Both George and Ruth had taught at Centerville for over 10 years and perceived effective models as relevant to their teaching context, that is, those models that demonstrated experience dealing with their student population. They both talked about an experienced teacher whom they often sought out for advice because she had worked with low-income students for over thirty years and "knew how to get to kids." They both also cited other faculty members who they admired and in each case, noted their experience with their student population. Also interesting was the way they resisted some modeled experiences because they did not deem them relevant to the school context and the students they served.

George and Ruth both advocated using instructional practices that had a track

record of working with their kids and both outlined the way in which the shared vision negatively influenced their perception of modeling. George admitted that he and his colleagues often did not implement instructional strategies from the district professional development sessions because they did not believe they would lead to future success for their kids. He said, "When somebody suggests doing something and you know that's been tried or at least I've talked to other teachers about that and it really doesn't work, you're more likely to just turn that off and say ok and nod my head but I'm not going to do it when I'm in the classroom."   Ruth expressed very similar sentiments about the way the faculty's shared vision of student learning influenced their interpretation of modeled instructional strategies as relevant. She said:

> They want you to try new things which we are very open to. We do try but if they're not working we like to go back to what we do know that works. And a lot of times the people who are asking us to make these changes aren't in with a classroom of kids or in with the population of kids that we have.

For both George and Ruth the shared vision of schooling influenced their negative perception of some modeled instructional strategies.

Jennifer, the least experienced teacher, valued the experience of her team mates and believed them to be excellent models because of their experience. When describing her choice to seek out models she referenced the need for experience.   At the beginning of the study Jennifer had shared that she was not happy with her kids' math scores. She decided to go to her teammates because of their experience with the students and said, "They've been here longer". She also chose not to seek out the mentor teacher because she believed "these kids learn differently" and the mentor teacher did not have the

experience dealing with the kids because it was her first year in a Title I school. However, Jennifer did not describe rejecting observed behaviors because they did not align with the vision. It is possible that her short time in the school lessened the influence of the shared vision. Also her relative lack of teaching experience might have made her more susceptible to modeled behaviors.

Shared vision: contributor to social persuasion.

Social persuasion consists of faculty members persuading one another that together they make a successful team. When asked to reflect on the effectiveness of the group all three participants talked about the cohesion in the faculty. Having a shared vision of the teaching task and teaching competence operated as a source of efficacy persuading the teachers that the faculty was an effective team working towards the same goals. However, the teachers varied in the aspects of the vision from which they perceived persuasion. The differences suggest that length of time as part of the Centerville faculty impacted teachers' identification with the vision and perceptions and interpretations of efficacy sources.

Both Ruth and George paid attention to the care for students teachers demonstrated. Working with the faculty and seeing their efforts to care for the whole child persuaded them of the faculty's effectiveness. Reflecting on why she believed the faculty had the ability to address issues of student poverty and support student learning, Ruth focused on their caring behaviors as evidence of their effectiveness. She spoke of how teachers attended student games and visited them in the Boys' and Girls' Club. She said, "You'll see teachers go out of their way for the students. You know we always try to make that effort to make them feel we do care about them. I just think it's evident that

we care about our students."   Similarly, George was persuaded to believe in the faculty when he saw behaviors that aligned with the vision of competence as caring. Also focusing on extra-role behavior he was somewhat discouraged when teachers did not participate in any of the after-school events. Extra role involvement was significant because, he said, "for the kids to see their teacher there on a Saturday morning means so much to them. [It means] My teacher cares enough to come outside of the eight thirty to three thirty." George interpreted high levels of involvement by teachers as evidence of caring and it persuaded him that Centerville had a very strong faculty.

Jennifer also perceived social persuasion in teachers' actions that aligned with the shared vision. However, Jennifer did not focus on the care teachers exhibited but on the high expectations for student learning. She said, "I've been in faculty meetings and other meetings with people and I feel that people are very encouraging and supportive of the kids in that goal to help these kids achieve." Jennifer described the faculty as being "on the same wave length" with a common focus on supporting student learning and wanting students to succeed and she was persuaded of the faculty's ability to be successful.

Although the teachers focused on different aspects of the shared vision, for all three teachers, the faculty having a shared vision was central to their being persuaded of the faculty's effectiveness. Ruth's words summed up their thoughts, "It's a good feeling to know that that's how the school operates and to be a part of that."

Shared vision: contributor to affective states.

Affective or emotional states provide information from which persons can gauge their confidence when contemplating performing a task. In the literature the impact of affective states on collective efficacy beliefs is not clear. The data showed that when

contemplating the teaching task Ruth, George and Jennifer demonstrated confidence in

the faculty's ability. Having a shared vision created a feeling of unified focus that gave

teachers the confidence that their faculty had the ability to be effective. Evidence of a

shared vision conveyed the sense that the faculty was on the same page, working towards

the same goals and this sense of unity contributed to teachers feeling positive about their

future success. Through the perception of mastery experiences, vicarious experiences,

and social persuasion, having a shared vision contributed to teachers feeling confident

about the faculty's continued success in the future.

Figure 3

Shared Vision: Contributor to the Sources of Efficacy
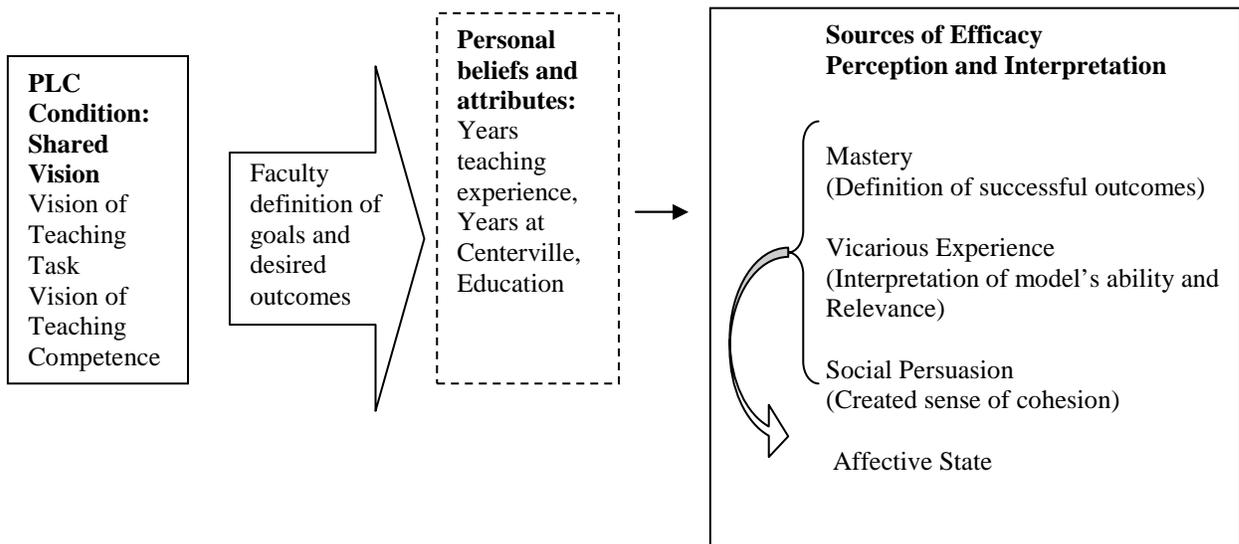
Figure 3 summarizes the ways in which shared vision contributed to the sources

of efficacy. Shared vision, filtered through teachers' attributes and beliefs influenced the

definition of successful outcomes in the interpretation of mastery experiences. Shared

vision also influenced the interpretation of modeling as vicarious experiences by

establishing criteria for teaching competence that was used to evaluate a model's

credibility and the relevance of the modeled activity. Shared vision also acted as a source

of social persuasion. Teachers' consistent actions encouraged them to believe in the

ability of the faculty to successfully accomplish the teaching task.

Summary of Chapter Four

Centerville ES served a predominantly low-income student body. The three

teachers in this study articulated a shared vision of the teaching task and teaching

competence that reflected the context of their teaching and influenced their perceptions

and interpretations of mastery experiences, vicarious experiences, social persuasion and

affective states.   The teachers espoused a vision of the teaching task that was context

specific and focused on addressing student poverty and supporting the learning of their

students. The teachers' vision of teaching competence focused on teachers' experience

supporting the learning of students in poverty and care. The shared vision of the teaching

task and teaching competence defined goals, outcomes and competencies that influenced

teachers' perceptions and interpretations of mastery experiences, vicarious experiences,

social persuasion and affective states.

Ruth, the most senior teacher on the fourth grade team identified with the vision

of the teaching task and teaching competence.   Her perception of sources of efficacy was

influenced by the shared vision as well as her years as a teacher at Centerville. George

had also taught at the school for a number of years. A second-career teacher, he also

envisioned teaching as context specific and his perception and interpretation of sources of

efficacy reflected the shared vision of the teaching task. However, while George saw

testing as an inescapable measure of student learning his perception of testing as a

measure of success and a valid source of information about their future capability was

97

reluctant. Jennifer was the newest teacher to Centerville and the teacher with the least experience.   Jennifer transferred to Centerville to learn how to teach students in poverty and she accepted the shared vision of the faculty. However, she did have different perceptions of efficacy sources that reflected her being new to the school and her previous experience in a very different teaching context.

The following chapter presents findings of the way the four remaining PLC conditions, collective learning, shared personal practice, supportive leadership and supportive conditions influenced teachers' perceptions and interpretations of the sources of efficacy.

Chapter 5: Findings: Collective Learning, Shared Personal Practice, Shared

and Supportive leadership and Supportive Conditions

In this chapter I report findings of the ways that the four remaining PLC

conditions, collective learning, shared personal practice, shared and supportive leadership

and supportive conditions influenced the teachers' perception of sources of efficacy. I

previously reported on the way having a shared vision shaped teachers' perceptions of the

sources of efficacy by focusing attention on particular experiences and outcomes. Data

showed that the four remaining PLC conditions also influenced teachers' perceptions of

experiences and outcomes in ways that reflected the vision teachers held in common.

The ways each of the four PLC conditions influenced perception of mastery experiences,

vicarious experiences, social persuasion and affective states will be described in turn.

Collective Learning: Contributor to the Sources of Efficacy

The PLC condition collective learning refers to opportunities for teachers to

engage in collaborative work where they discuss issues and share information, examine

the quality of their teaching and of student learning, make plans to address student needs,

and assess the impact of their actions. During the study I observed several opportunities

for collective learning including the team grading student work and analyzing student

data, the faculty working together in vertical teams at a professional development session,

and teachers working across teams to assess students and shape classes for students rising

to the next grade level. I also saw teachers working in the learning group, developed in

response to the county mandate for PLCs and comprised teachers based on interest in the

topic focus of the group.

Collective learning had a significant influence on teachers' perceptions of the sources of efficacy. In the sections that follow I will present findings on the way collective learning influenced teachers' collective efficacy beliefs by fostering communication and interaction among group members, out of which emerged definitions of goals and negotiated interpretation of outcomes that influenced the interpretation of past performance as mastery; shared expertise and recognition of team members' ability that produced vicarious experiences and social persuasion; a sense of unified focus and cohesion that created positive affective states. The way collective learning influenced the perception of each source of efficacy will be reported in turn.

Collective Learning: contributor to mastery experiences.

Opportunities for collective learning influenced the development of teachers' collective efficacy beliefs. When teachers described interpreting students' past performance as mastery experience, they referenced conversations that took place in which goal definitions surfaced that reflected their shared vision, and interpretations of outcomes were negotiated in ways that shaped teachers' perception of past performance as mastery experience.

At Centerville the principal instituted biweekly grade level team meetings that focused on reviewing student data. During these meetings teachers analyzed the quality of student learning, interpreted student scores, and made plans for future instruction. The following vignette depicts the ways the teachers collaboratively interpreted outcomes as mastery experience:

Kathryn Banks, the Title I teacher gives instructions. "Look at where the kids are at this point of the year based on the reading assessment and think about what we

100

can do to move kids forward." Ruth asks, "So we are looking at this alone?" Valerie [the principal] responds, "Well you have a good picture of your kids as a whole. You can't just look at one assessment piece." Ruth responds affirmatively and adds, "Because one question really was not a good question." George concurs. Kathryn responds, "So use the question but put your kids where you think they really are." The teachers begin going through the data sheet. They work together talking about the performance of different children using the data as well as knowledge of their regular classroom performance and past performance on other assessments. Each teacher points to certain kids and talks about how well they did or the fact they must have been having a "bad day" because they did not do as well as they could. They seem to conclude that the students did pretty well considering the one Brief Constructed Response (BCR) that was poorly written. They continue to move through the list of students and talk about what they would do to increase their performance. Ruth says, "I know they will get it next time but we have to go back to some things." George says, "Yeah, text features." Jennifer adds, "And we should look at main idea again."

In their conversation Ruth, George and Jennifer looked at the county's goal but also at the poor questions on the test and other assessments that they deemed more accurate, thereby negotiating the interpretation of success. Although the teachers did not speak explicitly about their vision of the teaching task during their opportunities for collective learning, meanings of success and interpretations came to the surface. A very similar pattern was observed when the teachers graded the assessment. After grading, they concluded that although there were topics they had to go back and re-teach it was successful because the

kids did fairly well despite the poor questions. Their discussions influenced the perception of past performance as mastery.

While all three teachers talked about opportunities for collective learning as central to their interpretation of students' past performance as mastery experience there were differences that reflected their years of teaching at Centerville and their personal beliefs. Jennifer, the teacher newest to the school, expressed the greatest reliance on these discussions for interpreting student outcomes. Perhaps, Ruth and George, having worked in the setting for a longer time might have had a better defined sense of the teaching task and successful outcomes. Referring to their discussion Jennifer admitted that collaboratively analyzing data helped her define and interpret past performance as success or failure for Centerville. She said:

> A lot of times as a team we see some areas of weakness or areas of strength and we have dialogue during those times about why. You know this is a weakness well let's look at this question. We knew that this question was going to be tough for our kids because… Or if this was a success, we know this is a success because all three of us have had a focus on …So it opens up that kind of discussion so I think it's also good to get feedback from your teammates.

Collective learning provided opportunities for teachers to interpret successful outcomes which shaped their perception of mastery experiences. The influence of these opportunities on teachers' thinking varied by years teaching at Centerville.

Collective learning: contributor to vicarious experiences.

In addition to influencing the perception of mastery experiences, collective learning also influenced teachers' collective efficacy beliefs by shaping the perception of

102

vicarious experiences. The emphasis on teacher collaboration in the school increased teacher interaction with their colleagues thereby providing opportunities to learn from each other. When the study participants reported interpreting the actions of other teachers as evidence of their own capability and the capability of the group, they described how interacting with teachers allowed them to observe the ability of their colleagues and furnished them with a sense of the shared expertise of the faculty. The teachers' interpretations of what they observed was filtered by their shared vision of teaching competence that saw expertise as residing primarily in teachers who had experience with students in poverty or particular knowledge that was needed to fulfill the teaching task. Differences in teachers' interpretations suggested that their focus on observing their colleagues as models and their interpretation of observed actions differed based on their personal efficacy beliefs and years of experience.

