

## ABSTRACT

Title of Dissertation: AN ANALYSIS OF THE ELEMENTS OF THE PROFESSIONAL LEARNING COMMUNITIES INSTITUTE AND ITS RELATIONSHIP TO THE SOURCES OF COLLECTIVE EFFICACY

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Educating students to meet high accountability standards and even more importantly preparing students to be competitive in a complex and demanding world requires schools to become high functioning organizations. This mixed-method study examined the relationship between professional learning communities and the collective efficacy in 10 elementary schools that participated in the Professional Learning Communities Institute (PLCI) in a large suburban school district outside Washington, DC. The implementation of the PLCI allowed the researcher to analyze these relationships in schools receiving structured and deliberate professional development in becoming professional learning communities as well as the effect this experience had on the beliefs of the group about their ability to make a difference for their students. The researcher analyzed survey and interview data through the lens of the characteristics of professional learning communities as outlined by Hord (1997) and the sources of efficacy as defined by Bandura (1997).

The findings from this study revealed a significant relationship between the five dimensions of professional learning communities and collective efficacy. The characteristics of professional learning communities of shared leadership, shared vision, collective learning, supportive conditions, and shared personal practice work in a school organization to strengthen the collective efficacy of staff. The professional development that the schools received in becoming professional learning communities promoted collective efficacy.

Although the 10 schools demonstrated strong collective efficacy, in general, there were some differences between schools. This study found that some variables influenced the perceived collective efficacy in the schools surveyed. There was a moderate inverse significant relationship between poverty level and collective efficacy. Low-poverty schools had higher collective efficacy than high-poverty schools. The length of time that teachers were in their current school was mildly related to the collective efficacy in that school. There was a negative mild relationship between the teachers' number of years of experience and the poverty level of the school.

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by

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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 Education  
2009

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## ACKNOWLEDGMENTS

I have always been someone who thrives on learning, and the completion of a dissertation at this point of my career is the ultimate symbol of being a life-long learner. This doctoral partnership between the Montgomery County Public Schools and the University of Maryland has enabled me to attain a life-long personal goal. I want to thank the professors who provided excellent teaching and mentoring throughout. I am also indebted to my colleagues and fellow students in the MCPS cohort who continually shared their knowledge and experiences.

I have been fortunate to have great opportunities in my work life, and I am most appreciative of working in the Montgomery County Public Schools. I want to thank Dr. Jerry Weast, Mr. Larry Bowers and Dr. Frieda Lacey who provided guidance and support as the initial inspiration for this study was the Focused School Improvement Project, which became the Professional Learning Communities Institute. No one was a more enthusiastic supporter and helper than Charlene Danka, and I thank you.. I want to acknowledge the help of the staff of the PLCI, Michael Kline, Joan Mory, Paul Salatto, and Carlene Butt-Pruitt for providing the historic PLCI documents. Moreover, to Jamie Virga who was instrumental in implementing the PLCI and whose leadership of Viers Mill Elementary inspired one of the case studies, my thanks for supporting my research. A special thank you to Jody Leleck who is the most efficacious person I know.

I want to thank my dissertation committee, Dr. Parham, Dr. Weible, Dr. Richardson, Dr. Marx and Dr. Arbogast who have given their time and expertise to guide me in this quest. I would like to acknowledge Dr. Duane Arbogast who never failed to provide concrete and helpful feedback. Your positive encouragement motivated me

throughout the development of my proposal through the defense of my research. Dr. Carol Parham's leadership and support has been instrumental throughout this whole process. Thank you for your patience and the high standards that you have set. I would like to acknowledge Dierdre Williams and Justin van Fleet for their time and constructive feedback regarding my presentations.

Such a major project cannot be completed without help. I appreciate the support and assistance of the trailblazers of the doctoral cohort, Dr. Myra Smith and Dr. Ocheze Joseph. You have been generous with your advice and assistance. Thank you to Steven Fink who provided expertise to support the quantitative aspects of my study. To Mary Lou Sommardahl, I appreciate your attention to detail and your expertise in formatting and editing my paper. I also want to thank the staff of the schools in the second cohort the Professional Learning Communities Institute, and particularly the teachers and administrators that I interviewed in four schools. Your commitment to the success of students is apparent by your doing whatever it takes to ensure that students learn at high levels.

To Richard, Rachel and Alex, my wonderful family who have been my greatest fans and supports, you are the best. Taking on another major activity meant that you would see even less of me; however, you understood how important attaining this goal was for me and allowed me this indulgence. I hope that the completion of this dissertation demonstrates that family, friends and colleagues are the strongest sources of efficacy that a person can find.

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## CHAPTER ONE: INTRODUCTION

### Overview

The No Child Left Behind (NCLB) Act of 2001 requires stronger accountability for all school districts to ensure that all students reach proficient or advanced levels of performance. To meet the NCLB requirements and to reach the targeted goals for all subgroups of students by 2014, school districts are identifying the approaches and strategies that will support all students' meeting proficiency standards. To meet these high accountability standards, administrators and teachers need to develop a coherent plan outlining how schools are organized and how school staff work together to increase student results (Hord, 1997, DuFour & Eaker, 1998; Elmore & Burney, 1999; Olivier, 2001; Haas, 2005). Although individual schools and classrooms may be successful in meeting the NCLB targets for all student groups, every school system is accountable; therefore, individual successes at the school and classroom level must be replicable. Olivier suggested that the essence of school reform and improvement is really a focus on school change.

Cuban (1990) identified school reform and the changes that schools go through on two levels. First-order change or surface-level changes are those that improve the effectiveness and efficiency of an organization. Second-order changes endeavor to change the way organizations work and are implemented by ensuring that goals, structures, and roles are aligned. A first-order change can be compared to the motor of a car working efficiently. Second-order change compares to redesign of the motor to ensure that the car gets good gas mileage. For school reform to be sustained, schools need to focus on the second-order changes. Fullan (1991) affirmed that these deeper changes

must affect the structure of schools. Fullan (2006) stated, “The work of transforming schools means all or most schools and this means it is a system change. For system change to occur on a larger scale, we need schools learning from each other and districts learning from each other” (p. 10). The specific organizational structures in place to support teaching and learning are critical to increasing student achievement.

There is evidence that student achievement improves when educators have the opportunity to work together and share information about students and teacher practice.

Meier (1992) stated,

At the very least one must imagine schools in which teachers are in frequent conversation with each other about their work, have easy and necessary access for each other’s classrooms, take it for granted that they should comment on each other’s work, and have the time to develop common standards for student work. (p. 602)

How best can teachers learn and increase their capacity to ensure that students are learning? Little (1999) wrote,

Teacher learning comes from close involvement with students and their work, shared responsibility for student progress, sensibly organized time and space, access to the expertise of colleagues inside and outside the school, focused and timely feedback on one’s own work, and an overall ethos in which teacher learning is valued. (p. 233)

During the past 10 years, there has been a substantial amount of discussion and literature about the importance of teachers’ working together (Darling-Hammond & McLaughlin, 1995, 1999; DuFour, 2004; Elmore & Burney 1999); however, often there are no formal organizational structures in schools that support teacher collaboration. Frequently, teachers are left on their own to find time to discuss their practice, review student work, and support one another. Teaching is a complex and challenging profession; effective teaching requires a great deal of expertise, energy, and enthusiasm (Little, 1999).

Building the capacity of teachers and looking at the ways schools are organized must be at the forefront of any school reform.

At the heart of any reform effort is the improvement of teaching and learning. According to Rosenholtz (1989), there has been an enormous amount of evidence that teachers have a significant impact on efforts to change schools and on the nature of students' experiences, whatever the formal policies and curricula of a school or classroom might be. Many districts have increased their budgets to focus on enhancing the professional development of teachers and have provided time for teachers to meet and plan together. Guskey (2000) linked the improvement of teaching and learning to the professional development that teachers receive. Darling-Hammond (1996, 1998) has written extensively that teacher development is at the core of improved teaching and learning.

What then are the most effective types of professional development that can increase teachers' effectiveness? Fullan, Bertani and Quinn (2004) contended that schools are beginning to discover that new ideas, knowledge creation, inquiry, and sharing are essential to improved teaching and learning. Accordingly, Fullan (1996) asserted that two strategies should be supported: (a) "networking" and (b) changing the nature of learning and teaching through "reculturing and restructuring." These strategies emphasize a coherent approach to professional development. There is a need for a new look at the ways schools are organized as well as the roles of teachers. According to Fullan (1996), schools cannot continue to function with teachers' staying in their rooms and limiting their discussions to planning the next field trip. To move school reform to scale, the cultures and structures of schools and classrooms must change to support



greater collaboration, new uses of time, and continuous teacher development. Darling-Hammond (1996) purported that teachers learn best by doing, reading, reflecting through collaboration with other teachers, looking at student work, and sharing what they see. Schools need to develop structures that increase opportunities for teachers to engage in communities of practice. It seems logical that districts need to implement strategies to reduce the isolation of teachers, encourage teachers to be learners, and provide a variety of activities that support teacher professional development (Darling-Hammond, 1996).

The emergence of professional learning communities provides the environment for teachers to come out of their classrooms and collaborate with other colleagues, reflect upon their practice, test new ideas, and process new information (Morrissey, 2000b). Professional learning communities have become a promising approach for school improvement (Olivier, 2001). A professional learning community engages the group in coming together for the purpose of reflecting upon their collective capacity to address the learning needs of students (DuFour & Eaker, 1998). Hord (1997) completed an extensive review of the literature about professional learning communities and identified five dimensions of a professional learning community: (a) supportive and shared leadership, (b) shared values and vision, (c) collective learning and application of learning, (d) supportive conditions, and (e) shared personal practice. There is strong evidence of benefits for both teachers and students in schools where professional learning communities have been implemented (Thiessen & Anderson, 1999; Smylie & Hart, 1999).

Professional learning communities represent a strategy for school change; implicit in the concept of a professional learning community is the group's coming together

within the organization to create a learning organization (Senge, 1990). A professional learning community therefore is a place where people are continually learning together (Senge). Leithwood and Louis (1998) asserted that the task of reform is to design an organization capable of productively responding to the high-stakes accountability needs of schools. The effectiveness of professional learning communities should be viewed not only with regard to the overall improvement of teachers' experiences in schools but also with regard to the impact on teacher attitudes and practices that ultimately affect student achievement. Newmann and Wehlage (1995) discussed professional learning communities as a means for improving the organizational capacity of schools.