Below I describe an interaction between Jennifer and Ruth as part of the Math Learning Group, as they work together to plan math lessons using a new instructional strategy. At the Learning Group meeting in which the actions described occurred, the instructional supervisor verbally modeled an instructional strategy that was being successfully used at another school in which math lessons were taught using centers. Ruth and Jennifer (George was not a member of the Math Learning Group) decided that they were going to attempt to structure their math lessons in a similar way.

Armed with the state syllabus, the new Math curriculum, and the county's pacing guide Ruth went to Jennifer's classroom. Both teachers seemed very excited to begin planning. Jennifer said, "Let's look at what skills they are expected to know." They both looked at the curriculum and the unit test to determine what

skills students had to master and then quickly began sharing ideas. Ruth admitted that she had never had to teach percentages. Jennifer opened the math curriculum planning guide and shared two strategies that she found effective when teaching the topic. She also talked about a game that "really helped kids get it." Ruth seemed to welcome her suggestions.

Jennifer asked Ruth what they should do for the first center. Ruth gave a suggestion and Jennifer followed with another. They continued to work in this way; asking each other for suggestions and discussing materials to be included in each center. Each teacher described strategies and materials they had used before that they found effective. When it was almost time to leave for the day Jennifer asked, "I am wondering how we are going to assess the students using centers? We did not talk about that with the group." Ruth described a method she used before in which she made the assessment a center. "I put out copies of the quiz, a folder with the answer sheet and one for the completed quiz. They take the quiz and score it for themselves." Jennifer looks doubtful, "We have to give up some of that control. Because I would want to walk them through this." Ruth assures her that the students will be able to handle it.

Collaborating with other teachers allowed teachers to talk about their instructional practice and demonstrate their expertise to their colleagues as well as 'see' their colleagues work and learn instructional strategies that they could then apply to their own practice. In the preceding vignette both Jennifer and Ruth displayed their knowledge and expertise by sharing ideas, prior experiences with students and the subject matter.

Collective learning opportunities influenced the teachers' collective efficacy beliefs by providing a window into their colleagues' practices that allowed them to see their ability.

Although George was not in the vignette because he was not part of the Math Learning Group, all three teachers described how interactions like the one described contributed to their perception of vicarious experiences. However the teachers differed in terms of their perception of vicarious experiences.

Jennifer and George focused much more on how collective learning opportunities allowed them to learn from their colleagues. Jennifer had transferred to Centerville to learn how to be effective with a different student population. She valued the experience and expertise of her colleagues and expressed a sense that collective learning interactions always yielded opportunities to learn. She said:

> I think you get a whole other knowledge base when you work with somebody else. So, even though you might know a lot of things, you might know a lot of the same kinds of things, somebody else is bringing to the table – you know nine years more experience than me, or you know six years more experience than me and a whole bag of tricks that I might not know anything about. Oh, yea, I think that's a huge benefit working together.

Somewhat surprising was the fact that George spoke in a similar manner when describing how often he sought out the expertise of his colleagues. Collective learning interactions allowed him to benefit from the capability of his colleagues and he concluded, "I don't think I'd be as good a teacher if I didn't have the people to bounce ideas off of, or say 'do you think this would work?' George often spoke of his having not come up in teaching the traditional way, that is, with an undergraduate degree in education. Perhaps his

alternative certification impacted his personal teacher efficacy beliefs and increased his reliance on interactions with his colleagues.

Ruth, the most senior teacher in the team, expressed the least reliance on the learning and modeling that occurred as teachers interacted. When asked about teachers from whom she learned instructional strategies Ruth reminisced about interactions with a very experienced, recently retired teacher whose expertise she often relied on. However, with the team that was observed in this study, she was the most experienced teacher. She expressed a much more selective view and focused only on strategies regarding the new math curriculum. Ruth said, "We're doing a new math program this year and Jennifer actually piloted it at her other school before she came here. I'll look at the lesson and I'll be like, "Can you tell me more about this? What are we supposed to do?" So we are always sharing ideas." When Ruth described vicarious experiences she talked about what she learned from Jennifer and expressed the belief that their team was more effective because of Jennifer's prior experience with the Math curriculum.

When the study participants described interpreting the actions of other teachers as evidence of their own capability and the capability of the group, working with the group was essential. However, the teachers did differ in the extent to which they perceived vicarious experiences based on their years of experience and their personal efficacy beliefs.

Collective learning: contributor to social persuasion.

Social persuasion is defined as organizational members persuading one another that they constitute an effective team. Opportunities for collective learning influenced the teachers' collective efficacy beliefs by allowing them to experience firsthand the

106

group as a cohesive unit that worked well together. In addition, when teachers saw displays of teaching competence to accomplish the task, already reported under vicarious experiences, they were persuaded that the faculty did constitute an effective team. The data suggested that the teachers differed in the level of the collective to which they referred (team or whole faculty) based on their years at Centerville.

The fourth grade team was a new team in the sense that all three teachers had not worked together as a group before the 2006-2007 academic year. Opportunities to work together resulted in positive working relationships and Jennifer, Ruth and George all described the emerging sense of cohesion as persuading them of the effectiveness of the group. The teachers talked about the way they came together to deal with challenging students in ways that they spent as little time out of the classroom as possible. Working together allowed the new team to develop ways of operating that influenced their perception of their effectiveness.

Collective learning opportunities afforded teachers the opportunity to interact with the teachers face-to face and by the time of the study Jennifer felt she had a good sense of how the team worked together as a unit and loved it. She said, "I think we build each other up. I don't think we tear each other down. I think we can complement each other." George pointed out the sharing of ideas that occurred when they met to plan. Ruth also was impressed by the way team members shared resources and ideas and appreciated that they were a good team because, "nobody's out there trying to ruffle anyone's feathers or outdo each other." Where they differed was in the level to which these references referred. Jennifer referred mainly to the team because many collective learning opportunities focused on the grade level team. However, both George and Ruth,

107

having taught for years at the school and having worked with many teachers on the faculty spoke more expansively about the cohesion at the level of the whole collective. Ruth said, "It's a good feeling to know that that's how the school operates and to be a part of that." Jennifer had less exposure to the whole school than George and Ruth differentiating her perception of social persuasion by the level of the collective.

Although most of the references teachers made were to feeling positive about the cohesion of the group, Jennifer did talk about the way friction in the group also influenced the perception of social persuasion in ways that potentially decreased collective efficacy beliefs. She often referenced the toxic relationships in her previous school. At Centerville she recalled one negative experience in which a teacher refused to work with the Gifted and Talented Learning Group or expend effort on the tasks they set for themselves. Collective learning opportunities are often the only experiences teachers have with many of their colleagues and after interacting with this particular teacher Jennifer said of her behavior, "that's going to make me feel like this person is not a good teacher." Negative working relationships signaled for Jennifer a lack of teaching competence that could act as negative persuasion and decrease her collective efficacy beliefs.

Ruth's leadership experience may also influence the way she assessed the interactions among teachers. Ruth had taught at the school for 11 years and was a member of the school's leadership team. Ruth was most explicit in assessing her fellow teachers. She articulated a very clear sense of the teaching task and type of teaching professional that Centerville students needed and participation in collective learning activities allowed her to assess teachers' fit for the school. While Jennifer and George

emphasized how, as members of a team, they complemented each other, Ruth also focused on assessing their abilities. When asked about the team's effectiveness she assessed her team mates:

> Just how I see them interact with the kids. Planning. The amount of time and effort that's been put into instruction. You know we get a chance to talk out in free play and the conversations we're having about kids and how things were handled and situations were handled. If they didn't care they would move on and just said, "Oh well they'll get it next year." So I know that the kids' learning is their first priority. Even behavior wise they have expectations for behavior and I hear about situations and they're not off the hook, they're being held accountable. So I think we do a good job in fourth grade.

Ruth held a very definite sense of what teaching competence would look like for Centerville ES and the tasks that teachers were required to perform to bring about success for students. Working with other teachers Ruth assessed their effectiveness as a group in terms of how they displayed the knowledge, skills and attitudes needed to meet the needs of Centerville's student population.

Collective learning: contributor to affective states.

Affective states refer to perceptions of levels of arousal, excitement or stress, concerning the teaching task that is interpreted as the organization's collective ability to function effectively in the future. Working with their colleagues figured prominently into teachers' sense of a positive mood in Centerville. Jennifer, Ruth and George described the excitement that they experienced when working with their colleagues and the way the positive interactions, already described as contributing to mastery experiences, vicarious

experiences and social persuasion, also contributed to affective states.

Jennifer came from a school where teachers were not happy, so she noticed the contrast in the mood of Centerville almost immediately and most frequently spoke about what she referred to as the "positive energy" in the school. She was particularly aware of the positive mood of the school because, for her, it stood in contrast to the awesome challenges associated with teaching students in a Title I school.

While the mood of the school stood out most for Jennifer, for all three teachers discussing issues, sharing information, making plans, facing challenges, and assessing the impact of their actions allowed teachers to gain information about the emotional state of their colleagues. Ruth often spoke of how teachers did not give up on students in Centerville and that it was a good place to be and George spoke of being strengthened by faculty interactions and noted that he did not see anyone wanting to leave the school. Jennifer said the positive interactions with faculty "leaves you excited about where you're working and what you're doing."

In addition to the positive mood that characterized most faculty interactions the perception of each of the sources of efficacy already discussed (mastery experiences, vicarious experience and social persuasion) all provided cues about anticipated success that contributed to teachers' perceptions of a positive emotional state. For example, when, in their work with their colleagues, the teachers discussed and interpreted past performances as successful, this reduced the negative emotions associated with the task and created a sense of optimism and confidence about the likelihood of future success. Collectively interpreting past performance not only provided information about the group's ability to be successful in the future but also provided positive emotional cues

about the task.   The same held true for the perception of the other sources of efficacy.

Where the teachers perceived vicarious experiences and social persuasion, they also

perceived a positive emotional state that influenced the development of their collective

efficacy beliefs.

Figure 4

Collective Learning: Contributor to the Sources of Efficacy

PLC Condition:
Collective
Learning

Discuss issues
and share
information

Discuss quality of
teaching and
student learning

Make plans

Assess actions

Goals surfaced
Interpretations
negotiated
Recognition of
teachers' ability
and shared
expertise
Cohesion

**Personal
beliefs and
attributes:**
Years at
Centerville
Personal
teacher
efficacy

**Sources of Efficacy
Perception and Interpretation**
Mastery Experience
    Meeting Benchmarks
    Student Improvement
Vicarious Experience
    Instructional strategies
    Curricular expertise
Social Persuasion
    Teachers' ability
    Good working relationships

Affective State
    Positive mood

PLC Condition:
Shared Vision
Vision of
Teaching Task

Vision of
Teaching
Competence

Figure 4 depicts the ways in which opportunities for collective learning

influenced teachers' collective efficacy beliefs by contributing to the sources of efficacy.

During the dialogue that took place when teachers worked together goals surfaced,

interpretations of learning outcomes were negotiated, the teachers' recognized their colleagues' abilities, and a sense of shared expertise and of unity emerged that, filtered through personal beliefs, influenced the perception and interpretation of sources of efficacy.

Shared Personal Practice: Contributor to the Sources of Efficacy

Shared personal practice is defined more narrowly than collective learning and refers specifically to visiting other teachers' classrooms. The one opportunity to visit another teacher's classroom did not have a strong influence on the perception of efficacy sources and there were only two references to the visits influencing the perception of sources of efficacy.

During the period of data collection the school developed a peer observation program in which all teachers observed a colleague's classroom and provided feedback on what they saw. Ruth, who got the idea from one of the courses in her master's program, suggested it at a School Improvement Team (SIT) meeting. She then presented the idea to the faculty who expressed interest. The principal supported the program by providing substitute teachers to cover classrooms when teachers were conducting observations, but the faculty determined the program structure. Teachers selected whom they would observe, then met with that teacher to determine the boundaries of the observation.   The fourth grade team decided to observe third grade teachers to see the structure of the reading lesson being used because it would be expected of them in the following academic year. The third grade teachers also decided to observe the fourth grade. The teachers decided that they would observe a whole reading lesson so they could see how the third teachers moved through the various aspects of the strategy. The

third grade teachers also decided to observe an entire reading lesson.

When asked directly about her observation of the third grade teacher Jennifer expressed disappointment because she did not see the entire lesson as agreed upon and she knew that the third grade teacher had observed her teaching an entire lesson. She said, "I didn't really see any direct teaching. By the time I had come in, or the time she had wanted me to come in, the kids were reading a chapter book." Having visited the classroom intent on seeing the structure of the reading lesson and not being able to observe any teaching, Jennifer did not find relevance in the experience and dismissed it. Although she had the opportunity to observe another teacher the experience did not influence her perception of sources of efficacy suggesting that simply being in another teacher's classroom will not influence teachers' collective efficacy beliefs.

Ruth and George each made one reference to the peer observation and I report these in the sections that follow. The low results might be because the teachers had only one opportunity to visit other teacher's classrooms. Visiting other teachers' classrooms influenced Ruth and George's collective efficacy beliefs by providing the opportunity to learn instructional strategies and see firsthand the competence of their colleagues.

Shared personal practice: contributor to vicarious experiences.

Ruth was the only teacher who perceived vicarious experience in the opportunity to visit other teachers' classrooms. Reflecting on the experience she credited the peer observation program with gaining her entry into another teacher's classroom. Shared personal practice influenced Ruth's collective efficacy beliefs by allowing Ruth direct access to a colleague's classroom to observe their teaching. Being able to observe another teacher's classroom practice and see her implement the new reading method

influenced Ruth's personal efficacy beliefs. Reflecting on the lesson she said, "What her lesson was, I could do that and adapt it. This is a really good lesson I could definitely see me doing this in my reading class." Observing the lesson contributed to Ruth's belief that she would be able to successfully implement the new reading method in the upcoming school year. Benefitting from the experience increased Ruth's perception of the faculty as comprised of capable teachers and made her enthusiastic about visiting other classrooms. She said, "I thought it was valuable I would want to do it again to see what's going on and take new ideas back."

While George also appreciated the instructional practice of the third grade teacher he visited, unlike Ruth, he did not interpret the teacher's actions as vicarious experience because he considered the classroom structure different to his own. The third grade teacher whose class George visited had a number of special education students in the classroom that, as part of their accommodations, had an additional adult working with them in the classroom. George believed that his classroom context was very different from Mark's and did not interpret the instruction he observed as conveying information about his ability because he saw the teaching behaviors as very different to what was required in his classroom. He said, "It was very distracting when the Special Ed teacher was working with that group, really separately [because] the kids who are such a disparity they can't be doing the same thing as the others. I wish there was some other way to handle that."

Ruth was the only teacher who perceived vicarious experience from her visit to another teacher's classroom. She saw most of the lesson and it was well executed, in a classroom context that was similar to her own.

Shared personal practice: contributor to social persuasion.

George was the only teacher for whom the query shared personal practice/social

persuasion produced results. Reflecting on his visit to the third grade teacher's classroom

he was impressed by the competence of the teacher he observed. Although, as previously

discussed, he did not view the teacher's instructional practice as a model because of the

very different composition of their classes, he did appreciate his skill in managing the

very diverse classroom needs.   In more than one conversation George mentioned that he

often spoke with the teacher he observed, the only other male teacher on the faculty.

They talked about instruction, shared strategies for dealing with challenges in the

classroom or just talked about sports. Opportunities to work with the teacher influenced

George's perception of him as capable; however, the classroom visit increased his

knowledge of the teacher's skills and his value to the faculty. George said the

opportunity to observe the third grade teacher in his classroom with the kids "confirmed

my feeling that he is a very competent, good teacher."

Figure 5

Shared Personal Practice: Contributor to the Sources of Efficacy
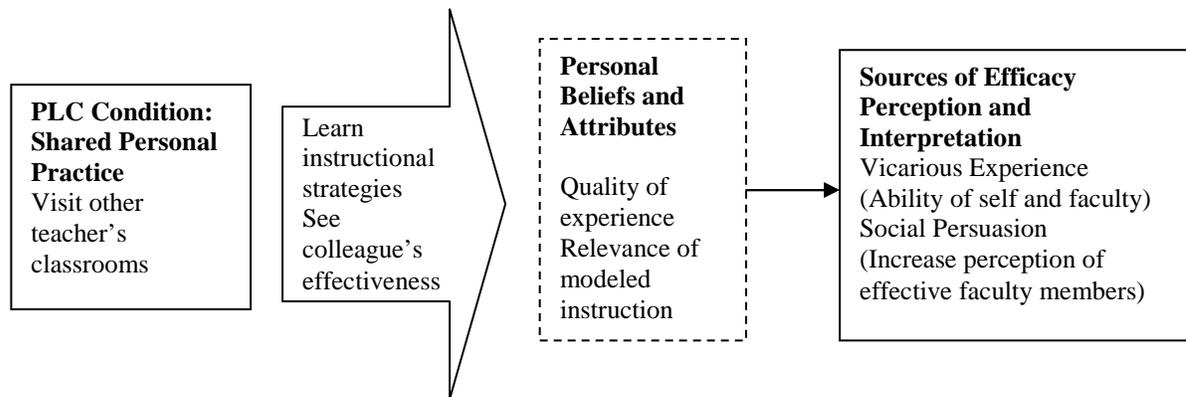
Figure 5 uses the conceptual framework to illustrate how shared personal practice

influenced teachers' collective efficacy beliefs. Visiting other teachers' classrooms, teachers witnessed firsthand their colleagues interacting with the kids. The observations influenced teachers' collective efficacy beliefs by providing the opportunity to learn instructional strategies and see firsthand the competence of their colleagues which teachers interpreted as vicarious experiences and social persuasion. However opportunities for shared personal practice did not automatically influence teachers' perception of efficacy sources. Teachers had to consider the experience valid and relevant to the classroom practice for it to impact their beliefs.

Shared and Supportive Leadership: Contributor to the Sources of Efficacy

The PLC condition shared and supportive leadership is defined broadly as the leadership that fosters professional learning community. When the teachers spoke about their belief in the faculty's ability to be successful in the future, several leader actions were described. Jennifer, George and Ruth paid attention to the way the principal interpreted student outcomes, recognized and celebrated whole faculty success, maintained open communication and provided individualized support, buffered from environmental challenges, managed resources, and created spaces for learning. The behaviors listed above expand beyond the scope of the original conceptual framework to reflect leadership actions participants reported as central to their perception of mastery experiences, vicarious experiences, social persuasion and affective states.

Shared and supportive leadership had a significant influence on teachers' perceptions of sources of efficacy. As teachers described sources of efficacy information, it was the principal's actions that were central to their perception. This was somewhat unexpected because of the changes that had been made to school leadership in the four

116

years since the district began its initiative. Centerville had a leadership team comprised

of the principal, assistant principal, instructional supervisor, mentor teacher, and Title I

Teacher.   However, references to other administrators were few, with the exception of

the instructional supervisor. The sections that follow will present findings on the way the

principal's shared and supportive leadership influenced teachers' collective efficacy

beliefs. By establishing and clarifying goals and expectations for student learning and

interpreting past performance, the principal influenced teachers' perceptions and

interpretations of past performance as mastery experiences. By creating and guarding

spaces for learning she facilitated teacher-to-teacher interaction that contributed to the

perception of vicarious experiences. By conveying her belief in the faculty's ability to be

successful and effectively providing resources to accomplish the task, she persuaded the

teachers that the faculty was able to be successful; by maintaining calm in high stress

situations she contributed to teachers feeling confident about the faculty's ability. The

way leadership actions influenced the perception of each source of efficacy will be

reported in turn in the sections that follow.

      Shared and supportive leadership: contributor to mastery experiences.

      Interactions with the principal in which she discussed student data and interpreted

past performance influenced teachers' perceptions and interpretations of mastery

experiences by establishing and clarifying goals and expectations for student learning.

The principal articulated both academic and behavioral goals and outcomes that were

reflected in the teachers' shared vision of the teaching task.   The principal set goals and

expectations which figured prominently in the performances teachers perceived as

mastery experiences. For example, success on the state assessment was a significant part

of what the principal outlined as constituting student success and all three teachers when describing mastery experiences reported the influence of the principal's goals on their perceptions. This is perhaps most telling in George who, as previously discussed, would have preferred that the focus be on other measures of success. He attributed interpreting actions leading up to success on the state assessment to the principal saying, "That's the measure Valerie gets measured by. We get measured by it." Ruth was also explicit about the direct influence of the principal on her ideas of what constituted success. She said, "I've worked under many different principals and it's like every time it switches I have to prove myself all over again. And if it's something that they're focusing on you want to do it because you want to do well." Jennifer, who was new to Centerville, focused on the goals the principal articulated to better understand the expectations in her new environment.

All three teachers also looked to the principal for her interpretation of past performance. The way the principal interpreted the test scores set expectations for student performance and influenced the teachers' interpretations of students' learning outcomes. The principal influenced the teachers' interpretation of students past performance regardless of the experience of the teachers. Ruth, the most experienced teacher in the study, said even though she checked the scores at home she anticipated the principal's talk to the faculty about the scores. Jennifer, the teacher with the least experience, was accustomed to very high test scores at her previous school. She admitted her intention to seek out the principal to interpret the performance of the students. "I might go to her and say "What are some of the good things here? What are some of the positives that I can focus on?" And then of course you're looking at it as where are these

areas that they still need to grow?" Like Ruth and Jennifer, George also relied on the principal's interpretations of student learning outcomes and attributed his reliance on the principal to her years of experience, "Valerie's been in education a lot longer than I have and if she thinks I'm doing a good job then it just reinforces."

By setting goals and interpreting student outcomes the principal influenced the collective efficacy beliefs of all three teachers by influencing their own expectations and their perceptions and interpretations of past student performances as mastery experiences.

Shared and supportive leadership: contributor to vicarious experiences.

The principal had indirect influence on teachers' perception of vicarious experiences. Her influence on teachers' perception of modeling came from her commitment to teacher learning manifested by regular professional development and by her creating and guarding spaces for teachers to interact with and learn from their peers. These opportunities for learning have been discussed under collective learning and will not be reported here.

It was clear that the teachers did not look to the principal to demonstrate instructional strategies. George expressed a sentiment shared by Ruth and Jennifer. He said:

> I've definitely developed an opinion, held by other teachers. People in administration, for the first few years when they move from teaching to administration are still on top of things. After a while when they've been removed from the classroom it's becoming a little too theoretical for them. And you go to another teacher, who's probably maybe not experienced the same problem this year but maybe last year, a couple years ago and can relate to it a lot

119

better….Because they're [administrators] too busy, not fundraising, but handling,

being accountants, being disciplinarians, being managers and they're not teachers.

They were teachers but they're really not teaching anymore.

The principal therefore was not perceived as a resource for learning instructional strategies. However, she did influence the teachers' collective efficacy beliefs through vicarious experiences by providing opportunities or spaces for the teachers to work together both in the grade level team and with the faculty as a whole.

Shared and supportive leadership: contributor to social persuasion.

The principal's actions had the greatest influence on teachers being persuaded that the faculty constituted an effective group. When teachers spoke of their perception of the faculty as effective they described the principal verbally encouraging the faculty by celebrating whole faculty success. They also described the way the principal maintained open communication, provided individualized support and effectively managed resources. These actions conveyed the principal's belief in the faculty's ability and the manageability of the teaching task and were interpreted as persuasion that the faculty was and would be effective in the future.

Ruth, Jennifer and George all described the way the principal celebrated group success and how it conveyed her belief in the group's ability. Her words of commendation persuaded them that the faculty was an effective group. In addition, to talking about data the principal often commended the faculty for their efforts. Her words conveyed her belief that Centerville teachers were committed, able professionals and persuaded the teachers that the faculty was and would continue to be effective.

At a faculty meeting I observed the principal praising the faculty for the way they went about implementing the new Math curriculum. The following vignette depicts this meeting:

> Standing at the front of the room, Valerie expresses her gratitude to the faculty for how they dealt with the new math program. She said, "There have been challenges. It's a new curriculum. It is not completely aligned with the state curriculum and you have to do the work to be sure to cover the indicators in the curriculum." The teachers focus on Valerie expectantly. A few nod their heads in agreement. She continued, "I see grade level teams planning together. I see the effort you are putting in and because of your commitment the transition to the new curriculum has been a relatively smooth one. There were and still are some difficulties but that is to be expected and I know you will deal with them as you always have." Valerie then announced that to thank the staff each teacher will be given a letter thanking them for their professionalism and commitment and a gift certificate for $150.00 to spend on instructional materials as they see fit. When the announcement was made the room seemed to erupt with excitement as teachers talked with their neighbors about what they had just heard. Over the noise a smiling Valerie reminded the teachers that the letter could be put on their file. (Observation, March 26, 2007)

The vignette illustrates the way the principal encouraged the faculty, recognizing the challenges they faced but focusing on the positive aspects of their efforts. Her words influenced the teachers' collective efficacy beliefs by conveying a sense that the whole faculty had transitioned to the new Math curriculum with a high degree of

professionalism. When asked about what encouraged him to believe in the faculty's ability to bring about student learning George immediately described the interaction related in the preceding vignette as an example. He said, "It shows that she appreciates what the staff is doing here." The principal's words conveyed her belief in the faculty's ability.

Each teacher in the study was persuaded by the principal because they believed she had knowledge of the whole school and was well placed to speak about the ability of the faculty. According to Jennifer she knew more than the teachers did because she saw more than just one classroom. And more than once the teachers referred to Valerie as being "in touch." George believed that her years of experience as an educator and leader lent credibility to her assessment of the faculty. Ruth also paid attention to the principal's feedback. For her, the feedback was valid "because she's [the principal's] been in other rooms." The principal focused her encouragement on the whole faculty. Ruth was the only teacher who expressed a desire for more individualized feedback. She said, "What I wish I got and I don't get is just that acknowledgement, "Thank you for those great test scores. I can really tell you worked hard with those kids."   It is possible that Ruth wanted more individual recognition of her abilities.

Already reported under vicarious experiences was how the way the principal created spaces for learning influenced teachers' perceptions of vicarious experiences. When describing what persuaded them of the faculty's effectiveness the teachers described the number of professional development opportunities the principal made available to the faculty. The principal was very focused on providing relevant professional development to the faculty. In addition to the district mandated professional

development days, most of the weekly faculty meetings focused on professional development. Although not often in their colleagues' classrooms the provision of ample teacher learning opportunities by the principal influenced the teachers' belief that they were part of a capable group of teachers. When asked to respond to the item "Teachers in this school do not have the skills to bring about meaningful student learning" all three teachers expressed strong disagreement. Jennifer said, "I think they do have the skills. I think that we're given professional development. If something new comes down the pike I think that she [the principal] tries really hard to make sure that you are equipped to do it." Like Jennifer, Ruth and George also disagreed with the statement and offered the ample professional development at the school as proxy for the ability of the whole faculty. Ruth said, "I disagree with that. I feel that we've had so much, we've had a lot of training needed to put this into place." By providing learning opportunities to build the capability of the faculty, the principal nurtured teachers' beliefs in the ability of the faculty.

Related to creating spaces for learning, the principal facilitated interfaculty communication that also conveyed information about the ability of the group and persuaded Jennifer and Ruth that the faculty could be effective. Sometimes she had teachers and grade level teams share plans or innovative ideas that were working with their kids. She also featured grade level teams in her biweekly bulletin and both Jennifer and Ruth attributed their being persuaded of faculty's effectiveness to the actions the principal took to furnish them with knowledge of the members of the faculty. Ruth expressed it this way: "We're able to share good things about what other people are doing. You know we get to hear things about the faculty that you wouldn't normally

123

know. And I think then you start respecting other teachers." The principal created conditions that supported knowledge of other classrooms and a sense of the faculty as a team working together. Although George expressed belief that the faculty was a good team he did not attribute this judgment to the principal providing information about what was occurring in other classrooms but more to his personal interactions with colleagues.

Ruth was the only teacher that made reference to the way the principal allowed teachers to make decisions. She was persuaded to believe in her own and the team's effectiveness by the trust the principal displayed by allowing her to make decisions. She said, "You're left alone. You don't feel like there's always someone there so that way I feel supported that she trusts me to make good decisions. And when I go to Valerie with a concern she always follows up." Ruth also described decisions that the team made to ignore the county's pacing guide when teaching Science and Social Studies so they could deliver the curriculum in a way better suited to the student population. The principal did not micromanage her or the faculty and Ruth was persuaded to believe in their effectiveness. Ruth had years of teaching experience, served as a mentor teacher for student teachers and was part of the school's leadership team. That Ruth was the only teacher persuaded to believe in her and the faculty's effectiveness by what she interpreted as the principal's trust might be related to her years of teaching experience and her position as a teacher leader in the school.