Another topic of research related to organizational learning that has reflected a positive correlation to student achievement is the area of teacher beliefs. Studies have indicated that when teachers believe in their own and their colleagues' capabilities to bring about learning, these collective efficacy beliefs can overcome the influence of demographic variables (Bandura, 1993). When teachers demonstrate strong collective efficacy, high student achievement usually occurs (Gibson & Dembo, 1984; Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998; Mawhinney, Haas, & Wood, 2005, 2006; Goddard, Hoy, & Woolfolk-Hoy, 2004). Research has also indicated that collective efficacy impacts student achievement by creating school norms that motivate teacher persistence (Mawhinney et al.; Goddard, Tschannen-Moran & Hoy, 2001). Goddard (2002a) found that when teachers had influence over instructionally relevant decisions, they demonstrated higher perceived collective efficacy. Goddard et al. stated, "The results of Goddard's study, suggest the need for practices that enable group members to exert influence and exercise organizational agency" (p. 10). Engaging in professional learning

communities is one way to have teachers work together. Goddard et al. reiterated Bandura's (1997) observation about the importance of organizational support for the group's working together: "Collective efficacy beliefs foster commitment to school goals and gains in student achievement" (Goddard et al., p. 10). When individuals have strong beliefs about their capabilities to make a difference for students, this belief system translates to teachers' exhibiting greater levels of planning and organization (Allinder, 1994) and teachers' being open to new ideas and willing to take risks (Guskey, 1988 1998). Additionally, research has found in environments with collective teacher efficacy that (a) teachers tend to be less critical of students (Ashton & Webb, 1986), (b) teachers are willing to work longer with struggling students (Gibson & Dembo, 1985), and (c) there are fewer referrals of students to special education (Soodak & Podell, 1993). A belief in their capacity to make a difference for students has been identified as a fundamental characteristic for successful teachers as schools struggle to eliminate the achievement gap. In situations in which the achievement gap between White and Asian students and African American and Hispanic students has been narrowed, the success is due to teachers' having demonstrated high expectations for all students (Payne, 1994; Bamberg, 1994; Bembenutty, 2006). Outcomes from research on the perceived collective efficacy beliefs substantiate the relationship between such beliefs by teachers and increased student achievement when race and socioeconomic status (SES) are controlled (Goddard et al.; Goddard & Goddard, 2001; Olivier, 2001; Guskey & Passaro, 1994).

A small but growing area of research has shown positive relationships between schools' being identified as professional learning communities and the collective efficacy of the teachers working in those settings. Lee and Smith (1996) analyzed data on over

12,000 students and 10,000 teachers across 820 high schools and discovered that achievement gains were higher in schools where teachers took collective responsibility for the academic success of students. LoGerfo (2006) reported that the environment in which teachers' work has a strong relationship to the teachers' commitment to student learning. Haas (2005) found that in schools identified as having a higher readiness for being a professional learning community, teachers demonstrated an increased sense of collective efficacy. School structures that enable teachers to participate in decision making, collaborate with colleagues, and receive feedback about the instructional challenges they encounter are related to the collective efficacy beliefs of teachers in such settings.

This study will examine one district's implementation of professional development for selected elementary schools through the Professional Learning Communities Institute (PLCI) and the impact of participating in the PLCI on perceived collective teacher efficacy.

The remainder of this chapter includes information about the Professional Learning Communities Institute, the statement of the problem, the questions to be answered by the study, the potential significance of the study, and the organization of the research study.

### The Professional Learning Communities Institute

In the summer of 2004, the superintendent of a large suburban school district met with the three deputy superintendents of the school system and the presidents of the three employee unions. At that time, the superintendent presented a vision for a collaborative effort between the school system and the unions to identify the organizational structures

that would be instrumental in continuing and sustaining the system's reform of elementary schools.

From this work, the PLCI was developed. Currently beginning its 5<sup>th</sup> year of implementation, the institute provides a forum for selected schools to learn from successful schools within the district that have been identified as having characteristics of professional learning communities. The goal of the professional development is to provide purposeful and intentional training and resources so that schools can become professional learning communities. The professional development includes working with the selected schools, enhancing their school improvement planning experience with a specific focus on training teams from the schools to study and learn. The PLCI provides time and specific training to a core leadership team from each school over a 2-year period. The teams use case studies of three successful schools in the district as well as other case studies from successful businesses and nonprofit institutions as a vehicle for reflection and self-assessment. It is believed that providing time for school teams to build their capacity through the development of professional learning communities will lead to greater change in the knowledge and skills of the teachers at the selected schools, thus leading to improved teaching and learning.

Beginning in 2005, a yearly application process was opened to all 130 elementary schools in the district. Interested elementary schools apply to become a PLCI school by sending a letter outlining how the PLCI will benefit their school. Schools that apply to the PLCI must show evidence that both staff and community support the application to become a PLCI school. A selection panel composed of executive leadership and the three presidents of the employee unions review the applications and determine which schools

will be selected. The number of schools selected each year is based on the budget resources available. The elementary schools that are selected participate in PLCI for a period of 2 years. Since its implementation in 2005, 31 elementary schools have been selected, 11 in 2005, 10 in 2006, 6 in 2007, and 4 in 2008. While participating in the institute, each school receives an additional \$10,000 to support the various PLCI activities.

### Statement of Problem and Research Questions

Implementation of the PLCI in a large, diverse suburban school system provides an opportunity to describe, compare, and analyze the professional development of teachers in the PLCI and to explain how this learning contributes to their collective belief systems about their abilities to make a difference for students.

Inherent in the literature review was the following argument: Within the context of organizational learning, there is a relationship between schools' being organized to facilitate the development of professional learning communities and the collective efficacy of the schools' teachers. There is an assumption that the teachers and administrators in the schools participating in the PLCI will demonstrate a strong sense of perceived collective efficacy due to the experience. This research focused on the influences of the PLCI on the 10 Cohort 2 schools with regard to the components of professional learning communities and perceived collective efficacy. This study sought to address the relationship between the structure of professional learning communities and the characteristics of a professional learning community that may be more strongly linked to the sources of perceived collective efficacy. The research methodology employed a mixed-method approach. A survey combining two reliable survey instruments to collect

information regarding teachers' and administrators' opinions of the professional learning community at their school and their collective efficacy beliefs was administered to teachers and administrators in the selected PLCI schools. Moreover, to obtain more detailed information about the PLCI experience and to understand possible differences between schools interviews were conducted with selected staff from four elementary schools that were found to have differing levels of perceived collective efficacy. The interviews used semistructured questioning that allowed for follow-up questioning. Combining both quantitative and qualitative methods provided the ability to understand in greater depth the impact of the PLCI experience. A conceptual framework based on the characteristics of professional learning communities (Hord, 1997a) and the sources of collective efficacy beliefs delineated by Bandura (1997) was developed to analyze the extent of these relationships.

The central purpose of this research was to ascertain the relationship between participation in a district initiative on creating professional learning communities and the perceived collective efficacy of teachers. One may assume that school faculties involved in deliberate professional development to make their schools professional learning communities have high collective efficacy beliefs. There has not been a great deal of research on the relationship between collective efficacy beliefs and schools' being a professional learning community, and the PLCI provided the environment through which to examine the strength of the relationship and to determine which attributes of professional learning communities may have more influence over the other characteristics. Specifically, this research focused on the following questions:

1. What are the perceptions of the PLCI participants about their school's being a professional learning community?
2. Are there characteristics of professional learning communities that seem to have an influence on perceived collective efficacy of teachers?
3. What are the perceived leadership practices that contribute to the differences in the perception of collective efficacy between PLCI schools?
4. What are the factors that contribute to the differences in the perception of collective efficacy between the PLCI schools?

The research design and the surveys used in this study were based on a variety of studies in the literature, including Haas's (2005) study and the research of Hoy and Miskel (2005); Goddard et al. (2000, 2004), Goddard (2002), Olivier (2001), and Garcia (2006).

#### Potential Significance

With regard to the current emphasis on school improvement and change, this study continues to build upon the research recognizing that students and teachers benefit in positive ways when school staff participate in professional learning communities (Morrissey, 2000a; Hord, 1997; DuFour & Eaker, 1998; Darling-Hammond, et al., 2003). Examining the interplay between the professional learning community experience and the collective efficacy of teachers, this study contributes to an understanding of how the organizational structures in a school influence what teachers believe about their ability to be responsible for student learning. Research to date usually has supported the finding of relatively high levels of student achievement in schools where there is high perceived collective efficacy (Bandura, 1993; Goddard et al., 2004). This research was designed to



augment the understanding of how schools can be organized to enhance the collective efficacy beliefs of teachers.

### Limitations

The study was limited by its design and its context in that the experiences of teachers and administrators in only a few schools in one school district were studied. Whether schools participate in the PLCI or not, many actions that the school system employs to meet the targets established by NCLB influence teaching and learning. Additionally, the researcher had strong opinions about the impact of professional learning communities as a positive strategy for school improvement. Therefore, it was important that this study utilize both quantitative and qualitative methods to balance some of the researcher's potential bias related to the success of the PLCI initiative. Generalizability of any results should be interpreted with caution.

### Organization of the Study

Using a mixed-method approach, the researcher analyzed survey results using descriptive statistics to identify the strength of the responders' perceptions about their schools' having the characteristics of a professional learning community as well as the strength of perceived collective efficacy in their schools. A greater look at four schools within the ten-school cohort was accomplished by gathering data during interviews of selected staff. These interviews assisted in understanding the professional development experience of the participants as well as identifying the characteristics of professional learning communities present in the schools and corroborating the results of the two surveys. In chapter one, the context and the problem to be studied are introduced. Chapter two presents discussion of the relevant research regarding the development of a

conceptual framework for analyzing the data. The literature review highlights the research on professional learning communities, collective efficacy, and organizational learning. The literature about professional learning communities illuminates the characteristics of a professional learning community. The review of the literature on collective efficacy explains the sources of collective efficacy and the concept of reciprocal causality (Bandura, 1997); this information led to the development of a framework regarding how organizations learn. Chapter three includes information about the mixed-method approach to the study, the selection of the schools to study, the surveys to be used, the interview participants, the interview questions, and the methods of data collection and analysis. Chapters four and five include the results of the study, the analysis of the data, and a discussion of the implications of the study.

#### Definition of Terms

**Collective efficacy.** A group's shared belief in its capabilities to organize and execute courses of action required to produce desired levels of attainment (Bandura, 1997).

**Individual efficacy.** An individual teacher's belief in his or her capabilities to organize and execute courses of action required to produce desired levels of attainment (Bandura, 1997).

**Learning organization.** A group or association through which people are continually learning how to learn together (Senge, 1990).

**Organizational agency.** A group that acts purposefully in pursuit of goals.

**Professional learning community.** A collegial group united in their commitment to an outcome. In the case of education, the outcome is student learning. The community

engages in a variety of activities: sharing a vision, working and learning collaboratively, visiting and observing other classrooms, and participating in shared decision making.

Professional Learning Communities Institute (PLCI). A professional development initiative that provides a forum for selected schools to learn from successful schools within a district. The focus of the learning is within the context of professional learning communities.

Reciprocal causality. The premise that the environment, an individual's behavior, and an individual's perception (internal processes) affect each other in a reciprocal fashion (Bandura, 1986).

Social cognitive theory. A theory focused on learning in a social context, purporting that people learn from one another, including such concepts as observational learning, imitation, and modeling.

Sources of efficacy. Four sources of efficacy as defined by Bandura (1986, 1997): mastery experience, vicarious experience, social persuasion, and affective states.

## CHAPTER TWO: REVIEW OF LITERATURE AND RESEARCH

### Introduction

Several areas of research influenced and provided background for this study. The literature review concentrates on research about professional learning communities, collective teacher efficacy, and organizational learning and culture. Research has corroborated a positive relationship between student achievement and schools that demonstrate the characteristics of professional learning communities (Hord, 1997; DuFour & Eaker, 1998; Elmore & Burney, 1999; Haas, 2005). In addition, research on the collective efficacy of teachers has shown that the beliefs of teachers about their abilities to improve teaching and learning are positively correlated to student achievement (Goddard, Hoy, & Woolfolk Hoy, 2000; Pajares, 1996; Tschannen-Moran et al., 1998; Mawhinney et al., 2005). The crux of the argument presented in this literature review is that teachers' beliefs about their abilities to ensure that students learn are affected when they are in an environment that enables them to discuss and interact with colleagues about their practice. The research on organizational learning indicates a connection between professional learning communities and collective teacher efficacy. When groups of people come together, learning that influences the culture, attitudes, and beliefs of the organization occurs. Additionally, investigating the experiences of a group of teachers and administrators as they participate in the Professional Learning Communities Institute (PLCI) provides insights regarding how schools learn and how they are organized, factors that are crucial in sustaining school achievement.