Jennifer, George and Ruth described several actions of the principal that conveyed information about the ability of the faculty and persuaded them that the faculty made an effective team. However, they all saw the role resources played in making the teaching task manageable and all spoke of the principal's effective resource provision as

persuading them that the faculty could be effective. Jennifer was adjusting to the

challenges of teaching in a Title I school and expressed some surprise at the positive

mood of the faculty considering the challenges. She attributed it to the fact that the

principal made aspects of the teaching task more manageable. Referring to the

principal's resource management she said, "It's perceived among the teachers that I'm

going to be supported. And you know I'm going to get this kid who has this, this and this

wrong but here's the kind of things that I'm going to get for help." George and Ruth also

often described the principal as an effective resource provider when talking about their

being persuaded of the faculty's effectiveness. George believed that with the principal's

management teachers were amply supplied with instructional materials which made the

teaching task more manageable. And Ruth said, "We have tons of materials. If you need

something Valerie [the principal] will find a way to get it." The principal's actions

persuaded the teachers in this study that the faculty could be effective by conveying

information about the competence of the faculty and by providing resources that reduced

the challenges associated with the teaching task.

Shared and supportive leadership: contributor to affective states.

All three teachers attributed the positive mood of the school to the principal's

buffering actions. The teachers described the way the principal reduced faculty stress by

reducing anxiety associated with high stakes testing and supporting teachers when faced

with parental challenges. This study occurred during the two months prior to the state

assessment when the sense of urgency about meeting AYP is often at its highest. The

calm mood of the school was noticeable. When the teachers discussed preparing for the

test they expressed awareness of what their students knew and still needed to learn but

125

did not dissolve into panic, instead using words like "optimistic". When asked about the absence of the frenzied activity often associated with test preparation and meeting AYP, all three teachers attributed their calm in the school to the principal. Ruth and George, however, were more explicit about the principal's role in reducing testing anxiety. Ruth believed "the principal sets the tone for the school" and she "did not go around making people anxious." George also credited the principal with the relative calm in the school. He said, "Valerie's great. I mean she makes it [the state assessment] a big enough deal so the kids are not going to slack off but it's low key enough to say this is another day at school, we're going to do our best, and that sort of thing." The principal's approach conveyed a vision of the teaching task that saw the state assessment as important but "just one piece of the puzzle" and thereby helped to manage the anxiety for teachers. Jennifer recognized that Centerville was not "a test happy school" and that no one was pushing testing but she did not talk frequently about the stress of the test itself or the principal's role in reducing anxiety associated with it. Perhaps her having come from a school where there was a lot of focus on testing made her accustomed to handling the pressure and less likely to look to an external source even if in a new environment.

Jennifer, George and Ruth all spoke of the way the principal protected the faculty from challenges from parents. Jennifer had come from a school where the principal was often holed up in her office and seemed to only come out to investigate teachers when she received parents' complaints. By contrast she perceived that she and the faculty were more trusted at Centerville. Ruth also believed that the principal "trusts us to make good decisions." Ruth recalled an incident in her own practice when a parent came in very angry with a decision she had made. The principal, she said, "was always backing me

126

up." George summed up the way the principal's buffering actions reduced faculty stress. George had worked for a short time as a long term substitute in another school in the county. He compared the principal-faculty relationships at that school with those at Centerville and said:

> It seemed to a lot of the faculty there, that the principal then would often back down in the face of parents, would support a parent rather than the teacher. Even where the teacher was right. Teachers can be wrong; I mean maybe sometimes the parent does need to be supported. But where the teacher was doing the right thing and the principal would kind of back the parent. And I don't see Valerie doing that. I see Valerie, if we're doing things the right way she's not going to cave.

The principal played a significant role in reducing teacher stress and fostering a positive mood in the school by acting as a buffer between teachers and environmental challenges such as state testing pressures and parental challenges. Her support of teachers conveyed belief in their abilities which contributed to their confidence about the faculty's ability to be successful.

Figure 6 summarizes the ways in which shared and supportive leadership influenced teachers' perceptions and interpretations of sources of efficacy. In her actions as principal, goals for student learning were outlined, meaning was given to past student performance, belief in the faculty's ability and trust in their commitment to students was conveyed, opportunities to learn from colleagues were provided, and stress was reduced, all of which influenced the development of teachers' collective efficacy beliefs.

Figure 6

Shared and Supportive Leadership: Contributor to Sources of Efficacy

PLC Condition:
Shared and
Supportive
Leadership

Setting goals

Interpreting outcomes

Celebrating whole
faculty success

Maintaining open
communication

Providing
individualized support

Buffering from
environmental
challenges

Managing Resources

Creating spaces for
learning

Clear goals
Meaning to student
performance
Sense of principal
belief and trust
Opportunities to
observe models
Reduced stress

Personal
beliefs and
attributes:
Years at
Centerville

Leadership
role

Sources of Efficacy
Perception and Interpretation

Mastery Experiences
  Meeting benchmarks
  Student improvement
Vicarious Experiences
  Access to models
Social Persuasion
  Sense of Shared expertise
  Task manageability

Affective State
  Reduced stress
  Confidence

Supportive Conditions: Contributor to the Sources of Efficacy

Supportive conditions are the factors that determine when, where, how, and if the

faculty come together to learn, make decisions, problem solve and create as a

professional learning community. Supportive conditions included time and structures for

faculty interaction such as grade level team meetings and weekly faculty meetings, and

dispositions necessary for collaborative learning such as trust and openness. The

supportive conditions of time and structures for interaction are reported under the PLC

condition collective learning and shared personal practice and will not be reported here.

Discussed in this section, the dispositions of trust, openness and caring amongst the

faculty influenced teachers' collective efficacy beliefs by engendering a sense of unity in the faculty that contributed to their perception of a positive mood in the school and their confidence that the faculty would be successful in the future.

Supportive conditions: contributor to affective states.

When Ruth, George and Jennifer expressed feelings of confidence in the faculty's ability to accomplish the teaching task they often described the trusting, open and caring nature of faculty relationships and often referred to the faculty as a community or family. Of the three teachers, Jennifer spoke most often about the positive relationships perhaps because she recently transferred from a school and constantly compared her experiences at Centerville to those she had at Highland ES.

Jennifer transferred to Centerville from a school that most would consider highly successful. While Jennifer did not dispute the success, measured by high test scores, she often spoke of the toxic working relationships amongst the faculty. Coming to Centerville with some sense of the challenges teachers faced she was strongly impacted by the positive relationships that she experienced amongst the faculty.   The positive relationships gave Jennifer a sense of "positive energy", a feeling of confidence about her and the faculty's ability to meet the developmental and learning needs of students in poverty. Jennifer felt confident in the faculty's ability because of the open discussions that occurred regularly. Teachers shared both successes and things that didn't go so well. She felt that the "working relationship is vital to how we feel about ourselves" and described the negative feelings she had about a team at Highland when teachers refused to collaborate. The trusting, open, and caring relationships also increased her confidence in her own ability and affected her personal efficacy beliefs. She said, "When you can

work together with other people I think you just automatically feel more successful because you don't feel so alone."

After years at Centerville, George and Ruth had grown accustomed to the positive relationships in the school and while when they described their confidence in the faculty they talked about the openness and caring amongst the faculty they did not report this as frequently as Jennifer. George expressed feeling confident in the faculty's ability because of the trusting, open, and caring relationship amongst the faculty. He spoke of the way teachers regularly sought advice from colleagues and talked of how the team would regularly seek each other out "and bounce things off of them". George characterized the faculty as strong because of the caring relationships amongst the group. He said, "We all, at one time or another, have lent our shoulders for someone else to cry on."

The impact of the caring relationships on the teachers' beliefs in the faculty's ability to accomplish the task of helping students learn was made evident when George experienced a family emergency during the time of the study. Knowing the caring relationships that existed amongst the team he was confident that students would continue to learn. He described how he got together about two days of work for his students but "I knew Ruth and Jennifer would take care of anything beyond that." Ruth also often expressed feeling confident about the faculty's ability because of the positive nature of their relationships. She talked about how well the faculty came together to support students. She also talked about the open sharing that took place in the faculty room and the way people shared things with no one trying to outdo anyone else. In graduate school Ruth heard several teachers describe the negative relationships in their faculties and she

was grateful for Centerville's faculty because teachers were team players. Reflecting on the faculty relationships at Centerville Ruth believed they were effective and would be in the future because, "we're much more cohesive here."

Figure 7

Supportive Conditions: Contributor to Sources of Efficacy
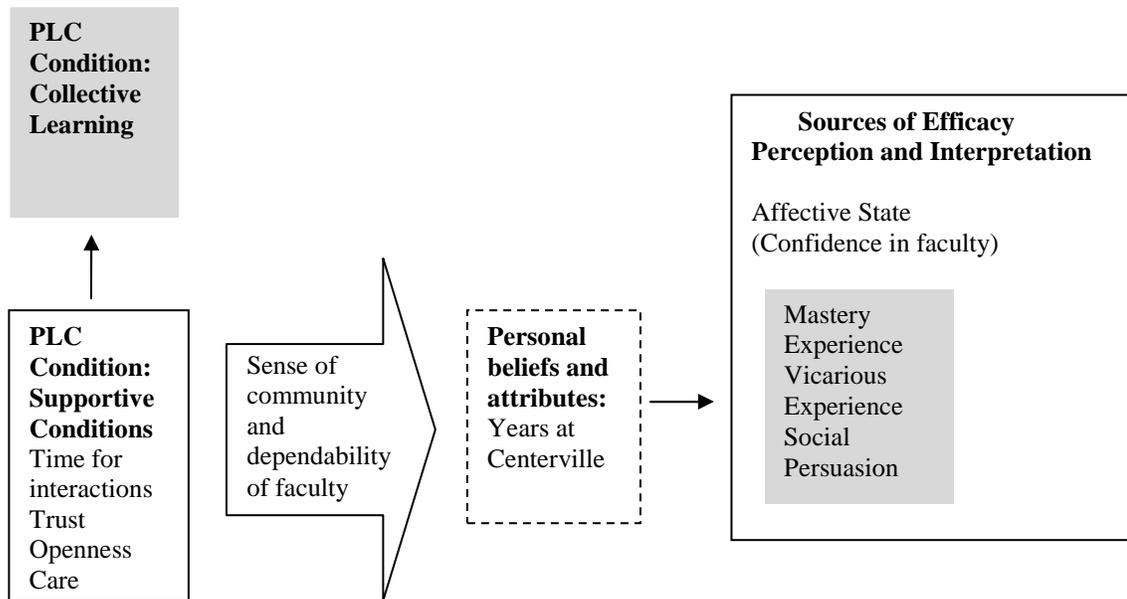
Figure 7 summarizes the way supportive conditions in Centerville influenced the perception of sources of efficacy. Structural supportive conditions such as time and structures for teacher collaborative work influenced teachers' collective efficacy beliefs by making collective learning possible. Collective learning and mastery experiences, vicarious experiences and social persuasion are shaded gray in figure 6 to depict their indirect relationship to supportive conditions. The dispositions of trust, openness, and caring amongst the faculty influenced teachers' collective efficacy beliefs by engendering a sense of unity in the faculty that teachers interpreted as affective state.

The four PLC conditions presented in this chapter, collective learning, shared personal practice, shared and supportive leadership, and supportive conditions all influenced teachers' perceptions of sources of efficacy. However, in their descriptions of events and outcomes that they perceived as mastery experiences, vicarious experiences, social persuasion, and affective states, collective learning and shared and supportive leadership were more central to the teachers' descriptions.

Collective learning provided access to the knowledge, skills, and attitudes of their colleagues and influenced their perceptions of the four sources of efficacy. As teachers interacted they negotiated meaning of past student performance as mastery experience. They observed their colleagues and perceived vicarious experiences, and recognized the ability of their colleagues and the shared expertise of the faculty. They also perceived positive social persuasion, and experienced positive relationships that influenced their perception of affective states. Shared personal practice was not a significant contributor to sources of efficacy. One teacher perceived vicarious experience and another social persuasion. The third teacher dismissed the experience as irrelevant.

Shared and supportive leadership was central to the teachers' descriptions of three of the four sources of efficacy information. By defining goals, providing positive feedback to the faculty, and supporting them the principal influenced the teachers' perceptions of mastery experiences, social persuasion, and affective states. However, the principal was not considered a resource for learning instructional strategies. Her actions only influenced teachers' perceptions of vicarious experiences indirectly through her provision of opportunities for collective learning. The supportive conditions of the

school included time to interact and the dispositions of openness and care. Teachers did

not reflect on the structural supportive conditions separately but saw them to be

opportunities for collective learning. The dispositions of openness and care influenced

the teachers' perceptions of affective states by providing the conditions for positive

interactions that created a sense of community that teachers perceived as confidence in

faculty ability to educate students in the future. Differences in teachers' perceptions of

the sources of efficacy were primarily mediated by the personal attribute, years teaching

at the school. The findings will be discussed in detail in the next chapter.

Chapter 6: Discussion

There is general agreement about the potentially powerful nature of teachers' collective efficacy beliefs in schools. Studies have documented the powerful effect of this group-level attribute on teacher behaviors and student achievement (Bandura, 1993; Goddard et al., 2000; Tschannen-Moran & Barr, 2004). Even more compelling, studies have found collective teacher efficacy to be a stronger predictor of student achievement than student socioeconomic status (Bandura, 1993; Hoy, Sweetland & Smith, 2002). Scholars recognized that to mature the concept alongside the development of more accurate measurement instruments, research had to begin to examine the antecedents of teachers' collective efficacy beliefs. A few studies were conducted to understand the extent to which school organizational processes contributed to teachers' collective efficacy beliefs. These studies found that school processes were predictors of teachers' collective efficacy beliefs (Mawhinney, et al., 2006a; Ross, et al., 2004), but they did not provide an understanding of the mechanisms by which organizational conditions influenced teachers' collective efficacy beliefs. This study adds to the literature by exploring the ways in which the organizational context, operationalized as five PLC conditions, influenced the development of teachers' collective efficacy beliefs.

In this study, I found that all five PLC conditions (i.e. shared vision, collective learning, shared personal practice, shared and supportive leadership, and supportive conditions) contributed to the development of teachers' collective efficacy beliefs by influencing teachers' perceptions and interpretations of sources of efficacy. However, not all conditions had the same influence on teachers' perceptions and interpretations of sources of efficacy information. Collective learning, shared vision, and shared and

134

supportive leadership were most central to teachers' perceptions and interpretations of the sources of efficacy. In this chapter I will discuss how each PLC condition influenced teachers' perceptions of sources of efficacy and then present implications for future research and practice.

Discussion of Shared Vision as a Contributor to Sources of Efficacy

In this study the shared vision defined goals and desired outcomes that focused teachers' attention on particular past performances, models and feedback, and guided their interpretations of the information from the sources of efficacy. From the study, I determined that the students they served largely defined the teachers' vision. Recognizing that the majority of their students lived in poverty and often entered school academically behind their peers they envisioned the teaching task as addressing student poverty and supporting student learning. Similarly, their vision of teaching competence focused on attributes (experience and caring) that they deemed necessary for success with the students served.

The shared vision of the teaching task influenced teachers' interpretation of academic growth as mastery experience even when the growth did not meet projected benchmarks. This was significant considering the pressures to meet accountability requirements. It is important to note that although the teachers in the study did report interpreting success on the state assessment as success, they also considered academic improvement as an indicator of success. Social cognitive theory states that pre-existing knowledge structures called self-schemata influence what people look for and how they interpret efficacy information (Bandura 1997). This study's findings suggest that the proximal environment, defined mostly by the students served, had the greatest impact on

135

how teachers envisioned the teaching task and what they interpreted as mastery experiences. The findings suggest that schools as organizations may have an organizational schemata, the shared vision of the teaching task and teaching competence, that operates in ways similar to self-schemata in the development of self-efficacy, by influencing teachers' perceptions and interpretations of mastery experiences.

The shared vision of the teaching task influenced teachers' interpretations of the relevance of modeled performances. Teachers described interpreting modeled performances as vicarious experiences when the content of what was being observed was directly related to the students they served. The finding suggests that school characteristics, specifically the demographics of the student body affected the perceived relevance of modeled performances. Teachers also rejected models, even when provided by the school district, when they did not seem relevant to their specific teaching task. Related to this was the finding that teachers more often accepted the modeling of their colleagues rather than sources outside of the school. These findings can also be explained theoretically. Bandura (1997) contends that attribute similarity, preconceptions based on certain characteristics, affects efficacy appraisals. Attribute similarity has been applied to collective teacher efficacy research to explain differences in teachers' collective efficacy beliefs based on student body characteristics; for example, where teachers serving low-income students have been found to perceive less collective efficacy than those teaching in middle income, majority White schools (Goddard, LoGerfo et al., 2004; Mawhinney, et al., 2005). Teachers in this study had a preconception of instructional expertise as experience in a similar context. This study extends knowledge of the development of teachers' collective efficacy beliefs by suggesting that attribute

136

similarity might also function on the collective level to affect the perceived relevance of modeled performances.

When teachers in the study described being persuaded that the faculty was capable of success in the future, they talked about perceiving teachers as possessing competencies needed to accomplish the teaching task.   Specifically, when teachers saw evidence of teachers care for students they were persuaded that the faculty could be effective. Research has found social persuasion influenced collective efficacy beliefs. This study confirms these findings and extends the research by highlighting the way social persuasion often operated through nonverbal persuasory efficacy information. Persuasory efficacy information has been primarily construed as verbal. However, teachers in this study seldom gave verbal encouragement and feedback to each other. Instead, the findings suggest that teachers perceived persuasory efficacy information in the actions of teachers that demonstrated competencies consistent with their shared vision. As teachers interact in the PLC their actions are interpreted based on the vision of teaching competence and persuades or dissuades teachers of the faculty's ability to facilitate student learning. That evidence of caring for students was so commonly referenced as persuading teachers of faculty efficacy is also an important finding. Perhaps with the emphasis on meeting accountability requirements, discussions about teaching competence have focused almost exclusively on knowledge and skills. Teachers in this study suggested that the disposition of care toward students was also a requirement for effective teaching in their context.

Perceiving the faculty as having a shared vision and working towards the same goals conveyed a sense of unity and cohesiveness that contributed to teachers'

perceptions of the capability of the faculty. Social cognitive theory defines affective states as the level of stress or excitement associated with task consideration. Perception of affective states contributes to judgments of capability or inability to perform a task. Thus far, very little research has discussed the impact of affective states on collective efficacy beliefs. This finding extends the research by illustrating how a shared vision fosters a sense of unity and cohesiveness in the faculty that contributes to teachers' perception of positive affective states.

Discussion of Collective Learning as a Contributor to the Sources of Efficacy

Collective learning had a significant influence on teachers' perceptions of the four sources of efficacy. When teachers' described their perceptions and interpretations of the four sources of efficacy they often spoke about their formal and informal opportunities to work with their colleagues. As teachers talked about issues, shared information, discussed the quality of their teaching and learning, made plans for instruction and assessed the impact of their actions, goals surfaced and they negotiated the meaning of outcomes. They benefitted from their colleagues' expertise in ways that increased their belief both in themselves and in the faculty as a whole, and persuaded them that the faculty was an effective group. The positive relationships amongst the faculty and the effective interactions also created a sense of cohesion which influenced their feelings of confidence about the future.

Data analysis showed that opportunities for collective learning figured prominently in teachers' perceptions and interpretations of past performances as mastery experiences. When teachers met to talk about student data they collaboratively negotiated the meaning of data as evidence of success or failure. Bandura (1997)

contends that efficacy information only becomes instructive through cognitive processing and reflective thought. That teachers often described the perception and interpretation of mastery experiences occurring in the context of their collaborative conversations may illustrate the importance of teachers' talk as the means by which collaborative cognitive processing occurs. A central aspect of the opportunities for collaboration in the school studied was the analysis of student performance on a variety of assessments. These regular meetings influenced the perception of past performance by creating a work cycle that included not only teaching but assessing student learning. This study adds to the research by suggesting that structuring regular opportunities for collective learning focused on data analysis can influence teachers' perception of past performance and interpretation of these performances as mastery experiences.

Opportunities for collective learning influenced teachers' perception of vicarious experiences by exposing them to their colleagues' knowledge and skills. When teachers described observing modeling that they interpreted as vicarious experiences, the models were most often their colleagues and the instructional strategies that were being modeled were directly relevant to their problems in their practice. The influence of collective learning on teachers' perception of vicarious experiences might also have been due to the proximity of teachers. Teachers in the faculty were proximal models in the sense of operating in the same task context. They were also proximal in terms of being accessible and thus the most likely resources to be sought out for immediate advice to resolve day-to-day problems. The literature on PLCs sheds some light on these findings. Supovitz, Sirinides and May (2010) note the presence of instructional advice networks among teachers and found that teacher peer influence had a strong and significant impact on

instructional practice. Studies show that within professional learning communities teachers replay, rehearse, and re-vision their practice (Horn, 2010) and learn from each other in ways that impact their instructional practice (Coburn, 2001; Shank, 2006; Wahlstrom & Louis, 2008).

In this study, I found that collective learning influenced teachers' perception of social persuasion. Teachers benefitted from their colleagues' knowledge and skills and were persuaded of the effectiveness of the faculty through interaction with colleagues and exchanging information. Collective learning opportunities were a space to gather information about their colleagues. The opportunity to experience their colleagues' knowledge and skills in collaborative conversations convinced the teachers of their faculty's effectiveness. This finding suggested that vicarious experiences and social persuasion were related. When teachers perceived models on the faculty and interpreted the modeling as a positive indicator of both their own and the faculty's capability, it also persuaded them of the faculty's competence and their ability to be effective in the future.

Teachers in this study also perceived their good working relationships as providing persuasory efficacy information. Studies of teachers' collective efficacy beliefs have not explicitly investigated the role of intrapersonal relationships in the formation of teachers' collective efficacy beliefs. With this study, I added to the literature by illustrating that positive working relationships acted as a source of social persuasion encouraging teachers to believe that the faculty was capable of being effective in the future. Social cognitive theory also suggests that group dynamics plays a role in collective efficacy. Bandura (1997) defined collective efficacy as "a group's shared belief in its conjoint capabilities to organize and execute courses of action required to

produce given levels of attainment" (p. 477). Groups, however, are comprised of individuals and their collective power to produce desired results is the product of shared knowledge and skills and the "interactive, coordinative, and synergistic dynamics of their transactions" (Bandura, 2000, p. 75). Results of this study suggest that it will be difficult for perceived collective efficacy to emerge as an emergent group-level property in schools without opportunities for collective learning. Collective learning moved teachers beyond their individual classrooms and gave them access, albeit verbally, to other teacher's attitudes, knowledge and skills. Collaboration also allowed teachers to assess their colleagues' teamwork behaviors (Tasa, et al., 2007). As the teachers in this study experienced how well the group worked together they felt a sense of collective expertise and cohesion that persuaded them that the faculty would continue to be effective.

The study indicated that opportunities for collective learning influenced teachers' perceptions of positive affective states. As teachers shared successes and challenges and worked collaboratively to address students' needs they gained a sense of the faculty's determination and commitment to accomplishing the teaching task. Working together allowed teachers to have a sense of the general mood of the faculty. Positive interactions with teachers generated excitement about their work that engendered feelings of confidence that the faculty could successfully help students learn. Bandura (1997) has argued that moods provide affective information for judging personal efficacy. Few studies of collective efficacy have examined group affect. Gibson and Earley (2007) in their proposed model of group efficacy beliefs suggested that group affect influences group efficacy by interacting with perceptions of past performance. This study did not contradict their proposition but suggested another possibility. Positive working

relationships created a positive affective tone that generated feelings of confidence

regarding the faculty's ability to accomplish the teaching task.

Discussion of Shared Personal Practice as a Contributor to the Sources of Efficacy

When describing their perception of sources of efficacy the opportunity to visit

another teacher's classroom was not central to teachers' descriptions. Surprisingly, the

peer observation did not have a great influence on teachers' perceptions of vicarious

experiences. For one teacher observing another teacher effectively instruct using the new

reading program influenced her perception of her own capability to successfully

implement the program in the following year (vicarious experience). However, for a

second teacher in the study observing the third grade teacher was not perceived as

vicarious experience because of the dissimilarity of the instructional strategies used. The

experience did, however, provide persuasory information about the capability of the

teacher. The third study participant dismissed the experience altogether because she did

not observe what she considered to be actual teaching of the lesson but saw the teacher

facilitating student work. The teachers had agreed to have their colleagues observe them

teaching a whole lesson and Jennifer had allowed the third grade teacher to observe her

teach an entire lesson. That Jennifer did not see any direct teaching was a violation of the

agreement the teachers had made and suggests a role for trust in the development of

teachers' collective efficacy beliefs. In addition, the findings illustrate the task specific

nature of efficacy beliefs (Bandura, 1986) and its impact on teachers' perception of

sources of efficacy. Efficacy beliefs are appraisals of ability to perform a task in the

future and sources of efficacy provide information about future capability with a task.

Two of the three teachers dismissed the experience as not providing information about

their own capability (vicarious experience) because the observation did not provide information about the specific task, implementing the new reading curriculum in their classroom setting.   The literature on teacher collaboration suggests that collaboration in and of itself does not necessarily facilitate learning (Little 2003; Horn 2010; Shank, 2006). Levine and Marcus (2010) concluded that the structure and focus of teachers' collaborative activities need to be carefully planned if they are to impact teacher learning. Similarly, the results show that simply having teachers visit other classrooms will not necessarily impact teacher's perceptions of vicarious experiences. Instead teachers must perceive what is observed as relevant to specific tasks.

Discussion of Shared and Supportive Leadership as a Contributor to the Sources of Efficacy

The study showed the PLC condition shared and supportive leadership to be a central feature in teachers' perceptions and interpretations of the sources of efficacy. When teachers described mastery experiences, social persuasion, and affective states they talked about the principal's leadership actions as influencing their perception of these sources. This study indicated that the principal's leadership actions had only an indirect influence on the perception of vicarious experiences.

In this study the principal influenced teachers' perceptions of mastery experiences by communicating goals for student academic achievement to the whole faculty and holding faculty meetings that focused on interpreting student data. Social cognitive theory posits that mastery experiences are the most powerful source of efficacy information because they reflect direct evidence of group capability to accomplish the task (Bandura, 1993, 1997). It was therefore, important to note the principal's influence

143

on teachers' interpretation of mastery experiences. It was significant that the teachers, including the participant who resisted the emphasis on testing, described the principal as well placed to provide information about task accomplishment. The results of the study provide support to the findings of other studies which have shown the significant role played by the leader in the development of collective efficacy. Tabernero, Chambel, Curral, and Arana (2009) found task-oriented leadership focused on goal achievement had a positive effect on group efficacy. The study carried out by Jung and Sosik (2002) suggested that leaders are considered well placed to "express the importance and values associated with desired outcomes" (p. 316).   Although this study did not explicitly ask teachers why they perceived the principal's actions as significant their responses suggest that the principal was perceived as one who was knowledgeable of the context-specific teaching task as well as the external policy mandates and so was well placed to interpret students' past performance. The findings suggest that principals play an important role in teachers' perception of mastery experiences.

This study showed that shared and supportive leadership indirectly influenced teachers' perceptions of vicarious experiences. Through the creation of regular opportunities for collective learning and professional development the principal facilitated teachers observing their colleagues and thereby influenced their perception of vicarious experiences. The influence of collective learning on teachers' perceptions and interpretations of sources of efficacy has already been discussed and will not be given further consideration here. It is enough to say that by emphasizing teacher collaboration and professional development the principal provided teachers with more opportunities to learn from their colleagues and judge their personal and faculty capability. Somewhat

144

surprising was that teachers did not see the principal as a resource for learning instructional strategies. All three participants strongly expressed the view that the principal was no longer a teacher. The school's leadership structure provides some explanation for this finding. The school had several administrators who were tasked with providing instructional assistance to teachers. Social cognitive theory can also shed light on this finding. Bandura (1997) theorizes that the perception of attribute similarity or the similarity of models in terms of personal characteristics affects efficacy judgments. The finding suggests that the teachers' shared vision of teaching competence held proximity to the classroom as a characteristic of performance capability. It is therefore possible that the perceived distance of the principal from the classroom prevented the teachers from seeing her as a resource for learning instructional strategies.

There was one instance in which an administrator influenced teachers' perceptions of vicarious experience. At a professional development session the instructional supervisor described a strategy for teaching the new math curriculum using centers that she had observed teachers in another school use. Her description of the instruction was an instance of modeling, Ruth and Jennifer paid attention to her description because they believed it was relevant to their practice. They believed that they could change their own practice in a similar manner and immediately began collaborative planning lessons to implement the new instructional strategy. Theoretically there are two positions on what serves as models in the development of teachers' collective efficacy beliefs. Goddard et al. (2000, 2004) suggest that in developing a shared belief of a school vicarious experiences at the organizational level involves school observing other schools. However, Ross et al. (2004) argue that it is rare for teachers to

145

observe other schools. Instead, they theorized vicarious experiences to be the result of teachers interacting with and having the opportunity to observe their colleagues. While most of the teachers' descriptions of vicarious experiences centered on teachers observing their colleagues during their interactions, as Ross et al. suggest, this finding sheds light on the way teachers might observe other schools.