## Professional Learning Communities

Professional learning communities are based on the notion that productivity increases when educators work together to discuss the practice of teaching; consequently, students benefit. The concept of professional learning communities has been prevalent in the literature during the past decade. Today schools are expected not only to provide an education to students but also to ensure that students are learning (Darling-Hammond, 2000). This conceptual change in the purpose of schooling highlights the importance of studying professional learning communities. The power of bringing people together to improve their teaching practice may be a factor that makes school improvement sustainable. In her discussion on teaching and learning, Rosenholtz (1989) identified the importance of teacher workplace factors. She found that teachers who worked together and felt supported in their own continuous learning were committed to student learning and were more effective than those that did not. She determined that teachers with a high sense of their own efficacy were more likely to adopt new classroom behaviors and were more likely to stay in the profession (Rosenholtz). The work of many researchers has focused on the positive impact of schools that have created cultures in which school staff members embrace a collective commitment to high levels of learning for every student (DuFour, 2004). Collaborative team structures encourage greater accountability by teachers.

Hord (1997) defined a professional learning community as a group through which teachers and administrators seek and share learning and then use this learning to improve their teaching practice. The goal of a professional learning community is to enhance teaching effectiveness and thus increase student achievement. This notion of teachers'

collaborating and working together has been found to be a successful school restructuring strategy (Peterson, McCarthy, & Elmore, 1996; Elmore, 1996). Successful businesses and companies have long focused on the group to bring about change in the workplace culture and improved results (Deal & Kennedy, 1982). The work of many, in particular Senge (1990, 2000), have emphasized the importance of supporting the collective engagement of staff in such activities as shared vision development, problem identification, learning, and problem resolution. Senge (1990) emphasized that in learning organizations, staff understand that a high level of staff collaboration is critical to increased results.

Hord (1997) reviewed the literature on learning communities and identified common attributes of a professional learning community. These characteristics are shared values and vision, collective learning and application of learning, supportive and shared leadership, supportive conditions, and shared personal practice.

Schools must have a vision guiding their work that is at the core of how decisions are made about teaching and learning. These values are supported by the norms and behaviors of the school community and are seen in the actions of the school staff. Collective learning, with the school staff's having the opportunity and time to engage in learning with one another, should be present. This collective learning should be applicable to classroom practice. The leadership of a school must demonstrate and model that learning is important at all levels. For schools to be effective there should be a collaborative relationship between principals and teachers. Instructional leadership is shared when all staff members are professionally engaged in learning (Hord, 1997). Leithwood & Jantzi (1997) reinforced the notion that the impact on teaching and learning is positive when principals treat teachers with respect as professionals and work in a

collaborative manner with teachers. These studies clearly indicated that shared leadership fosters positive organizational learning.

It is imperative that there be agreement of shared values and vision for the organization when people work together to achieve a goal. A core characteristic for schools with strong professional learning communities is an undeviating focus on student learning. Schools with strong communities of practice have structures in place that support collaboration and engagement. Hord (1997) discussed two types of conditions necessary for learning communities to operate. It is critical to pay attention to both the physical factors and the people factors. For educators to work together, time, resources, and structures that reduce teacher isolation are needed. Policies that foster collaboration and communication need to be implemented. In addition, school staff should have positive attitudes about students, a sense of purpose, and support from the community. Interesting to consider is whether these attitudes need to be apparent before a learning community becomes effective or whether the learning community experiences changed attitudes in that teachers become more committed and develop stronger beliefs in their ability to make a difference for children. These interactions are examples of the reciprocal causality identified by Bandura (1997). Rosenholtz (1989) found that teachers who felt supported in their own ongoing learning and classroom practice had a strong sense of their own efficacy. These teachers were more likely to adopt new classroom behaviors. The impact of the professional learning community experience on the belief systems of teachers may be a “chicken or egg” phenomenon. Nevertheless, if the development of professional learning communities in schools is to be an effective reform strategy, there must be a notable impact on teacher behavior, knowledge, practice, and,

ultimately, student results. Sergiovanni (1994) affirmed the notion that inquiry forces discussion and collaboration among teachers; it promotes understanding and the appreciation of the work of others. DuFour and Eaker (1998) identified collective inquiry as the engine for improvement and growth. Members of the professional learning community should develop new skills and knowledge through collective inquiry, thereby resulting in changes to the organizational culture of the school

Professional learning communities provide an opportunity for shared personal practice among colleagues; peers support peers in their practice. The understanding that teaching is difficult and complex leads to teachers' sharing what is working and what is not working with each other. Professional learning communities decrease staff isolation, increase staff capacity for providing a productive school environment, and improve the quality of teaching and instruction (Hord, 1996)

There is evidence that student achievement increases when teachers meet together to discuss their practice (McLaughlin & Talbert, 1993; 2001; Darling-Hammond & McLaughlin, 1999, DuFour & Eaker, 1998). Results of research about teachers' working together as professional learning communities revealed increased student achievement as well as increased teacher commitment to the mission and goals of the school. Marks and Louis (1999) found increased student achievement in schools with effective professional communities. Lee and Smith (1996) found that improvement in student achievement of 8<sup>th</sup>- and 10<sup>th</sup>-grade students was greater in schools in which teachers worked collectively and demonstrated shared responsibility for student achievement. Other outcomes of teachers' working together in a professional learning community have included teachers' increased understanding of the subject content, improved commitment to making



significant and lasting changes at the school level, and a higher sense of satisfaction (McLaughlin & Talbert, 1993; Darling-Hammond, 1996; DuFour, 2004). Professional learning communities can be a significant force for empowering staff and leading to school change and improvement (Hord, 1997). Teachers feel more successful when they work together to find solutions and solve problems. Newmann and Wehlange (1995) used a case study approach as well as survey results from 1500 elementary, middle, and high schools to determine what happened in a comprehensive redesign of schools. The restructuring included one or more of the following elements: decentralization, shared decision making, teacher teaming, and professional communities of staff. Their research reinforced the notion that teachers' working together is a powerful strategy for school success.

According to studies identified by Lee, Smith, and Croniger (1997), in schools where professional learning communities existed, staff worked together to change classroom pedagogy, students were engaged in higher intellectual learning tasks, and the learning gaps were smaller. It appeared that teachers' working together promoted a setting in which staff were committed to the mission of the school. Schools with evidence of professional learning communities have the capacity to promote and sustain the learning of all professionals with the collective purpose of enhancing student learning (Riley & Stoll, 2004).

McLaughlin and Talbert (2001) described a strong professional learning community. Such a community establishes distinctive expectations for teachers and their interactions with students. Teachers focus their work on students and shared responsibility for student learning. McLaughlin and Talbert viewed the teacher

community as a primary unit for improving education quality. Morrissey (2000b) concurred that professional learning communities offer the infrastructure to foster improved teaching and learning. According to Morrissey, correctly structured professional learning communities can support school staff in the teaching and learning process and can increase their effectiveness.

A number of studies have substantiated the notion that students benefit when school staff engage in the development of professional learning communities. Thiessen and Anderson (1999) connected teacher learning to improved learning for students. DuFour and Eaker (1998) declared that ongoing improvement efforts can succeed only when a community of colleagues supports each other through the many challenges of school reform. Although some educators might argue about whether the initiation of professional learning communities is a reform strategy itself or whether it is a supporting structure for school improvement, Leithwood (2002) claimed that the task of reform is to design an organization capable of productively responding to the accountability needs of schools.

Where there are professional learning communities, both staff and students profit. According to Hord (1997) for school staff, there is (a) reduction in teacher isolation; (b) increased commitment to the mission and goals of the school; (c) shared responsibility for the total development of students and collective responsibility for students' success; (d) powerful learning that defines good teaching and classroom practice and creates new knowledge and beliefs about teaching and learners; (e) increased meaning and understanding of the content that teachers teach and the roles they play in helping all students achieve expectations; (f) higher likelihood that teachers will be well informed,

professionally renewed, and inspired to inspire students; (g) greater satisfaction, higher morale, and lower rates of absenteeism; (h) commitment to making significant and lasting changes; and (i) higher likelihood of their undertaking fundamental systemic change.

The aforementioned list includes a number of outcomes for teachers that relate to their belief systems about their abilities to teach and their opinions about school improvement. Hord (1997) suggested that professional learning communities can be a significant force for teacher empowerment that leads to school change and improvement. Throughout the literature, professional learning communities have been found to contribute to student learning and smaller achievement gaps (Hord).

Hord (1997) asserted that schools need to intentionally work to develop professional learning communities. She discussed Senge's work related to changing the culture through organizational learning, considered essential to establishing professional learning communities. Professional learning communities provide the structure in schools necessary to support teacher learning.

### Teacher Collective Efficacy

Bandura has written about the concept of efficacy over the last 30 years. Bandura (1993, 1997) based his notion of self-efficacy, teacher efficacy, and perceived collective efficacy on social cognitive theory. According to Bandura (1993), social cognitive theory is derived from human agency as reflected in how people exercise a level of control over their own lives. Thus, at the heart of one's ability to have control over what one does is a belief in one's own competencies, as Bandura (1997) stated, to have "beliefs in one's capabilities to organize and execute a course of action required to produce a given attainment" (p. 3). Human agency is important in examination of how the group

functions. When the faculty of a school acts purposefully in pursuit of goals, the group exercises organizational agency (Goddard et al., 2004), and the concept of efficacy can be expanded to the group. Bandura (1997) described an integrated model of collective efficacy. Collective efficacy is reflected in the group's working and expending effort and persistence in the face of difficulties, their resilience in dealing with failure, and the stress they experience in coping with these situations. Bandura's (1997) definition of collective efficacy is "the group's shared belief in its capabilities to organize and execute courses of action required to produce given levels of attainments" (p. 477). The higher the teachers' sense of efficacy the more likely they are to overcome obstacles and persist even in difficult situations (Goddard et al.). Teachers who are efficacious tend to be innovative and have a positive impact on student learning (Goddard & Goddard, 2001).

It is valuable to clarify the differences among self-efficacy beliefs, teachers' sense of efficacy, and collective efficacy beliefs.

#### *Self-Efficacy Beliefs*

Self-efficacy is different from the idea of self-concept, self-worth, or self-esteem. Self-efficacy is determined by and related to a particular task (Bandura, 1977; Goddard et al., 2004). Although these concepts may be related, self-efficacy is a better predictor of individual behavior than self-concept or self-esteem (Pajares & Miller, 1994).

#### *Teachers' Sense of Efficacy*

Goddard et al. (2004) warned that the use of the term teacher efficacy may be confused with teacher effectiveness or successful teaching. They concluded that it is important to avoid the term teacher efficacy and use terms such as perceptions of efficacy, efficacy judgments, sense of efficacy, or perceived efficacy. These latter terms

emphasize the judgment aspect of efficacy beliefs. Teachers' sense of efficacy can predict productive teaching practices. Allinder (1994) found that teachers' demonstrating a stronger sense of self-efficacy, in comparison to teachers' demonstrating a lower sense of self-efficacy, utilized classroom strategies that were more organized and better planned. Numerous studies have linked a teacher's sense of efficacy and student achievement (Ashton & Webb, 1986; Gibson & Dembo, 1984; Ross, 1994, 1995; Olivier, 2001; Haas, 2005; Tschannen-Moran & Hoy, 2001).

#### *Perceived Collective Efficacy Beliefs*

In considering the organizational aspect of efficacy beliefs, it is important to distinguish the "group" and "collective" aspect of efficacy beliefs. In utilizing Bandura's (1997) construct, collective efficacy is about the "we" and not the "I" and whether or not school staff can organize the thoughts and actions needed to successfully perform a task (Goddard et al., 2004). Accordingly, within an organization, perceived collective efficacy represents the "beliefs of group members concerning the performance capability of a social system as a whole" (Bandura, p. 469). When people come together, the group can demonstrate collective agency.

#### *The Relationship between Teacher Efficacy and Collective Efficacy*

Links have been found between teacher efficacy, as seen in the effect of teacher beliefs, and student achievement; from an organizational standpoint, collective efficacy helps to explain the differences in the impact of school cultures on teacher beliefs. Perceptions of collective efficacy influence the behaviors of individuals by providing expectations for actions (Sampson, Morenoff, & Earls, 2000). Goddard and Goddard (2001) examined the relationship between teacher efficacy and collective efficacy.

Although they confirmed that the constructs are different, there is a positive relationship between teacher and collective efficacy. Both of these constructs share a social cognitive theoretical orientation (Goddard, et al. 2004). In an analysis of 438 teachers in 47 schools in a large urban school district, Goddard and Goddard (2001) found that collective efficacy predicts differences in teacher efficacy. According to Bandura (1997), people do not function as social isolates and they are not resistant from the influence of the group around them. Therefore, teacher and collective efficacy covary positively. When teachers in a school believe that the group can successfully teach students, the group normative and behavioral environment presses teachers to put forth the effort required to attain high student results (Goddard).

The relationship between teacher efficacy and collective efficacy is demonstrated through the assessment of collective efficacy. Goddard et al. (2004) defined collective efficacy as the “aggregate of individual group members’ perception of group capability” (p. 7). Research has indicated that a school’s perceived collective efficacy can be a strong influence on teachers’ sense of efficacy about student teaching and learning (Goddard et al.). Skrla and Goddard (2002) provided an example of how group expectations influence individual beliefs. During a study of collective efficacy beliefs in high-poverty schools, teachers in a focus group interview said that if a teacher did not buy into the belief that “to work here you have to do whatever it takes to get [the students to succeed],” the “[teacher] would be out the door...” (pp. 17-18). Accordingly, collective expectations do influence individual teachers. According to Goddard et al. (2004), “the normative press lies in the social persuasion it exerts on teachers” (p. 9). Therefore, the stronger the

collective efficacy beliefs in a school, the more significant the impact on individual teachers.

### The Four Sources of Collective Efficacy

Bandura (1986, 1997) identified four sources of collective efficacy that are important paradigms for consideration by organizations: mastery experiences, vicarious experiences, social persuasion, and affective states.

Mastery experiences are those experiences that build upon the knowledge base; they are extremely important. Success builds on success. Being persistent and building upon past successes gives people the confidence and competence to continue to succeed. Teachers often experience both success and failure in their teaching of students. Groups of people who are skillful and who have had success contribute to the learning of the organization. There is nothing more powerful than success in building efficacy beliefs. Mastery experiences have been found to influence collective efficacy beliefs. Goddard (2001) found that prior school reading achievement is a positive predictor of difference among schools in the strength of the groups' sense of collective efficacy. He also found that past school achievement is a stronger predictor of perceived collective efficacy than the proportion of student diversity or percentage of students receiving subsidized lunch (SES). Haas (2005) also identified mastery experiences as a strong influential factor in the groups' sense of efficacy.

Vicarious experiences refer to situations in which teachers learn indirectly from others' experiences rather than their direct experiences only. In fact, much of the learning for novice teachers can be attributed to their learning from colleagues or observing various strategies that work. Organizations also learn by observing each other (Huber,

1996). Similar to the way a novice teacher observes a veteran teacher who is successful in ensuring that students succeed, the group can also learn from organizations that perform well. Mainstream authors such as Covey, Collins, Senge and others studied and observed what organizations are doing to get results. Borrowing ideas from successful organizations is a form of vicarious learning (Goddard et al., 2004).

Social persuasion is another way of strengthening the confidence of teachers and encouraging them to believe they have the capabilities to ensure that children learn. Social persuasion involves direct engagement and support from leaders and other experienced colleagues. Professional development opportunities and feedback about achievement build efficacy. Furthermore, when teachers are more cohesive, it appears that the group believes it has the power to change the status quo. It should be noted that this source of collective efficacy is one of the components of professional learning communities: building the team and developing a joint vision. Clearly, the teachers' becoming a cohesive team, coupled with their positive and direct mastery experiences, influences the strength of collective efficacy. Social persuasion can impact the support and enhancement of new skills or it can limit new learning. People who are persuaded by others who have strong beliefs in their abilities will enhance the abilities of yet others. Teachers with strong beliefs that their students can learn at high levels can be very influential. Social persuasion at the organizational level encourages participants to establish group expectations for goal attainment (Goddard et al., 2004). According to Hoy and Woolfolk (1993), teachers new to a school are socialized by the organization, thereby learning about the school culture and expectations. Consequently, expectations



set by the group's beliefs influence the socialization of new members to the group (Goddard et al.).

The last source of collective efficacy is the affective state. The affective state is related to how schools and school systems respond to outside pressures. NCLB, issues about accountability, and the challenges of teaching in public schools impact the beliefs of educators. To be successful, organizations must cope by adapting to these forces; this need to adapt influences their collective beliefs. When the organization has strong beliefs about its capability to be successful in educating all students, it can tolerate external pressures. Conversely, less efficacious organizations are more dysfunctional and are less successful when faced with external pressures. Bandura (1997) believed that efficacy influences people's behavior. Efficacy beliefs play a role in motivation, persistence in tasks, and resilience to be successful or not.

#### Collective Efficacy and School Effectiveness

In several research studies, links have been found between achievement and efficacy beliefs. Initially, research examined self-efficacy judgments of students (Pajares, 1996). Students with higher efficacy beliefs about their own performance achieve at higher levels. Another area of research has focused on teachers' beliefs regarding their own abilities to make a difference for student learning (Tschannen-Moran et al., 1998). Finally, researchers have begun to investigate how the impact of teachers' collective beliefs on the way the school works (Goddard et al., 2000) can make a difference for students.

This small, but growing amount of research has studied what happens when groups of teachers or educators believe they are efficacious. Olivier (2001) found that

collective efficacy beliefs of teachers were identified as the strongest predictor of school organizational effectiveness. In her study, Olivier also showed links among the model of professional learning communities, school culture, and collective efficacy. In another recent significant study, Haas (2005) corroborated the finding that teachers' beliefs in their abilities are linked positively to a school's readiness to be a professional learning community.

As noted by Bandura (1997), social cognitive theory is used to explain the ways that individual teachers and the group exercise personal and collective agency to influence collective efficacy beliefs (Goddard et al., 2004). Additionally, efficacy beliefs are based on the individual or group's judgments about capabilities to organize and execute a course of action to produce a given outcome (Bandura). This paradigm is future oriented. Accordingly, it has been found that collective efficacy beliefs and student outcomes are related to reciprocal relationships among collective efficacy beliefs, teachers' personal sense of efficacy, teachers' professional practice, and teachers' influence over instructionally relevant school decisions (Goddard et al.).

Hoy and Miskel (2005) discussed the influence of shared beliefs of school staff and emphasized the importance of the organizational culture of schools. According to Bandura (1993), collective teacher efficacy is an important school characteristic; Goddard et al. (2000) contended that it may be the differences in the perceived collective efficacy beliefs of teachers that contribute to schools' differences in student achievement. By understanding the potential power of the beliefs of teachers about their abilities to teach and make a difference for students and the environment in which these beliefs are nurtured and developed, schools can possibly be organized to cultivate and develop

collective efficacy. Understanding the elements of collective teacher efficacy has the potential to contribute to educators' understanding of how schools differ in the attainment of achievement for children.

Another useful concept discussed by Bandura is reciprocal causality. This concept relates to how an organization can increase its effectiveness. As high collective efficacy enhances organizational performance, reciprocal causality suggests that resulting performance improvements may, in turn, strengthen the organization's effectiveness (Goddard et al., 2000). Thus, if schools have the opportunity to develop efficacy systematically (perhaps through the engagement of teachers in professional learning communities), the performance goals of the organization, student achievement, will be affected.

Numerous studies have shown positive effects related to strong efficacy beliefs of teachers. Goddard (2001) found that increased reading achievement was significantly related to the previous success of the school. In another study, Goddard et al. (2000) found that group perceptions of teachers' abilities to influence students positively were related to the level of difficulty of the teaching task as well as the group's perception of its competence. Guskey and Passaro (1994) defined teacher efficacy as teachers' belief that they can influence how well students learn even when students are identified as difficult to teach or unmotivated. Teachers who demonstrate high efficacy beliefs generate stronger student achievement than teachers with low teacher efficacy beliefs. Various studies (Goddard et al., 2004; Tschannen-Moran et al., 1998) showed that teachers scoring higher on efficacy scales are most likely to try new ideas and take risks in their classrooms. Ashton, Webb, and Doda (1983) found that teachers with high

efficacy beliefs attend more closely to the needs of lower achieving students. Teachers who demonstrated lower efficacy beliefs were found to spend more time with higher achieving students, giving less attention to those who were lower achieving. Teachers with higher teacher efficacy built relationships with lower achieving students and had higher standards for their students. Teachers with higher efficacy beliefs viewed student failure as an incentive for greater effort rather than giving up on students. Building collective efficacy at the school level can be a vehicle for school improvement, thereby closing the achievement gap.

Bandura (1997) found the following positive aspects of building the collective efficacy of teachers:

1. Collective efficacy is positively associated with the differences in student achievement that occur between schools.
2. High levels of collective efficacy are predictive of student achievement.
3. Teachers with high collective efficacy beliefs are more likely to act purposefully to enhance student learning.
4. Teachers with high collective efficacy beliefs are likely to meet the unique needs of students.
5. High levels of collective efficacy influence the level of effort and persistence that individual teachers put forth in their daily work.

According to Bandura (1997), social cognitive theory can be applied at the organizational level and differences in student achievement between schools can be explained by differences in collective teacher efficacy beliefs. Teacher efficacy beliefs can shape the environment of a school and frame the culture of the school. Therefore, one

way for schools to improve student achievement is by working to raise the collective efficacy of their staff. Although mastery experiences have been found to be powerful in changing efficacy, schools can also take opportunities to utilize and emphasize the other sources of efficacy as they adapt the ways schools are organized and structured to increase student results. Through the way schools are structured and the types of professional development that are implemented, teachers can benefit from vicarious learning experiences, social (persuasion) interactions, and the affective reactions to high-stakes accountability to shape the collective efficacy of staff.

#### Perceived Collective Efficacy and Differences Between Schools

There is a strong link between schools' perceived collective efficacy and student achievement (Bandura, 1993; Goddard, 2001; Goddard et al., 2000). This effect of perceived collective efficacy on student achievement is stronger than the effects of SES, race or ethnicity, or gender (Goddard et al., 2004). Goddard and Goddard (2001) also found that perceived collective efficacy is a stronger predictor of differences among schools. When factors such as SES, diversity, school size, and past achievement are controlled, perceived collective efficacy is the characteristic of the school cultural context that is most strongly related to teachers' sense of personal efficacy (Goddard et al.). This outcome reinforces the notion that perceived collective efficacy is related to school culture and situated within the context of the organization.