By communicating confidence in the faculty's ability to achieve school goals and fostering awareness of the competence of the faculty the principal influenced teachers' perception of social persuasion. This finding provides support for previous theoretical arguments that collective efficacy differs from self-efficacy in the unit of agency but is derived from the cognitive processing of similar sources of efficacy (Bandura, 1997). Specifically, teachers' collective efficacy beliefs are influenced by the perception of social persuasion. The principal provided the faculty opportunities to appreciate group successes by commending the faculty on improvements in student performance or displays of commitment to student learning, by encouraging inter-team sharing, and by providing a lot of professional development. Teachers considered the principal's persuasive actions credible because they perceived her to be knowledgeable of the whole school as well as of external governance structures such as the school district.

Shared and supportive leadership actions influenced the perception of positive affective states by reducing stress associated with the environment and the teaching task itself. By serving as a buffer between the environment and the school and by effectively managing resources the principal influenced teachers' perception of a positive mood in the faculty. The results provide support for previous theoretical arguments highlighting that organizational agency is also impacted by emotional states (Bandura, 1997; Goddard,

146

Hoy & Woolfolk Hoy 2000, 2004). The principal's actions conveyed her support of the faculty and fostered a positive mood in the faculty that influenced teachers' perception of confidence when contemplating their ability to accomplish the teaching task in the future. This result is also in line with more recent studies of the impact of transformational leadership actions on collective efficacy beliefs. For example Schaubroeck and colleagues (2007) found that leaders' supportive actions were significantly related to collective efficacy. They argued that providing support has the potential to strengthen group members' beliefs that the group will be successful. Mawhinney, Wood and Haas (2006b) found strong correlations between teachers' perceptions of principal support of the faculty's persistence and coping capacity and their collective efficacy beliefs. This study extends the findings of this line of empirical studies by suggesting some specific supportive behaviors that teachers' perceived as influencing their collective efficacy beliefs.

Discussion of Supportive Conditions as a Contributor to the Sources of Efficacy

The presence of the supportive structural and relational conditions, time for collective learning, and dispositions of openness and caring amongst the faculty influenced teachers' perception of sources of efficacy. By having time to meet and structures that supported learning interactions such as regular faculty meetings focused on professional development and grade level team meetings to discuss student data, teachers had opportunities for collective learning. In their interactions they perceived mastery experiences, vicarious experiences, were persuaded of the faculty's effectiveness, and perceived a positive mood that instilled confidence in the faculty's

ability to successfully accomplish tasks in the future. The influence of time for collective learning has already been discussed and will not be addressed further in this section.

The dispositions of openness and caring amongst the faculty influenced teachers' perceptions of a positive emotional state. The presence of open, caring interactions enabled teachers to recognize faculty members' dependability and commitment, interact positively and feel a sense of community that imbued teachers with feelings of confidence in the faculty's ability.   Here again the results provide support for the theoretical argument that organizations also respond to information conveyed by emotional states and offers insight into the ways positive emotional states influence teachers' perceptions of capability. The finding is in line with previous research on the antecedents of collective efficacy beliefs. For instance, Matthieu, Rapp, Maynard and Mangos (2010) argued that positive group dynamics contributed to air traffic controllers feeling confident about the group's ability because they conveyed information about the ability of the group to work well together to achieve its objectives. The finding is also consistent with studies on the role of trust in schools which have found relational dispositions of openness and care amongst faculty members to be important in laying a foundation of trust among teachers and trust has been linked to teachers' collective efficacy beliefs (Tschannen-Moran, 2009; Tschannen-Moran & Hoy, 2000). While this study did not examine the emergence of the positive interactive dynamic in the faculty, the findings suggest that concern cannot only be given to the content of teacher collaboration but the nature of these relationships if teachers' collective efficacy beliefs are to develop.

Mediating Factors

This study indicated that differences in teacher attributes, most often the attribute years at the school, explained some of the differences in teachers' perceptions and interpretations of the sources of efficacy and the extent to which efficacy sources were perceived at the level of the grade level team or the whole faculty. Other attributes shaping teachers perception of sources included years teaching, education, leadership role and personal teacher efficacy beliefs. The finding provides support to Bandura's (1997) proposition that personal, social and situational factors mediate the cognitive interpretation of experiences and offers insight into differences in group members' efficacy appraisals. Recent collective efficacy studies have also found intra-group differences impact the development of collective efficacy beliefs. Most recently, DeRue and his colleagues (2010) proposed a theory of team efficacy development that recognizes within-team variability and suggested a framework for understanding efficacy dispersion. Given the finding that shows that differences in teachers perceptions occurred most along the lines of years at the school it is possible that the influence of the PLC on teachers' perceptions and interpretations of sources of efficacy is dependent on teachers' knowledge of and identification with the vision of the PLC. In addition, the finding suggests that teachers' collective efficacy beliefs may change over time. In the future more attention should be paid to exploring how within-group variability impacts the development of teachers' collective efficacy beliefs.

Implications for Future Research

These findings have a number of implications for research. The study qualitatively explored the ways in which PLC conditions influenced teachers' collective

efficacy beliefs looking specifically at how the organizational context influenced perceptions of sources of efficacy information. Although there has been some consideration of the organizational context of the school as a predictive variable in teachers' collective efficacy beliefs, few studies examine the mechanisms through which the organizational context influences the development of these beliefs and most limit their focus to the perception of mastery experiences. The first theoretical implication of the study is that the school organizational context is a significant antecedent of teachers' collective efficacy beliefs and to understand the development of teachers' collective efficacy beliefs future research should expand this line of research. Other organizational conditions, such as supervision and evaluative authority might also be included to more completely reflect the organizational reality of schools.

Social cognitive theory postulates that sources of efficacy are past experiences and outcomes that have the potential to influence beliefs about future capability. However, Bandura (1997) cautioned that the sources of efficacy are not inherently enlightening but the information must be selected and cognitively processed if it is to change a person's efficacy beliefs. Results of this study suggest that the selection and cognitive processing outlined in the theory is guided by the shared vision of the school; the teachers noticed what they valued. Bandura (1986) theorized that personal factors, behavior, and environmental factors interact to shape behavior. The study's findings support this argument and suggest the possibility that these factors shape behavior by informing teachers' vision of the teaching task and teaching competence which in turn influences their perception of efficacy sources. For example, the teachers' shared vision of the teaching task as addressing student poverty and supporting student learning was

informed by the environmental factor student socioeconomic status. Their shared vision then influenced their perception of sources of efficacy and their behavior. Understanding how to develop teachers' collective efficacy beliefs may, therefore, require scholars to focus on the context-specific task and competence definitions teachers envision for their schools.

These results also illustrated the importance of the faculty envisioning itself as responsible for the academic outcomes of the students served. The school in this study was selected, in part, because it was a Title I school that had seen significant gains in student achievement. The school stood in contrast to evidence that suggests that students' socioeconomic status positively predicted teachers' collective efficacy beliefs with low socioeconomic status being correlated with low collective teacher efficacy beliefs (Goddard, et al., 2004; Mawhinney, et al., 2005). The teachers in this study envisioned addressing student poverty as a significant aspect of their teaching task and they believed that they had been successful and would continue to be successful because of their focus on the social and academic issues that attend student poverty. However scholars have found that schools serving low-income students often lack a sense of shared expectations and shared responsibility for student achievement (Evans, 2009). The findings of this study suggest that future research may benefit from examining the shared vision and its impact on teachers' collective efficacy beliefs in schools that serve low-income students. The finding implies that a shared vision of the teaching task that addresses the reality of the school context by, for example, focusing on addressing the challenges associated with poverty and supporting students' learning, can potentially lead

151

to the creation of goals and outcomes that might mediate the impact of low

socioeconomic status on teachers' collective efficacy beliefs.

The finding that shared vision of the teaching task and teaching competence

influenced the perception of sources of efficacy raises questions about the most

commonly used theoretical model explaining the development of teachers' collective

efficacy beliefs. Based on previous results Goddard and his colleagues (2000) advanced

a model of the development of teachers' collective efficacy beliefs that posits that

analysis of the teaching task and teaching competence occurs after the perception and

initial analysis of the sources of efficacy (Goddard, et al., 2000). However, this study's

findings suggest that the vision of the teaching task and teaching competence also

influenced teachers' initial perception of sources by defining goals and outcomes.

Adams and Forsyth (2006), found that analyzing the teaching task and teaching

competence, accounted for a significant amount of the variability in teachers' collective

efficacy beliefs. They concluded that analysis of the teaching task and teaching

competence influenced the development of teachers' collective efficacy beliefs along

with the sources of efficacy instead of as a secondary analysis as suggested by Goddard

et al.'s model. Adams et al. proposed that contextual conditions acted as sources of

efficacy information along with mastery experiences, vicarious experiences, social

persuasion and affective states. This study offers another possible explanation that a

shared vision of the teaching task and teaching competence in some sense drives the

development of teachers' collective efficacy beliefs by establishing goals that influence

teachers' perception and cognitive processing of efficacy sources. Bandura (1997)

theorized that cognitive processing is involved in the acquisition, organization, and use of

information. In line with this theoretical proposition I found that the shared vision defined goals for the teaching task and competencies of successful teachers thereby guiding the perception and interpretation of sources of efficacy.

The study indicated that as teachers shared information and learned from their colleagues they saw the impact of the group on their practice and this, in turn, increased their reliance on their colleagues. Thus far research on both PLCs and collective teacher efficacy has concentrated primarily on the whole school level not considering that the emergence of school based PLCs and collective teacher efficacy respectively may be derailed by the reality that teachers often work in teams. Even in elementary schools, such as the one in this study, which have been assumed to be more tightly coupled systems, the greatest interdependencies occurred with the grade level team not the whole school. An important construct in the collective efficacy research literature found to be a necessary condition for the emergence of collective efficacy in teams is that of task interdependence (Alavi & McCormick, 2008; Gully, Incalcaterra, Josji & Beaubien, 2002; Katz-Navon & Erez, 2005).   However, this concept has seldom been referenced in the research on teachers' collective efficacy beliefs and when considered it has been mainly in the context of theoretical debates about measurement of collective efficacy rather than as an antecedent to the development of teachers' collective efficacy beliefs. The findings suggest the relevance of task interdependence in the development of teachers' collective efficacy beliefs and the possibility that the common goals and outcomes and sense of shared expertise that collective learning produces might increase the perceived level of task interdependence in a faculty. Schools are multi-level organizations and teachers work individually, in teams and as a whole faculty. The more

153

teachers interact, draw on the expertise of their colleagues and share their own, the more likely they are to foster integration around particular problems (Bolman & Deal 2003). This in turn impacts their collective efficacy beliefs by shifting their perceptions from individual or grade level teams to the whole faculty. Teachers negotiate meaning to develop collective efficacy beliefs. I found that opportunities for collective learning was the primary space in which teachers negotiated meaning suggesting that future research should examine teachers' day-to-day interactions and the ways in which efficacy information is perceived and interpreted in the midst of these interactions.

The significant impact of certain shared and supportive leadership actions on teachers' collective efficacy beliefs suggests that the ways school leadership contributes to the development of teachers' collective efficacy beliefs should be investigated further. The majority of sources of efficacy teachers perceived in the context of the principal's leadership actions were focused on the school as a whole rather than the team or individual teachers. These findings underscore the importance of the PLC condition shared and supportive leadership to the development of teachers' collective efficacy beliefs. Bandura (1993) noted the need for synergistic interactions in the development of collective efficacy. However, the multi-level, often independent nature of teachers' instructional practice might act as a barrier to the emergence of collective efficacy beliefs. The findings of this study suggested that the principal played a key role in fostering the interactive dynamics necessary for the development of teachers' collective efficacy beliefs. In her interactions with teachers the principal emphasized the school mission, commended teachers for school success and celebrated the capability of the whole faculty. Her actions not only influenced the perception of mastery experiences,

154

vicarious experiences, social persuasion and affective states but focused teachers'

attention on the whole school. The literature supports these findings. Several studies

found certain leadership actions to be positive predictors of collective efficacy because

they elevated the salience of the group and its capabilities for group members

(Walumbwa, Wang, Lawler & Shi, 2004; Wu, Tsui & Kinicki, 2010). Future research

might specifically investigate how the principal's leadership actions influence teachers'

beliefs about the faculty's capability.

This study indicated that teachers focused on the principal above all other

administrators. Future studies might consider looking explicitly at teachers' perceptions

of all school administrators. Current trends in research on educational leaders often use

the framework transformational leadership. Many of the leadership actions that the study

participants perceived as contributing to sources of efficacy information could be

categorized as transformational leadership behaviors. This suggests that further study

using this framework to investigate the antecedents to teachers' collective efficacy beliefs

might prove productive. However, the findings of this study also suggest that it would be

important for studies to not neglect the managerial leadership actions such as resource

management and the impact of these actions on teachers' feeling confident in the ability

of the faculty to successfully help their students learn.

The study explored teachers' perceptions of sources of efficacy information using

qualitative methodologies. To better understand the development of teachers' collective

efficacy beliefs it will be important for researchers to conduct more detailed

investigations of teachers' reflective practices using qualitative methodologies. Most

current studies of teachers' collective efficacy assume sources of efficacy based on

theoretical propositions. However, imposing externally derived proxies for sources of efficacy may not provide accurate information about the development of teachers' collective efficacy beliefs. For example, Ross and his colleagues (2004) admitted that their not finding prior student achievement to be the most significant predictor of teachers' collective efficacy beliefs might have been due to teachers in the study not deeming the success measure used as a proxy for mastery experience as relevant to their schools.   A few of the indicators of future capability found in this study, such as student growth as mastery experience and care for students as valued teaching competence, have not been specifically identified in research on teachers' collective efficacy beliefs and more research is needed on the events, behaviors, knowledge, and skills that teachers value based on the school context in which they are situated.

Implications for Practice

In terms of practical implications, the county in which the study was conducted had implemented a policy that encouraged the development of schools as PLCS to increase instructional capacity and teachers' collective efficacy beliefs with the outcome expectation of increased student achievement. First, the findings suggest that attention should be paid to nested learning communities such as the grade level team and more authentic means of encouraging whole school collective learning will need to be developed. Second, differences in teachers' perception of sources based on years at the school suggests that if teachers are to develop beliefs in the capability of the whole faculty building leaders will need to pay special attention to novice teachers or teachers new to the school to ensure that they have opportunities to get to know the faculty as a whole.   As part of the county's efforts they restructured district leadership placing

156

additional administrators in schools. However, the teachers in this study still focused

almost exclusively on the principal. While this could be attributed to the newness of two

administrators to the school it also suggests that the county should focus some efforts on

finding ways to support the integration of the once external administrators into the local

school community. The study illustrated some of the leadership behaviors that

contributed to teachers' perceptions of the sources of efficacy. Although the current

study did not directly study the principal's actions, teachers' perceptions of these actions

played an important role in their perceptions and interpretations of sources of efficacy.

Using the perceived leadership actions as a guide school districts could, through

leadership training, encourage the development of leaders who support PLC conditions

and the development of teachers' collective efficacy beliefs.