It was deemed critical that this link between perceived collective efficacy and differences in student achievement among schools (Bandura, 1993; Goddard, 2001; Goddard et al., 2000) be studied; the qualitative part of this study allowed this researcher to investigate why there might be differences between schools. Teachers who find

themselves in schools where there is shared responsibility, shared goals, and the belief that the group can make a difference for students often possess a higher sense of collective efficacy. Moore and Esselman (1994) found that teachers' sense of efficacy is positively related to the climate of the school organization. Understanding the effect of the group's sense of collective efficacy emphasizes the organizational perspective. Although many teachers may still work in isolation, many schools are being organized to ensure teaming, collaboration, and the development of structures that support professional learning communities. Bandura's (1997) social cognitive theory supports the notion that when individuals in an organization are confident about their own capabilities, the perception of the collective capabilities is also strong. This notion supports the concept of reciprocal causality (Bandura, 1997).

How schools are organized then can influence the perceived collective efficacy of teachers and, therefore, influence student achievement. Goddard et al. (2004) reported on recent research that showed a link between a faculty's exercising collective agency and its perceived collective efficacy. When teachers have the opportunity to influence instructionally relevant decisions, the teachers also have stronger beliefs about the capabilities of the faculty (Goddard, 2002). Schools that have structures in which teachers share in decision making about the instructional program often have higher levels of perceived collective efficacy. In light of social cognitive theory, there is a key role that organizational structure and group actions play in relationship to the group's efficacy beliefs (Goddard et al.).

Goddard et al. (2004) outlined a conceptual model of the formation and influence of collective efficacy beliefs in organizations. The model uses social cognitive theory and

the concept of reciprocal causality to illustrate how the four sources of collective efficacy influence the learning of the organization. Goddard et al. asserted that understanding teachers' collective efficacy beliefs is important in understanding the organizational culture and transformation of schools.

### Collective Efficacy and Professional Learning Communities

The premise of this research is that teachers' participation in the PLCI influences their collective efficacy. Academic improvement occurs when teachers alter their practice. Fullan (1996) referred to the importance of the process of reculturing; intentionally working on change is critical to systemic reform. He defined reculturing as the process of developing new values, beliefs, and norms in the organization to facilitate the change. This process requires school systems to improve instruction and to increase the professionalism of teachers through the concept of continuous improvement. For real systemic reform to occur, Fullan challenged school districts to support new roles for teachers by building capacity of their knowledge of teaching and learning, collegiality, context, continuous learning, moral purpose, and the change process. What is so powerful about the potential of professional learning communities as a strategy for systemic change is that professional learning communities can change not only teacher practice but also teacher attitudes.

Haas (2005) reported on research completed in a mid-sized suburban school district where a system-wide approach to the development of professional learning communities was implemented. Her research linked teachers who thought their schools showed the characteristics of professional learning communities and the teachers' beliefs about their own competency, their collective efficacy. Haas (2005) found that

organizational context is related to teachers' collective efficacy beliefs, which in turn have a positive impact on student achievement. Haas's study found that teachers showed a higher sense of collective efficacy in schools that had a higher readiness to be professional learning communities. Haas's research highlights the notion of the organizational structure that schools might provide to support school improvement. Schools need to be understood as "complex systems of interaction that characterize the kinds of changes that are required for schools to become professional learning communities where teachers' collective efficacy beliefs can find fertile ground to develop" (Mawhinney et al., 2005 p. 81).

The basis of this study was the examination of the relationship between school-based professional learning communities (Hipp & Huffman, 2002; Hord, 1997, 2000, 2004; Morrissey, 2000b; Vescio, Ross & Adams, 2006) and research related to collective efficacy among teachers (Gibson & Dembo, 1984; Goddard, 2002, Goddard et al., 2000). Hall and Hord (2001) suggested that there is a relationship between the implementation of professional learning communities and teacher efficacy beliefs, which is validated by increased student achievement. They asserted that student achievement is likely to increase when teachers have increased efficacy beliefs. Haas (2005) found that teachers' perceptions of collective efficacy appear to predict increased student achievement. Haas's research also suggested that changes in the organizational structures and culture of schools, such as implementation of professional learning communities, may be effective strategies for school reform.

Another recent study showed a strong positive relationship between professional learning communities and the collective efficacy beliefs of teachers. Olivier in her 2001



dissertation studied a variety of variables and their relationships to school effectiveness. She utilized several surveys that identified teacher efficacy beliefs and school culture. The school culture scale assessed various characteristics of professional learning communities. The results of Olivier's study, which surveyed 1444 elementary teachers in 95 schools, indicated positive relationships between teacher collective efficacy beliefs and school culture. Collective efficacy beliefs were identified as the strong predictor of school organizational effectiveness, and organizational effectiveness was identified as the strongest predictor of effective school outcomes as evidenced by student outcomes. The study supports Bandura's research finding that the strength of teachers' collective efficacy predicts the level of group performance. Olivier found that the stronger the beliefs people hold about their collective capabilities the more students achieve. A strong professional school community provides opportunities for teachers to be successful, thus reinforcing their belief that they can control outcomes for students. Olivier affirmed that school culture assists in framing an environment in which teachers' beliefs can be supported and changed. The study also strengthened the notion that professional learning communities are a mechanism for school improvement.

Ross and Bruce (2007) implemented professional development that was directly designed to increase teacher efficacy of mathematics teachers. In their study, 106 teachers in one school district were provided with specific training that was based on Bandura's four sources of teacher efficacy. Other teachers in the district were not provided similar training. The teachers in the study attributed their confidence in the classroom to the professional development. With stronger efficacy beliefs, teachers set higher goals for

themselves and their students. Ross and Bruce recommended that researchers continue to explore the effects of professional development on teachers' beliefs.

Pangallo (2009) completed a recent dissertation on the relationship between collective teacher efficacy and professional learning communities. In the study, Pangallo sought to determine which of the professional learning community dimensions exhibited a relationship to perceived collective teacher efficacy at the team level. Utilizing statistical analysis procedures, she found a correlation between the perceptions of collective teacher efficacy at the team level and four of the five dimensions of a professional learning community as set forth by Hord (1997). Shared personal practice was the one dimension not positively related to collective efficacy. In addition, the study found that teams that strongly perceived their schools to be professional learning communities also perceived their teams to have high efficacy (Pangallo). At the core of working as a professional learning community are continuous improvement and a focus on student learning; this type of culture promotes collective efficacy.

#### *Organizational Culture and Organizational Learning*

In discussing professional learning communities and the perceived collective efficacy of teachers, one must also bring into the dialogue the topics of organizational learning and organizational culture. Wenger (1998) asserted that supporting the development of new practices is consistent with examining how organizations learn and how organizations change. Many researchers (Bolman & Deal, 2003; Darling-Hammond, 2003; Elmore, 1996, 2000 2002; Fullan, 1991) emphasized the importance of understanding how the structures of reform change the organization. Senge (1990), in his important work on learning organizations, pointed out that organizational learning takes

place where people are learning together. The critical word here is *together*. To Senge this collaborative culture meant organizational learning. Second-level change (Cuban, 1990) and real restructuring involve changing the organizational structures of schools. Sergiovanni (1994) identified the importance of building structures in schools that foster a kind of connectedness among the staff. The goal of a school community is to enhance personal and collective effectiveness so that students can learn at high levels (Olivier, 2001).

Hargreaves (1995) concluded that school change involves developing collaborative cultures, that is, reculturing the school from individualism, where teachers work in isolation or teachers work in isolated groups, to an environment where there are professional relationships through which teachers collaborate. Louis, Marks, and Kruse (1996) supported the idea that change in the culture is the key to successful reform. Professional learning communities shape both culture and the organizational structures within a school building. School improvement cannot occur with teachers' remaining in their rooms and closing the doors. No longer can schools be considered closed systems, but rather open systems where teachers work together to transform the organization.

Descriptions of learning organizations provide corroboration for the notion that there must be dialogue about purpose, connectedness among participants, holistic thinking, learning from experience, and people engaging in the learning process for organizations to learn (Duffy, 1997; Senge, 1990). Senge (1990, 1996) identified five essential disciplines of learning organizations: systems thinking, personal mastery, mental models, building shared vision, and team learning. These disciplines have been described as characteristics of professional learning communities. Systems thinking is

defined as the fifth discipline (Senge, 1996) and is viewed as the cornerstone of change. According to Senge, change cannot take place unless the system is changed. Building a school's capacity to learn must be a collaborative effort.

According to DuFour and Eaker (1998), changing school culture is difficult and challenging. If school reform is to be sustained, the elements of change must be embedded within the culture of the school (DuFour & Eaker). For schools to shape culture, DuFour and Eaker suggested the following strategies: articulating, modeling, promoting and protecting shared values, systematically engaging all staff in reflective dialogue, sharing stories about the culture, and celebrating progress toward goals. These strategies are reflected in Hord's (1996, 1997) characteristics of professional learning communities as well as in the sources of collective efficacy. Fullan (1993) suggested that there is a reciprocal relationship between structural and cultural change. Bandura's concept of reciprocal causality purports that learning occurs and is influenced by various experiences.

### Guiding Conceptual Framework

With regard to the focus of this literature review, the following conceptual framework (Figure 1) was developed as a way to analyze the data collected in this study. Participation in the PLCI and the teachers' experiences in becoming a professional learning community should influence the perceived collective efficacy of the group. In addition, the structure of professional learning communities provides insights into how an organization can influence the attitudes and beliefs of teachers as they engage in the PLCI professional development. The experiences of the staff involved in a professional learning community impact the organizational learning of the school. Underlying this

framework also is the concept of an open system in which the teachers as a group are continually learning. This framework allowed the researcher to analyze the relationship between professional learning communities and the collective efficacy of teachers through the lens of the characteristics of professional learning communities as outlined by Hord (1997) and Bandura's four sources of collective efficacy as defined in the literature. Goddard et al. (2004) proposed a model of the formation, influence, and change of perceived collective efficacy. The model focused on how schools can be organized to foster collective efficacy. Goddard (2002) corroborated the notion that collective conditions encourage teachers to exercise organizational agency (Goddard et al., 2004) and found significant differences in school achievement based on strength of collective efficacy. Social cognitive theory emphasizes the importance of structures and actions that enable groups of teachers to exercise collective agency. The Goddard study reinforced the value of practices where schools are organized to enable group members to exert influence on the organization of the school (Goddard et al.). Professional learning communities provide that structure. The framework establishes the relationship between the characteristics of professional learning communities and the sources of collective efficacy. Additionally, the concept of reciprocal causality is represented in the framework by the arrows that indicate the interaction of the characteristics of professional learning communities and the sources of collective efficacy. Organizations learn and are influenced by the group's many experiences. These interactions strengthen and influence the effectiveness of the organization.