Conclusion

Research has demonstrated the potentially powerful nature of teachers' collective

efficacy beliefs. Linked to the effort and resilience of teachers and positively correlated

to student learning outcomes, understanding the development of teachers' collective

efficacy beliefs has the potential to positively impact teaching and learning. This

exploration into the antecedents of teachers' collective efficacy beliefs found PLC

conditions to be a potentially powerful organizational context conducive to the

development of teachers' collective efficacy beliefs. The press to improve student

learning outcomes for all students heightened by federal legislation and state

implementation machinery has brought added pressure to teachers and suggests it is even

more imperative for school faculties to develop a belief in their ability to respond to these

challenges and facilitate student learning. This study represents a step forward in

furthering our understanding of how the organizational context, specifically PLC

conditions, influences the development of teachers' collective efficacy beliefs.

Appendix A: First Teacher Interview Protocol

Interviewee Code:

Date:

Time:

Location:

Background Information:

How long have you been a teacher?

What led you to become a teacher?

How long have you been a teacher at this school?

What grade levels have you taught over the course of your teaching career?

How long have you been in your current position?

What are you strong points as a teacher?

Where do you think you need to improve as a teacher?

What kinds of experiences help you be effective in this school?

Are there constraints that limit your effectiveness?

Compare this school with others you are familiar with. How does it compare? (Probe

here for teacher's ideas about leadership, teacher quality, resources and supports, climate)

School Goals/Vision:

Teachers are asked to pursue many goals and accomplish many things. Of all the goals

that teachers in this school are trying to achieve what stands out to you as the most

important?

Why do you believe this the most important goal of the faculty?

How do you work to achieve this goal?

How does the faculty work to achieve this goal?

What limits the faculty's ability to achieve the goal?

Do you think teachers in this school have what it takes to meet the goal you described?

Why?

What kinds of things make it most difficult for the faculty to achieve the goal you

identified?

How do you know when the school has met the goal?

Are there other goals you would like to mention? (If not mentioned ask about the state

assessment as a goal.)

Collective Learning:

What opportunities do you have to work with other teachers? (Probe for different kinds

of opportunities (formal and informal)?

Do you enjoy these experiences?

How do you benefit from them?

What are the most beneficial types of work with other teachers? Why?

Is it good for the school to have teachers work together? Why?

Do teachers in this school work well together?

When having difficulty who do you go to for help? Tell me why you choose these

persons? How did you know they could help? What type of help do you get from them?

(After the teacher responds ask, I would like to know why you did not mention these

persons that I thought you would. (If not mentioned ask about administrators, specialist

teachers, grade level team)

Supportive leadership

Does the administration support teachers in this school? What kind of support do you get

form the administration?

When and where do you interact with the administrators?

What kind of support you value the most and why?

Is there support you think you should be getting that you are not?

Supportive Conditions

How would you describe the atmosphere of this school?

What helps create the atmosphere?

Do teachers get along well?

Appendix B: Second Teacher Interview Protocol

Interviewee Code:

Date:

Time:

Location:

Shared Personal Practice

Can you tell me about the opportunity you had to observe a third grade classroom

teacher?

What did you think about what you observed?

How did you benefit from this experience?

Do you think the other teacher benefitted from your being in their classroom?

Is this a common practice at this school?

Would you want to do this again? Why?

Observations

I would like to discuss some of the meetings/interactions I observed

Refer to a meeting/interaction and ask questions (as relevant):

What was the purpose of the meeting/interaction?

What do you think went well?

What did not go so well?

What information was presented? How do you feel about the information that was

presented? Why do you feel this way?

Did you benefit from being there?

How often do you have this kind of meeting/interaction?

Did you learn from the other teachers there?

How does this kind of meeting/interaction affect how you feel about the faculty?

Did you learn from the administrators at the meeting/interaction?

Do you think it was helpful to other teachers?

In our previous conversation you mentioned a main goal of the school. How does this

meeting/interaction help the faculty achieve the goal you described?

Appendix C: Administrator Interview Protocol

Interviewee Code:

Date:

Time:

Location:

How long have you been an educator?

How long have you been in your current position?

Schools are asked to pursue many goals and accomplish many things. Of all the things this school is trying to achieve what do you think is the most important?

Do you think the teachers have the same goal? Why of why not?

How do you communicate this goal to teachers?

Do you think teachers in this school can achieve the goal you identified?

How can you tell if the school is achieving the goal you identified?

What kinds of things make it difficult for teachers to achieve the goal you identified?

How would you describe the atmosphere of this school?

What helps create the atmosphere?

How do you judge teacher success?

How do you recognize/celebrate faculty success?

What is the most important student success measure? Is the importance of this measure conveyed to the faculty?

Considering the success measure you mentioned what occurs in this school when students are successful? What happens when students are not successful?

How do you discuss student success of low achievement with teachers?

Could you describe the work you do with teachers focused on improving instruction.

When the teachers are having difficulty what kind of supports are available for them?

How often do teachers in this school have opportunities to work together?

Could you describe some of these opportunities?

How do you encourage/help teachers work together?

Bibliography

Achinstein, B. (2002). Conflict amid community: The micropolitics of teacher
collaboration. *Teachers College Record*, 104, 421-455.

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

Alavi, S. B. & McCormick, J. (2008). The roles of perceived task interdependence and
group members' interdependence in the development of collective efficacy in
university student group contexts. *British Journal of Educational Psychology*, 78,
375-393.

Ashton, P. T. & Webb, R. B. (1986). *Making a difference: Teachers' sense of efficacy
and student achievement.* White Plains, NY: Longman.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change.
Psychological Review, 84, 191-215.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive
theory.* Englewood Cliffs, NJ: Prentice-Hall.

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

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

Bandura, A. (2000). Exercise of human agency through collective efficacy. *Current
Directions in Psychological Science*, 9, 75-78.

Barnett, K., & McCormick, J. (2004). Leadership and individual principal-teacher relationships in schools. *Educational Administration Quarterly, 40*(3), 406-434. doi: 10.1177/0013161x03261742

Beazley, P. (2007). *Qualitative data analysis with NVivo* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Bogdan, R. C. & Biklen, S. K. (1998). *Qualitative research for education: An introduction to theory and methods* (3rd ed.). Boston: Allyn & Bacon.

Bolman, L., & Deal, T. (2003). *Reframing organizations: Artistry, choice, and leadership*. San Francisco: Jossey-Bass.

Bolam, R., McMahon, A., Stoll, L., Thomas, S., & Wallace, M. (2005). *Creating and sustaining professional learning communities*. Research Report Number 637. London, England: General Teaching Council for England, Department for Education and Skills.

Bruce, C. D., Esmonde, I., Ross, J., Dookie, L., & Beatty, R. (2010). The effects of sustained classroom-embedded teacher professional learning on teacher efficacy and related student achievement. *Teaching and Teacher Education*, 26, 1598-1608.

Bryk, A. S., Sebring, P. B., Allensworth, E., Luppescu, S., & Easton, J.Q. (2009). Organizing schools for improvement: Lessons from Chicago. Chicago: University of Chicago Press.

Cantrell, S. C., & Callaway, P. (2008). High and low implementers of content literacy instruction: Portraits of teacher efficacy. *Teaching and Teacher Education*, 24, 1739-1750.

Ciani, K. D., Summers, J. J., & Easter, M. A. (2008). A "top-down" analysis of high

    school teacher motivation. *Contemporary Educational Psychology*, 33, 533-560.

Coburn, C. E. (2001). Shaping teacher sensemaking: School leaders and the enactment

    of reading policy. Education Policy, 19, 476-509.

Creswell, J. W. (1998). *Qualitative research inquiry and research design: Choosing*

    among five traditions. Thousand Oaks, CA: Sage.

Curry, M. (2008). Critical Friends Groups: The Possibilities and Limitations Embedded

    in Teacher Professional Communities Aimed at Instructional Improvement and

    School Reform. *Teachers College Record, 110*(4), 733-774.

Darling-Hammond, L. & McLaughlin, M.W. (1995, April). Policies that support

    professional development in an era of reform. *Phi Delta Kappan,* 76(8), 597-604.

Dearman, C. C. & Alber, S. R. (2005). Then changing face of education: Teachers cope

    with challenges through collaboration and reflective study. *The Reading Teacher,*

    58, 634-640.

Demir, K. (2008). Transformational Leadership and Collective Efficacy: The Moderating

    Roles of Collaborative Culture and Teachers' Self-Efficacy. *Egitim*

    Arastirmalari-Eurasian Journal of Educational Research, 8(33), 93-112.

Denzin, N. K., & Lincoln, Y. S. (1994). Handbook of qualitative research. Thousand

    Oaks, CA: Sage.

DeRue, D. S., Hollenbeck, J. R., Ilgen, D. R., & Feltz, D. (2010). Efficacy dispersion in

    teams: Moving beyond agreement and aggregation. *Personnel Psychology, 63*(1),

    1-40.

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

Dussault, M., Payette, D., & Leroux, M. (2008). Principals' transformational leadership and teachers' collective efficacy. *Psychological Reports, 102*(2), 401-410. doi: 10.2466/pr0.102.2.401-410

Elster, D. (2009). Biology in Context: teachers' professional development in learning communities. *Journal of Biological Education, 43*(2), 53-61.

Evans, A. (2009). No Child Left behind and the quest for educational equity: The role of teachers' collective sense of efficacy. *Leadership and Policy in Schools*, 8. 64-91.

Feger, S., & Arruda, E. (2008). *Professional learning communities: Key themes from the literature*. Providence, RI: The Education Alliance, Brown University.

Fernandez-Ballesteros, R., Nicolas, J., Caprara, G. V., Barbaranelli, C., & Bandura, A. (2002). Determinants and structural relation of personal to collective efficacy. *Applied Psychology: An International Review*, 51, 107-125.

Geijsel, F. P., Sleegers, P. J. C., Stoel, R. D., & Kruger, M. L. (2009). The Effect of Teacher Psychological and School Organizational and Leadership Factors on Teachers' Professional Learning in Dutch Schools. *Elementary School Journal*, 109, 406-427.

Gibson, S. & Dembo, M. H. (1984). Teacher efficacy: A construct validation. *Journal of Educational Psychology, 76,* 569-582.

Gibson, C. B. & Earley, P. C., (2007). Collective cognition in action: Accumulation, interaction, examination, and accommodation in the development and operation of group efficacy beliefs in the workplace. *Academy of Management Review*, 32, 438-458.

Goddard, R. D. (2001). Collective efficacy: A neglected construct in the study of schools and student achievement. *Journal of Educational Psychology, 93,* 467-476.

Goddard, R. D. (2002). Collective efficacy and school organization: A multilevel analysis of teacher influence in schools. *Theory and Research in Educational Administration*, 1, 169-184.

Goddard, Y. L., Goddard, R. D., & Tschannen-Moran, M. (2007). A theoretical and empirical investigation of teacher collaboration for school improvement and student achievement in public elementary schools. Teachers College Record, 109, 877-896.

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

Goddard, R. D., LoGerfo, L., & Hoy, W. K. (2004). High school accountability: The role of perceived collective efficacy. *Educational Policy, 18,* 403-425.

Grossman, P., Wineburg, S., & Woolworth, S. (2001). Toward a theory of teacher community. *Teachers College Record*, 103, 942-1012.

Gully S. M., Incalcaterra, K. A., Joshi, A., & Beaubien, J. M. (2002). Journal of Applied Psychology, 5, 819-832.

Hall, G. E. & Hord, S. M. (2001). *Implementing change: Patterns, principles, and potholes*. Needham Heights, MS: Allyn and Bacon.

Hargreaves, A. (1993). Individualism and individuality: Reinterpreting the teacher culture. In J. W. Little & M. W. McLaughlin (Eds.), *Teachers' work: Individuals, colleagues, and contexts*. New York: Teachers College Press.

Henson, R. K. (2002). From adolescent angst to adulthood: Substantive implications and measurement dilemmas in the development of teacher efficacy research. *Educational Psychologist, 37,* 137-150.

Hord, S. M. (1997). *Professional learning communities: Communities of continuous inquiry and improvement (Revised edition).* Austin, TX: Southwest Educational Development Laboratory.

Hord, S. M. (2000). *Multiple mirrors: Reflections on the creation of professional learning communities.* Austin, TX: Southwest Educational Development Laboratory.

Hord, S.M., Ed. (2004). *Learning together: Leading together: Changing schools through professional learning communities.* New York: Teachers College Press.

Horn, I. S. (2010). Teaching Replays, Teaching Rehearsals, and Re-Visions of Practice: Learning From Colleagues in a Mathematics Teacher Community. *Teachers College Record, 112*(1), 225-259.

Horn, I. S., & Little, J. W. (2010). Attending to Problems of Practice: Routines and Resources for Professional Learning in Teachers' Workplace Interactions. *American Educational Research Journal, 47*(1), 181-217. doi: 10.3102/0002831209345158

171

Hoy, W. K., Sweetland, S. R., & Smith, P. A. (2002). Toward an organizational model of achievement in high schools: The significance of collective efficacy. *Educational Administration Quarterly, 38*(1), 77-93.

Huffman, J.B. & Hipp, K.K. (2003). *Reculturing schools as professional learning communities.* Lanham, MD: Scarecrow Education.

Hughes, T. A., & Kritsonis, W. A. (2007). *Professional learning communities and the positive effects on achievement: A national agenda for school improvement.* Retrieved from

http://www.allthingsplc.info/pdf/articles/plcandthepositiveeffects.pdf

Husu, J., & Tirri, K. (2007). Developing whole school pedagogical values - A case of going through the ethos of "good schooling". *Teaching and Teacher Education, 23*(4), 390-401. doi: 10.1016/j.tate.2006.12.015

Jung, D. I. & Sosik, J. J. (2002). Transformational leadership in work groups: The role of empowerment, cohesiveness, and collective-efficacy on perceived group performance. *Small Group Research*, 33, 313-336.

Jung, D. I. & Sosik, J. J. (2003). Group potency and collective efficacy: Examining their predictive validity, level of analysis, and effects of performance feedback on future group performance. *Group & Organization Management*, 28, 366-391.

Katz-Navon, T. Y. & Erez, M. (2005). When collective- and self-efficacy affect team performance: The role of interdependence. *Small Group Research*, 36, 437-465.

King, M. B. & Newmann, F. M. (2000). Will teacher learning advance school goals? *Phi Delta Kappan, 576-580.*

Klassen, R. M. (2010). Teacher stress: The mediating roles of collective efficacy beliefs. The *Journal of Educational Research*, 103, 342-350.