Conceptual Framework

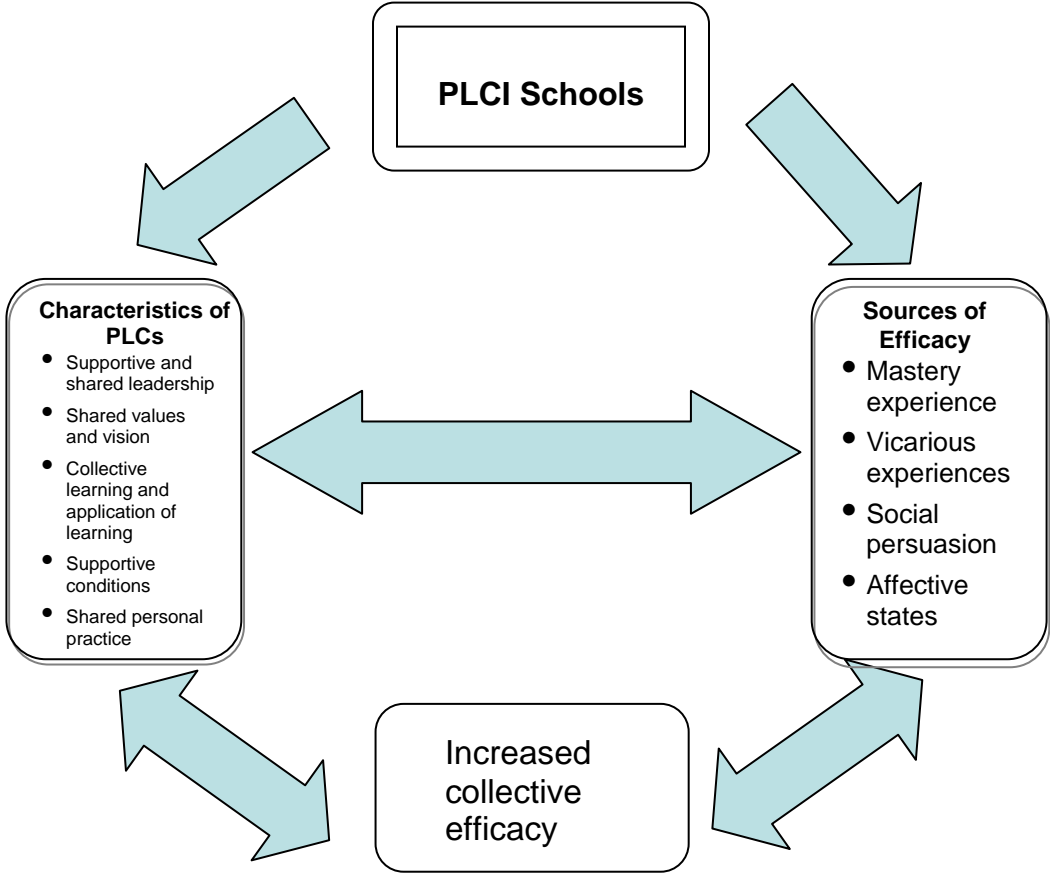


Figure 1. The framework for examining the interaction between the PLCI and the collective efficacy of teachers.

## CHAPTER THREE: DESIGN AND METHODOLOGY

### Overview

This chapter outlines the methodology for this study, which explored the collective efficacy beliefs of teachers and administrators who participated in the Professional Learning Communities Institute (PLCI). The PLCI provides an environment for increasing the knowledge of school faculty about the components and characteristics of a professional learning community and provides time and resources to assist schools in becoming a professional learning community. Additionally, the content and structure of the PLCI within the context of high-stakes accountability provides the participants with opportunities to study high-performing organizations and schools, visit and observe exemplary schools, and interact with staff from these schools. These experiences represent examples of three sources of collective efficacy: vicarious experiences, social persuasion, and affective motivation. This chapter describes the research traditions that were used, identifies the population and explains why it was chosen for the study, describes the data used to draw conclusions, and explains how the data were analyzed. The data collection tools and interview strategies are also outlined in this chapter. Finally, ethical issues are addressed.

### Research Rationale and Approach

Creswell (2003) suggested that a researcher needs to consider three elements in determining the research approach to use: “These elements are the philosophical assumptions about what constitutes knowledge claims, strategies of inquiry, and detailed methods” (p. 3). This study provides knowledge and information derived from actions, situations, and consequences of the experiences of administrators and teachers (Creswell)

participating in the PLCI. This pragmatic approach provided the opportunity to use multiple methods to obtain the best information to answer the research questions. According to Creswell, pragmatism opens the door to a mixed-method approach to provide the best understanding of a research problem. It allows for different ways of viewing the world and different ways of collecting the data needed to obtain a broad understanding of the situation. A mixed-method approach uses strategies of inquiry that involve collecting data either simultaneously or sequentially to best answer the research questions (Creswell). Using the strengths of both qualitative and quantitative approaches provided a comprehensive and complete understanding of the data (McMillan, 2004) that were collected to analyze the influence of the PLCI on the perceived collective efficacy of teachers in one PLCI cohort.

The quantitative component of the study included the administration and collection of survey results. The survey for this study combined two surveys: one survey to obtain information about the implementation of professional learning communities in the schools and a second survey to gather information on the strength of the perceived collective efficacy of teachers and administrators. The data from the surveys were analyzed using descriptive statistics.

The qualitative aspect of the research involved the use of interviews of selected staff in four schools. These schools were selected from the 10 Cohort 2 schools, and teachers and administrators were invited to participate in interviews. The four schools that were selected generated differing collective efficacy scores on the collective efficacy survey. This selection allowed the researcher to learn about any differences in perceived collective efficacy in schools that participated at the same time in the PLCI and received



the same professional development. The qualitative facet of the study reflected upon the varying degrees that the components of professional learning communities influence the perceived collective efficacy of teachers. It was assumed that some of the characteristics might contribute and be strongly related to the four sources of perceived collective efficacy to a greater extent than other characteristics.

This research used a sequential explanatory strategy (Creswell, 2003) design. This design allowed the quantitative data that were collected first to inform the qualitative data analysis. The qualitative results helped to explain and interpret results from the quantitative survey (Creswell). The administration of the surveys provided information regarding the opinions of teachers and administrators about the extent to which their schools were professional learning communities as well as the perceived collective efficacy beliefs. The results of the surveys were used to select the schools in which the researcher conducted the interviews of administrators and teachers.

Using interviews allowed the researcher to use data trends from the survey results to develop in-depth questions about the PLCI experience. An interview also can refute or corroborate the survey data. The primary purpose of using interviews was to obtain a better description of the situation and to learn about the experiences directly from the participants. For this study, it was important to delve into the sources of collective efficacy, to hear how the schools were implementing professional learning communities, and to learn what components of the professional development teachers perceived to be most effective in improving teaching and learning in the schools. Interview questions asked participants how high expectations for students were evidenced in their schools and

what they thought most affected their beliefs about the group's abilities to make a difference for children.

Executing a mixed-method study allowed for more generalizability than utilizing a quantitative- or qualitative-only research approach.

### Study Sample Population

The study sample comprised teachers and administrators from schools in the second cohort of the Professional Learning Communities Institute. There were 10 elementary schools in the cohort. There were several reasons for choosing the second cohort for study. The PLCI was implemented in 2005 with 11 elementary schools in the first cohort. Their direct professional development ended in 2007. The second cohort began the PLCI in 2006 and completed the 2-year program in June 2008. The surveys were given during early winter 2009, and the interviews were conducted in early spring 2009; therefore, the direct professional development was fairly recent. In addition, at the time of the study, these schools were still participating in some activities as experts and provided information about their PLCI experience to the current cohort of schools engaged in professional development. Using the second cohort group also meant that the implementation issues of a new program had been worked out. Cohort 2 had completed the professional development activities, whereas Cohort 3 was midway through their professional development, and Cohort 4 was just beginning their professional development.

Table 1: *Professional Learning Communities Cohort Group Participation*

Cohort 1 (11 schools)	Cohort 2 (10 schools)	Cohort 3 (6 schools)	Cohort 4 (4 schools)
2005-2006 2006-2007	<b>2006-2007</b> <b>2007-2008</b>	2007-2008 2008-2009	2008-2009 2009-2010

The 10 Cohort 2 schools included approximately 400 teachers and administrators. These schools were representative of the school district in terms of diversity, poverty, and geographic location. All teachers and administrators in Cohort 2 were asked to complete the surveys. For the qualitative element of the study, selected staff from four schools were interviewed individually or in a group setting. Both individual and group interviews were conducted. The researcher decided to interview the administrators of the schools individually so that the other staff would feel free to respond honestly to the questions. The teachers were given a choice of being interviewed individually or in a group. Some teachers chose to be interviewed individually and some chose to be interviewed with other teachers. In one school, however, a group of teacher leaders, teachers who had nonclassroom responsibilities, invited the assistant principal in the school to join them in the interview. The participation of the assistant principal in the group did not hinder the conversation.

The interviews were audio taped and later transcribed verbatim for coding and analysis. The interview questions used a semistructured format (Appendix C); semistructured questions are defined as specific questions without predetermined response options (McMillan, 2004). Additionally, during the interviews, probing, follow-up, and clarifying questions were asked. Each interview lasted from 30 to 60 minutes.

McMillan stated that group interviews are designed to promote interaction between the participants, thereby leading to a richer understanding of what is being studied. The researcher interviewed key people at the schools to obtain their ideas and thoughts regarding the possible impact of the PLCI on their roles and responsibilities. Participants were encouraged to offer insights and opinions about their experiences.

### Survey Instruments

The survey taken by the participants was composed of two previously developed surveys (Appendix A), which are described in the following section:

The Professional Learning Community Assessment (PLCA) was based on research and a previous survey developed by Hord in 1996, the School as Learning Organization (SLO) Survey. The SLO survey assessed the perceptions of school staff with regard to the five dimensions of a professional learning community (Huffman & Hipp, 2003). Similarly, the PLCA assessed perceptions on the five attributes of a professional learning community; however, it was more descriptive of the professional learning communities' practices observed in a school (Huffman & Hipp). On the survey the questions about "structures" were divided into two parts; consequently, there were six sections to the survey. The PLCA instrument included 45 descriptors that were based on the five dimensions of a professional learning community. The instrument described the dimensions, and participants were asked to respond using a 4-point Likert scale ranging from *strongly agree* to *strongly disagree*.

The PLCA was designed by first having a panel of 76 educators provide feedback about 44 statements that described the practices seen in a professional leaning community at the school level. The researchers utilized the expert study to determine the importance

and relevance of each descriptor (Huffman & Hipp, 2003). The experts included school-based, district, and university administrators, teachers, faculty, and researchers. The experts rated the practices in terms of high, medium, or low importance in describing the practices seen in a professional learning community. Based upon the expert assessment, 98% of the items were rated as high; therefore, all 44 items were used in the field testing of the survey. One question was split into two items; therefore, the survey was field tested with 45 items (Huffman & Hipp).

The PLCA was field tested with 247 completed surveys. The researchers utilized factor analysis to prove construct validity. Cronbach's Alpha internal consistency reliability coefficients ranged from a low of .83 for collective learning and application, supportive conditions–relationships, and supportive conditions–structures to a high of .93 for shared values and vision (Huffman & Hipp, 2003). This survey instrument is useful in assessing perceptions based on the five dimensions of a professional learning community.

The second scale used in the study was the Collective Efficacy Scale (CE Scale) developed by Goddard (2002). This 21-item scale was initially developed to identify teacher efficacy. The scale was built upon a previous teacher efficacy scale created by Gibson and Dembo (1984). The basic change in the scale was to change the object of efficacy (Haas, 2005) from "I" to "We". The validity, predictive validity, and reliability of CE Scale were confirmed by using a sample of 452 teachers in 47 randomly selected elementary schools in a large urban district in the Midwest (Mawhinney et al., 2005). The CE Scale or a variation of the scale has been used in a variety of studies (Olivier, 2001; Garcia, 2004; Henson, Kogan, & Vachha-Haase, 2001).

## Administration of Surveys

The 10 Cohort 2 schools in the PLCI were asked to take the Professional Learning Communities Assessment (PLCA) Survey and Collective Efficacy (CE) Scale that were accessed through Survey.Monkey.com. Additionally, demographic and work experience data were collected about the participants. The demographics included collection of data on gender, number of years in teaching or education, number of years at the current school, and the participant's position or grade level at the time the survey was administered.

The surveys were posted on Survey.Monkey.com, which is an online survey tool that enables users to post surveys that can be accessed through the Internet. The researcher sent each teacher and administrator in each school an e-mail letter announcing the surveys and the Web address where the surveys were posted. Each school had its own Web address; to access the survey for their school, the participants clicked on the address to the Web site. The directions asked the participants to complete and submit the surveys through Survey.Monkey.com. Each participant could respond to the survey and submit it with anonymity. The surveys required about a half hour for completion. Initially, the surveys were posted for about 2½ weeks; however, the completion rate was slow, and a second reminder was sent to each teacher and administrator. The surveys were posted for an additional 2 weeks. It should be noted that at first there was some confusion as to who should complete the surveys. Although the invitation was sent to all teachers and administrators in the schools, some of the participants thought that only the members of the core team should be completing the surveys. The researcher clarified for the participants that the survey information was requested from all teachers and

administrators in the schools. It was important to ascertain the perceptions of all teachers and administrators. After this clarification, additional participants completed the survey.

The elementary schools in Cohort 2 included three Title 1 schools, three schools that received local funds due to significant poverty, and four schools designated as low-poverty schools. For this study, high-poverty schools were identified as having 57.6% or above of the students qualifying for the free or reduced-price meal program. Mid poverty schools were schools with 39.1% to 52.3% of students qualifying for the free or reduced-price lunch program. Low-poverty schools were those schools with fewer than 30% of the students qualifying for the free or reduced-price meal program.

#### Data Analysis

Descriptive and inferential statistics included in a statistical software package were used to analyze the quantitative data. The data from the surveys were analyzed in terms of means and correlations. The correlations identified the strength of relationships between the characteristics of professional learning communities that existed in the school and the perceived collective efficacy in the school. The conceptual framework that was developed assisted the researcher in framing the analysis of the data.

The information from the interviews was analyzed by categorizing and organizing data that highlighted the characteristics of professional learning communities present in the schools and the sources of collective efficacy that were apparent within the training activities of the PLCI. Creswell (1998) identified the process of using collected data and comparing it to emerging categories as the constant comparative method of data analysis. The researcher reviewed the interview data for categories that helped to answer the research questions and connected the responses to the conceptual framework. The

following categories were established: (a) comments identifying Hord’s characteristics of professional learning communities, (b) comments describing Bandura’s four sources of collective efficacy, (c) comments noting the effectiveness of the PLCI activities, and (d) comments about the strength of the school team’s having high expectations for students.

Table 2 depicts the coding categories that were used to analyze the interviews.

Table 2: *Coding Categories*

Category	Code				
Characteristics of professional learning communities	Shared leadership <b>(SL)</b>	Shared values and vision <b>(V)</b>	Collective learning <b>(CL)</b>	Supportive conditions <b>(SC)</b>	Shared personal practice <b>(SP)</b>
Sources of collective efficacy	Mastery experiences <b>(ME)</b>	Vicarious experiences <b>(VE)</b>	Social persuasion <b>(SP)</b>	Affective states <b>(AS)</b>	
Effectiveness of PLCI experience	Positive comments <b>(P+)</b>	Negative comments <b>(N-)</b>			
Beliefs of high expectations for students	High expectations <b>(HE)</b>				

After the initial coding of the categories, the researcher looked for specific themes and patterns related to the connection of the characteristics of professional learning communities and the four sources of collective efficacy. For example, one of the essential activities in the PLCI is to study successful schools through a case study method. This activity is a prime example of vicarious learning, one of the sources of collective efficacy. Other categories emerged after the initial broad coding.



The researcher reviewed various archival memoranda, board of education presentations, agendas and handouts from the professional development activities, and other documents about the PLCI. These documents were analyzed using the same coding categories as those used for the interview data. The purpose for this analysis was to glean evidence about various training activities that might be more effective in building collective efficacy beliefs.

#### Ethical Issues and Personal Involvement

This research was conducted in the school district in which the researcher worked. Although the researcher was a member of the executive leadership team in the district, she did not directly supervise any of the schools or staff that were selected for the study. The researcher did have an interest in how the experience of the schools could inform the reform efforts in the district. As an executive staff member, the researcher served on the executive leadership team that monitored and oversaw the performance of students in the district and the effectiveness of various reform initiatives, including the PLCI.

It was assumed that the researcher's status in the district would not affect how participants responded to the group questions that were asked. The researcher made it clear that she was not in an evaluative role with any of the staff and that the information gathered would be used to understand how this experience influenced their beliefs about their ability to make a difference for children. The information collected was used to identify trends and draw conclusions about the PLCI experience. Although quotations from participants were cited, no individual was identified. The researcher obtained informed consent from the participants; the informed consent form included detailed information about the participants' role in the study. The researcher emphasized her

commitment to the confidentiality of participants and stated to the participants her intention not to attribute any responses to specific individuals. When the interviews were conducted, the interviewees did not appear to be hesitant to answer the questions; over 6 hours of interviews were recorded and transcribed.

## CHAPTER FOUR: FINDINGS

### Overview

The organizational structure of schools is key to meeting the demands of high accountability standards. Schools identified as professional learning communities have experienced increased student achievement (Thiessen & Anderson, 1999; McLaughlin & Talbert, 1993, 2003; DuFour, 2001). In addition, there is a link between perceived collective efficacy and differences in student achievement among schools (Bandura, 1993; Goddard, 2001; Goddard et al., 2000). There is a positive relationship between schools' becoming professional learning communities and the strength of the collective efficacy of staff (Pangallo, 2009; Mawhinney et al.; 2006).

The conceptual framework laid out in chapter two is used in this chapter as the basis for the analysis of the data. As noted in the framework, in an open organizational system, there are interactions between characteristics of professional learning communities and the sources of efficacy that increase the collective efficacy of teachers and principals in schools. According to the principle of reciprocal causality, the components of a professional learning community and the sources of efficacy interact to impact collective efficacy.

This study focused on exploring the relationship between professional learning communities and collective efficacy. The Professional Learning Communities Institute in a large suburban school district provided an opportunity to study schools participating in this initiative. Ten elementary schools in the second cohort of PLCI schools received structured professional development in becoming a professional learning community. This research used a sequential explanatory strategy (Creswell, 2003), whereby the

quantitative data were collected first to inform the qualitative data analysis. The data collection process included two surveys (quantitative data) as well as interviews of selected teachers and administrators (qualitative data). In addition, the researcher reviewed the PLCI documents, including memoranda, training plans, and achievement data from the 10 schools. These data were gathered to answer the following questions:

1. What are the perceptions of the PLCI participants about their school's being a professional learning community?
2. Are there characteristics of professional learning communities that seem to have an influence on perceived collective efficacy of teachers?
3. What are the perceived leadership practices that contribute to the differences in the perception of collective efficacy between PLCI schools?
4. What are the factors that contribute to the differences in the perception of collective efficacy between the PLCI schools?

Subsequent sections of this chapter present the results of the Professional Learning Communities Assessment (PLCA) Survey and the Collective Efficacy (CE) Scale that were administered to teachers and administrators. The findings from the interviews with 18 teachers and administrators from four schools are analyzed. An overview of the PLCI training curriculum, achievement, and survey data collected by the PLCI project team provided additional information to answer the research questions.

To keep the names of the schools anonymous, the schools are referred to as School A, B, C, and so forth. Schools C, F, G, and I were the schools in which staff members were interviewed.

## The Results of the Professional Learning Communities Assessment (PLCA) and the Collective Efficacy (CE) Scale

### *Response Rate and Demographics*

Of the 378 teachers and administrators in the schools, 164 completed the surveys, representing a 43.3% response rate. The researcher found that full-time teachers at the schools were more likely to complete the surveys and that part-time teachers were less likely to do so. One school had only six responders even after reminders to complete the survey were sent to the principal and teachers. The percentage of teacher responders at the schools ranged from a low of 13% to a high of 58%. Two of the ten Cohort 2 schools were single-administrator schools, whereas the other eight schools had both a principal and an assistant principal. Of the 18 administrators, 8 completed the surveys, thereby generating a response rate of 44%. At least one administrator from seven of the ten schools completed the survey.

Of those teachers and administrators who replied to the survey and indicated their gender, 92.7% were female and 4.9% male. The years of teaching ranged from less than a year of teaching to 43 years of teaching. The years of teaching in the current school ranged from less than 1 year to 30 years. Responding teachers represented all grade levels and support-teacher roles. The principals' tenure in the Cohort 2 schools ranged from a low of 1 year to a high of 12 years.

### *Summary Analysis of the Professional Learning Communities Assessment (PLCA)*

The PLCA Survey developed by Huffman & Hipp (2003) included 45 questions about the characteristics of a professional learning community as delineated by Hord (1997). The survey used a 4-point Likert response scale ranging from 1 (*strongly*

*disagree*) to 4 (*strongly agree*). Table 3 presents the questions designed to assess dimensions of the professional learning communities:

Table 3: *Subsections of the PLCA Survey*

Section	Questions
Shared and supportive leadership	Questions 1 to 10
Shared values and vision	Questions 11 to 18
Collective learning and application	Questions 19 to 26
Shared personal practice	Questions 27 to 32
Supportive conditions–relationships	Questions 33 to 36
Supportive conditions–structures	Questions 37 to 45

To determine the internal consistency of the survey, a Cronbach’s alpha reliability test was calculated for each of the subsections of the PLCA Survey. For the six subscales, the alpha coefficients ranged from a low of .841 (supportive conditions–structures) to a high of .948 (shared and supportive leadership). The results in Table 4 depict a range of .841 to .948, representing satisfactory internal consistency and indicating that the survey measured what it purported to measure.

Table 4: *Subsection Reliability of PLCA Survey*

Section	Cronbach’s Alpha Reliability
Shared and supportive leadership	.948
Shared values and vision	.932
Collective learning and application	.912
Shared personal practice	.898
Supportive conditions–relationships	.896
Supportive conditions–structures	.841

These results are in line with the developers' internal consistency measures that ranged from a low of .83 for collective learning and application, supportive conditions–relationships, and supportive conditions–structures to a high of .93 for shared values and vision (Huffman & Hipp, 2003).

The determination of the strength of a particular characteristic was based on a combination of *agree* and *strongly agree* responses. The results of the PLCA Survey are presented as the percentages of participants' selecting those two points on the scale. The following sections present the aggregate results for each subsection of the survey.