Klassen, R. M., Usher, E. L., & Bong, M. (2010). Teachers' Collective Efficacy, Job Satisfaction, and Job Stress in Cross-Cultural Context. *Journal of Experimental Education, 78*(4), 464-486. doi: 10.1080/00220970903292975

Kurz, T. B., & Knight, S. L. (2003). An exploration of the relationship among teacher efficacy, collective teacher efficacy, and goal consensus. *Learning Environments Research*, 7, 111-128.

Labone, E. (2004). Teacher efficacy: Maturing the construct through research in alternative paradigms. *Teaching and Teacher Education, 20,* 341-359.

Le Cornu, R. (2010). Changing roles, relationships and responsibilities in changing times. *Asia-Pacific Journal of Teacher Education, 38*(3), 195-206. doi: 10.1080/1359866x.2010.493298

Leithwood, K., & Jantzi, D. (2006). Transformational school leadership for large-scale reform: Effects on students, teachers, and their classroom practices. *School Effectiveness and School Improvement, 17*(2), 201-227. doi: 10.1080/09243450600565829

Leithwood, K., Patten, S., & Jantzi, D. (2010). Testing a Conception of How School Leadership Influences Student Learning. *Educational Administration Quarterly, 46*(5), 671-706. doi: 10.1177/0013161x10377347

Leo, T., & Cowan, D. (2000). Launching professional learning communities: Beginning actions. *Issues about Change, 8*(1) 1-16. Retrieved from http://www.sedl.org/change/issues/issues81/issues-8.1.pdf

Levine, T. H., & Marcus, A. S. (2010). How the structure and focus of teachers'
collaborative activities facilitate and constrain teacher learning. *Teaching and
Teacher Education, 26*(3), 389-398. doi: 10.1016/j.tate.2009.03.001

Little, J. W. (1982). Norms of collegiality and experimentation: Workplace conditions
of school success. *American Educational Research Journal*, 19, 325-340.

Little, J. W. (1992). Opening the black box of professional community. In A. Lieberman
(Ed.), *The changing contexts of teaching* (pp. 157-178). Chicago: The National
Society for the Study of Education.

Little, J. W. (1999). Organizing schools for teacher learning. In L. Darling-Hammond
& G. Sykes, (Eds.), *Teaching as the learning profession: Handbook of policy and
practice* (pp. 151-179).

Little, J. W. (2003). Inside teacher community: Representations of classroom practice.
Teachers College Record, 105, 913-945.

Looney, L. (2004). *Understanding teachers' efficacy beliefs: The role of professional
community* (Doctoral dissertation). Retrieved from Proquest. (UMI 3114755).

Lortie, D. C. (1975). *Schoolteacher: A sociological study*. Chicago: The University of
Chicago Press.

Louis, K. S. (2006). Changing the culture of schools: Professional community,
organizational learning, and trust. *Journal of School Leadership, 16*(5), 477-489.

Louis, K.S. & Kruse, S. D. (1995). Getting there: Promoting professional community in
urban schools. In K. S. Louis & S. D. Kruse (Eds.), *Professionalism and
community: Perspective on reforming urban schools*. Thousand Oaks, CA:
Corwin Press.

Louis, K. S., Kruse, S. D. & Bryk, A. S. (1995). An emerging framework for analyzing

school-based professional community. In *Professionalism and community:*

Perspective on reforming urban schools (pp.23-44). Thousand Oaks, CA:

Corwin Press.

Louis, K. S. & Marks, H. M. (1998). Does professional community affect the classroom?

Teachers' work and student experiences in restructuring schools. *American*

Journal of Education, *106*, 532-575.

Louis, K. S., Marks, H. M. & Kruse S. D. (1996). Teachers' professional community in

restructuring schools. *American Educational Research Journal*, 33, 757-800.

Marshall, C. & Rossman, G. B. (1999). *Designing qualitative research*. Thousand

Oaks: Sage Publications.

Mathieu, J. E., Maynard, M. T., Rapp, T. L., & Mangos, P. M. (2010). Interactive Effects

of Team and Task Shared Mental Models as Related to Air Traffic Controllers'

Collective Efficacy and Effectiveness. *Human Performance,* 23, 22-40..

Mawhinney, H.B., Haas, J. & Wood, C. (2005). Teachers' collective efficacy beliefs in

professional learning communities. *Leading & Managing, 11, 12*-45.

Mawhinney, H.B., Wood, C. & Haas, J. (2006a, April). *Scaling up school instructional*

capacity through enhanced collective efficacy in professional learning

communities. Paper presented at the annual meeting of the American Educational

Research Association, San Francisco, CA.

Mawhinney, H.B., Wood, C. & Haas, J. (2006b, April). *Teachers' perception of*

influences on their collective efficacy beliefs. Paper presented at the annual

meeting of the American Educational Research Association, San Francisco, CA.

Maxwell, J. A. (1996). *Qualitative research design: An interactive approach.* Thousand Oaks, CA: Sage Publications.

McCoach, D. B., & Colbert, R. D. (2010). Factors Underlying the Collective Teacher Efficacy Scale and Their Mediating Role in the Effect of Socioeconomic Status on Academic Achievement at the School Level. *Measurement and Evaluation in Counseling and Development, 43*(1), 31-47. doi: 10.1177/0748175610362368

McLaughlin M. W. & Talbert, J. E. (2001). *Professional communities and the work of high school teaching.* Chicago: University of Chicago Press.

Merriam, S. B. (1988). *Case study research in education: A qualitative approach.* San Francisco, CA: Jossey-Bass.

Miles, M. B. & Huberman, A. M. (1994). *Qualitative data analysis* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Merriam, Sharan, B. (1988). Case study research in education. San Francisco, CA: Jossey-Bass.

Moore, W. P. & Esselman, M. E. (1994, April). *Exploring the context of teacher efficacy: The role of achievement and climate.* Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

Olivier, D. F. & Hipp, K. K. (2006). Leadership capacity and collective efficacy: Interacting to sustain student learning in a professional learning community.

Palmer, D. H. (2006). Sources of self-efficacy in a science methods course for primary teacher education students. *Research in Science Education, 36*(4), 337-353. doi: 10.1007/s11165-005-9007-0

Paraskeva, F., Bouta, H., & Papagianni, A. (2008). Individual characteristics and

    computer self-efficacy in secondary education teachers to integrate technology in

    educational practice. *Computers & Education, 50*(3), 1084-1091. doi:

    10.1016/j.compedu.2006.10.006

Printy, S. M. (2008). Leadership for teacher learning: A community of practice

    perspective. *Educational Administration Quarterly, 44*(2), 187-226. doi:

    10.1177/0013161x07312958

Putnam, R. T. & Borko, H. (2000). What do new views of knowledge and thinking have

    to say about research on teacher learning? *Educational Researcher 29,* 4-15.

Quinn, J. (2009). *Teacher sense-making and policy implementation: A qualitative case*

    study of a school system's reading initiative in science (Doctoral dissertation).

    Retrieved from Proquest. (AAT 3372905)

Reichstetter, R. (2006). Defining a professional learning community: A literature review.

    E&R Research Alert, #06.05. Retrieved from http://www.wcpss.net/evaluation-

    research/reports/2006/0605plc_lit_review.pdf

Retallick, J. (1999). Transforming schools in learning communities: Beginning the

    journey. In J. Retallick, B. Cocklin, & K. Coombe (Eds.), *Learning communities*

    in education. New York: Routledge.

Ross, J. A. (1992). Teacher efficacy and the effects of coaching on student achievement.

    Canadian Journal of Education, 17, 51-65.

Ross, J. A. (1994a, June). *Beliefs that make a difference: The origins and impacts of*

    Teacher efficacy. Calgary, Alberta, Canada. Paper presented at the annual

    meeting of the Canadian Association for Curriculum Studies.

Ross, J. A. & Cousins, J. B. (1993). Enhancing secondary school students' acquisition of correlational reasoning skills. *Research in Science and Technological Education, 11,* p. 191-205.

Ross, J. A., Cousins, J. B., Gadalla, T., & Hannay, L. (1999). Administrative assignment of teachers in restructuring secondary schools: The effect of out-of-field course responsibility on teacher efficacy. *Educational Administration Quarterly, 35*, 782-805.

Ross, J. A., & Gray, P. (2006). Transformational leadership and teacher commitment to organizational values: The mediating effects of collective teacher efficacy. *School Effectiveness and School Improvement, 17*(2), 179-199. doi: 10.1080/09243450600565795

Ross, J.A., Hogaboam-Gray, A. & Gray, P. (2004). Prior student achievement, collaborative school processes, and collective teacher efficacy. *Leadership and Policy in Schools, 3*, 163-188.

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs*, 80, 1-28.

Sargent, T. C., & Hannum, E. (2009). Doing More With Less Teacher Professional Learning Communities in Resource-Constrained Primary Schools in Rural China. *Journal of Teacher Education, 60*(3), 258-276. doi: 10.1177/002248710933727

Schaubroeck, J., Lam, S. S. K., & Cha, S. E. (2007). Embracing transformational leadership: Team values and the impact of leader behavior on team performance. *Journal of Applied Psychology, 92*(4), 1020-1030. doi: 10.1037/0021-9010.92.4.1020

Scott, W. R. (2002). *Organizations: Rational, Natural, and Open Systems*. Upper

    Saddle River, NJ: Prentice Hall.

Shank, M. J. (2006). Teacher storytelling: A means for creating and learning within a

    collaborative space. *Teaching and Teacher Education, 22*(6), 711-721. doi:

    10.1016/j.tate.2006.03.002

Singh, K., & Billingsley, B. S. (1998). Professional support and its effects on teachers'

    commitment. *Journal of Educational Research, 91*(4), 229-239.

Skerrett, A. (2010). "There's going to be community. There's going to be knowledge":

    Designs for learning in a standardised age. *Teaching and Teacher Education,

    26*(3), 648-655. doi: 10.1016/j.tate.2009.09.017

Stake, R.E. (1995). *The Art of Case Study Research*. Thousand Oaks, CA: Sage.

Strahan, D. (2003). Promoting a collaborative professional culture in three elementary

    schools that have beaten the odds. *The Elementary School Journal, 104*(2), 127-

    146.

Supovitz, J. A. (2002). Developing communities of instructional practice. *Teachers

    College Record, 104,* 1591-1626.

Supovitz, J., Sirinides, P., & May, H. (2010). How Principals and Peers Influence

    Teaching and Learning. *Educational Administration Quarterly, 46*(1), 31-56. doi:

    10.1177/1094670509353043

Sztajn, P., Hackenberg, A. J., White, D. Y., & Allexsaht-Snider, M. (2007).

    Mathematics professional development for elementary teachers: Building trust

    within a school-based mathematics education community. *Teaching and Teacher

    Education*, 23, 970-984.

Tabernero, C., Chambel, M. J., Curral, L., & Arana, J. M. (2009). The role of task-oriented versus relationship-oriented leadership on normative contract and group performance. *Social Behavior and Personality, 37*(10), 1391-1404. doi: 10.2224/sbp.2009.37.10.1391

Tasa, K., Taggar, S., & Seijts, G. H. (2007). The development of collective efficacy in teams: A multilevel and longitudinal perspective. *Journal of Applied Psychology, 92*(1), 17-27. doi: 10.1037/0021-9010.92.1.17

Tschannen-Moran, M. (2009). Fostering Teacher Professionalism in Schools The Role of Leadership Orientation and Trust. *Educational Administration Quarterly, 45*(2), 217-247. doi: 10.1177/0013161x08330501

Tschannen-Moran, M. & Barr, M. (2004). Fostering student learning: The relationship of collective teacher efficacy and student achievement. *Leadership and Policy in Schools, 3,* 189-209.

Tschannen-Moran, M., & Hoy, W. K. (2000). A multidisciplinary analysis of the nature, meaning, and measurement of trust. *Review of Educational Research, 70*(4), 547-593.

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

Tucker, C. M., Porter, T., Reinke, W. M., Herman, K. C., Ivery, P. D., Mack, C. E., & Jackson, E. S. (2005). Promoting teacher efficacy for working with culturally diverse students. *Preventing School Failure, 50,* 29-34.

Valli, L., Croninger, R. G., Chambliss, M. J., Graeber, A. O., & Buese, D. (2008). *Test driven: High-stakes accountability in elementary schools.* New York, NY: Teachers College Press.

Vescio, V., Ross, D., & Adams, A. (2008). A review of research on the impact of professional learning communities on teaching practice and student learning. *Teaching and Teacher Education, 24*(1), 80-91. doi: 10.1016/j.tate.2007.01.004

Wahlstrom, K. L., & Louis, K. S. (2008). How teachers experience principal leadership: The roles of professional community, trust, efficacy, and shared responsibility. *Educational Administration Quarterly, 44*(4), 458-495. doi: 10.1177/0013161x08321502

Walumbwa, F. O., Wang, P., Lawler, J. J., & Shi, K. (2004). The role of collective efficacy in the relations between transformational leadership and work outcomes. *Journal of Occupational and Organizational Psychology, 77*, 515-530.

Ware, H., & Kitsantas, A. (2007). Teacher and collective efficacy beliefs as predictors of professional commitment. *Journal of Educational Research, 100*(5), 303-310.

Watson, C. B., Chemers, M. M., & Preiser, N. (2001). Collective efficacy: A multilevel analysis. *Personality and Social Psychology Bulletin, 27*(8), 1057-1068.

Webb, R., Vulliamy, G., Sarja, A., Hamalainen, S., & Poikonen, P. L. (2009). Professional learning communities and teacher well-being? A comparative analysis of primary schools in England and Finland. *Oxford Review of Education, 35*(3), 405-422. doi: 10.1080/03054980902935008

Wheatley, K. F. (2002). The potential benefits of teacher efficacy doubts for educational reform. *Teaching and Teacher Education, 18,* 2-22.

Wong, J. L. N. (2010). What makes a professional learning community possible? A case study of a Mathematics department in a junior secondary school of China. *Asia Pacific Education Review, 11*(2), 131-139. doi: 10.1007/s12564-010-9080-6

Woolfolk Hoy, A., & Burke-Spero, R. (2005). Changes in teacher efficacy during the early years of teaching: A comparison of four measures. Teaching and Teacher Education, 21, 343-356.

Wu, J. B., Tsui, A. S., & Kinicki, A. J. (2010). Consequences of differentiated leadership in groups. *Academy of Management Journal, 53*(1), 90-106.

Yin, R. K. (2003). *Case study research: Design and methods* (3rd ed.). Thousand Oaks, CA: Sage Publications.

Youngs, P., & King, M. B. (2002). Principal leadership for professional development to build school capacity. *Educational Administration Quarterly, 38*(5), 643-670. doi: 10.1177/0013161x02239642

Zambo, R., & Zambo, D. (2008). The impact of professional development in mathematics on teachers' individual and collective efficacy: The stigma of underperforming. *Teacher Education Quarterly*, 35, 159-168.