#### *Shared and Supportive Leadership*

The first 10 questions obtained the opinions of staff about shared and supportive leadership: the extent of the staff's involvement in making decisions, their having the information needed to make decisions, staff empowerment, and the sharing of responsibility among staff. Collegial relationships among principals and teachers have been identified as an important aspect of creating a professional learning community (Hord, 1997; Hipp & Huffman, 2002; Sweetland & Hoy, 2000; Newmann & Wehlage, 1995). Sergiovanni (2001) emphasized the leader's ability to shape and establish a strong functioning culture as a critical quality of leadership. Additionally, the role of the principal has become so complex and challenging, particularly in this era of high-stakes accountability, that principals seek ways to engage staff and build the capacity of teacher leaders. Huffman & Hipp (2003) stated,

In places where decision-making is broadly shared, teachers no longer merely serve as implementers of change envisioned by someone far removed from the classroom and students. Instead, teachers, along with fellow staff, help to create the vision, identify changes that are needed to attain the vision and then decide how these changes are to be implemented and monitored. (p. 78)

The percent of agreement for the 10 statements related to the schools' shared leadership ranged from 69.9% to 84.7%. Table 5 presents the results by question.

Table 5: *Shared and Supportive Leadership Percent Agreement*

Question	% Agree
Q1: The staff is consistently involved in discussing and making decisions about most school issues.	78.4
Q2: The principal incorporates advice from staff to make decisions.	83.5
Q3: The staff has accessibility to key information.	84.7
Q4: The principal is proactive and addresses areas where support is needed.	78.6
Q5: Opportunities are provided for staff to initiate change.	79.7
Q6: The principal shares responsibility and rewards for innovative actions.	81.0
Q7: The principal participates democratically with staff, sharing power and authority.	69.9
Q8: Leadership is promoted and nurtured among staff.	80.4
Q9: Decision making takes place through committees and communication across grade and subject areas.	80.4
Q10: Shareholders assume shared responsibility and accountability for student learning without evidence of imposed power and authority.	79.0

Question 7, *the principal participates democratically with staff, sharing power and authority*, generated the lowest response percentage at 69.9%; however, this percentage still means that more than two thirds of the staff agreed or strongly agreed to this statement. The highest level of agreement, 84.7%, was generated by Question 3; *the staff has accessibility to key information*. Another area of high agreement was Question 2; *the principal incorporates advice from staff to make decisions*. Clearly, the relationship between the administration of a school and staff is key to the success of the school. These



results indicate that the staff in the Cohort 2 schools perceived that leadership was shared.

A teacher from one of the interview schools said,

I feel that I've seen a change in the staff just stepping up to take ownership for things, working together to try to solve problems. It's not one person's problem. It is everybody's problem and we're working trying to work together to solve it.

In another school, the staff development teacher shared the following statement:

I always call it like sharing the pen in the classroom; people take on a variety of roles in this building. It's not the principal, assistant principal, reading specialist, staff development teacher standing up and delivering everything. We have teachers to share what they find as best practices, what they think are some ideas or things to move us forward. It's kind of that thing where everyone's opinion is valued.

### *Shared Values and Vision*

Shared values and vision establish the norms of behavior in a school (Huffman & Hipp, 2003). These values and vision are identified through the culture of a school; they are critical to the development of a professional learning community. Both Hord (1997) and DuFour (2004) emphasized that the core mission of the school is to ensure student achievement. Shared values are communicated by teachers and principals in how they demonstrate high expectations for all students in their schools. Questions 11 to 18 assessed the perceptions of staff regarding the extent to which shared values and vision existed in the school. The range of percentage agreement, as shown in Table 6, is between 74.2% and 95.1%.

Table 6: *Shared Value and Vision Percent Agreement*

Question	% Agreement
Q11: A collaborative process exists for developing a shared sense of values among staff.	84.0
Q12: Shared values support norms of behavior that guide decisions about teaching and learning.	85.1
Q13: The staff share visions for school improvement that have an undeviating focus on student learning.	95.1
Q14: Decisions are made in alignment with the school’s values and vision.	93.8
Q15: A collaborative process exists for developing a shared vision among staff	85.9
Q16: School goals focus on student learning beyond test scores and grades.	74.2
Q17: Policies and programs are aligned to the school’s vision.	93.9
Q18: Stakeholders are actively involved in creating high expectations that serve to increase student achievement.	89.4

These results confirm that in these schools there was generally high agreement that a common vision existed. According to Hord (1997) “a core characteristic of the professional learning community is an undeviating focus on student learning” (p. 13). Shared vision provides the direction so that everyone is working together toward a common goal. The percent of agreement for these questions was relatively high. Question 16, *school goals focus on student learning beyond test scores and grades*, generated the lowest percentage of agreement at 74.2%. It is difficult for schools under No Child Left Behind accountability standards to focus on measures other than test scores. Each year in many schools, there are pep rallies to prepare for the yearly standardized tests and celebrations when students achieve high results. In the interviews, both teachers and administrators commented on their state test results and the importance of doing well on

the tests. All interviewees commented on how good the staff feels when students do well on the state assessments.

In all the schools in which staff members were interviewed, staff shared that they worked hard to ensure that everyone in the school knew the school's goals. There was agreement from the interviewees that the entire staff knew that everyone's work was to ensure that students learn. One teacher talked about how serious the work is:

They are very clear [that] this school collaborates, you know; we have teams that have common planning time. We look at student data. We take it very seriously. You're going to work hard, you know, you have to believe me, that message is put out there.

Shared values and vision represented a strong professional learning community component in these schools.

#### *Collective Learning and Application*

If one asks teachers to name a key characteristic of a professional learning community, many will say that it is collaboration. This section presents discussion of the teachers' and administrators' responses to statements about how the school staff collaborated and learned together. Collaboration supports the sense of community among staff. When staff members work together to solve problems, there is a stronger community of learners. Huffman & Hipp (2003) asserted that for staff to function as a learning community, multiple stakeholders need to collaborate to achieve the shared vision of a school. There is evidence in both educational and business literature (Little, 2002; DuFour, 2001; Lieberman, 2007; Morrissey, 2000; Sergiovanni, 1994; Senge, 1990) that results improve when people work together. Morrissey noted that when schools engage in inquiry about important issues and "move beyond discussions of revising the schedules...to focus on areas that can contribute to significant school

improvement, curriculum, instruction, assessment, and the school’s culture” (p. 8), increased student achievement can be sustained.

The questions that assessed the perceptions of staff about collective learning and application were Questions 19-26. The percentage of agreement for these statements, ranging from 82.6% to 96.9%, is shown in Table 7.

Table 7: *Collective Learning and Application*

Question	% Agreement
Q19: The staff work together to seek knowledge, skills, and strategies and apply this new learning to their work.	92.6
Q20: Collegial relationships that reflect commitment to school improvement efforts exist among staff.	91.3
Q21: The staff plan and work together to search for solutions to address diverse student needs.	82.6
Q22: A variety of opportunities and structures exist for collective learning through open dialogue.	83.4
Q23: The staff engage in dialogue that reflects a respect for diverse ideas that lead to continued inquiry.	87.6
Q24: Professional development focuses on teaching and learning.	95.0
Q25: School staff and stakeholders learn together and apply new knowledge to solve problems.	87.1
Q26: School staff are committed to programs that enhance learning.	96.9

The questions generating the highest levels of agreement were Question 26, *school staff are committed to programs that enhance learning* (96.9%), and Question 24, *professional development focuses on teaching and learning* (95.0%). It is not surprising that this area shows strong agreement as the content of the professional development the schools received was steeped in the importance of the core mission of schooling and the characteristics of professional learning communities as delineated by DuFour (1997,

1998). Responses from the interviewees reinforced these findings. Some of the interviewees also reported that collaboration increased and strengthened over the 2 years in the PLCI. One principal said,

Some of the things that I think were fairly new for most of the staff was really analyzing the data, as opposed to being told “here’s our data; this is what it means.” And we sort of checked from the beginning of the year to the end of the year who participated, who spoke up. And I felt by the end of the year, it was much more collaborative.

During the interviews, staff identified the importance of the teams’ looking at data and analyzing data together. One assistant principal commented,

We’re more data oriented. And it opens up the data conversations with more people. It causes us to look at the data and it causes us to have more conversations around the table and to look at what’s best for students. And it’s a conversation that’s not driven by emotion, but it’s driven by the data.

One reading teacher remarked,

We also have a lot of collaboration time. So the teachers have common planning time 5 days a week, and I think that is huge coming from a school [like this] that didn’t have that. So they do have a lot of time to collaborate.

### *Shared Personal Practice*

According to Huffman & Hipp (2003), shared personal practice is at the core of change in the classroom. When staff members share with each other, they must step out of their isolated classrooms and learn from one another. Being comfortable sharing one’s practice with a colleague indicates trust between colleagues. Getting teachers out of their classrooms to observe their peers and providing structures so that colleagues can reflect upon what they observe and learn are activities that promote shared personal practice. Shared personal practice is also related to two sources of efficacy: vicarious learning and social persuasion. These two sources relate to individuals’ interacting with colleagues and

experts to learn and increase their beliefs in their own skills. The results for this subsection, ranging from 66.0% to 95.6% agreement, are shown in Table 8.

Table 8: *Shared Personal Practice Percent Agreement*

Question	% Agreement
Q27: Opportunities exist for staff to observe peers and offer encouragement.	72.3
Q28: The staff provide feedback to peers related to instructional practices.	66.0
Q29: The staff informally shares ideas and suggestions for improving student learning.	95.6
Q30: The staff collaboratively review student work to share and improve instructional practices.	88.9
Q31: Opportunities exists for coaching and mentoring.	75.1
Q32: Individuals and teams have the opportunity to apply learning and share the results of their practices.	90.7

To support shared personal practice, time must be available for staff to be able to observe and reflect with peers. Time is a critical element to a school’s becoming a professional learning community. Shared personal practice depends on the structures that are provided in a school to support all the components of a professional learning community. One of the outcomes of a recent doctoral dissertation by Pangallo (2009) indicated that shared personal practice did not correlate with efficacy, whereas the other four characteristics identified by Hord (1997) did. In a subsequent section of this chapter, the data from this study show a significant correlation between each of the components of professional learning communities and collective efficacy. Shared personal practice

reflected the smallest positive relationship of the components. In further analysis of this dimension, Pangallo suggested that shared practice is probably the most neglected element of professional learning communities. The following questions about shared personal practice generated the lowest percentages of agreement: 66%, 72.3%, and 75.1%, respectively.

*Q28: The staff provide feedback to peers related to instructional practices.*

*Q27: Opportunities exist for staff to observe peers and offer encouragement.*

*Q31: Opportunities exist for coaching and mentoring*

During the interview process, the interviewees commented that they wished there were more time so that staff could observe one another. In fact, several people commented that there had been plans to facilitate more peer observations; however, due to the budget freeze for substitute teacher accounts, these plans needed to be put on the back burner. The two highest responses in this subsection were 95.6%, for Question 29, *the staff informally shares ideas and suggestions for improving student learning*, and 90.7% for Question 32, *individuals and teams have the opportunity to apply learning and share the results of their practices*. The opportunities for sharing occurred through informal opportunities and through team meetings. All the schools in Cohort 2 provided time for team planning. Comments from the interviewed staff supported the survey results. Many staff said that if there were more time, there certainly would be greater support for more sharing. Several of the schools executed walk-throughs to support shared practice. When asked how staff learned from one another, a reading teacher reported,

I think one way, and they [other teachers in the interview] could probably speak to a few others, when we had the opportunity to go through walk-throughs, I

know teachers have come back and said, “I really like how so-and-so did this; I’d like to talk to them about it.” We have gone in and done some informal observations and we’ve shared that back with the staff, “Mrs. Smith does a fabulous job with class meetings so we’d like her to share with the rest of the staff.”

One issue related to executing peer observations was reflected in the following comment from a staff development teacher: “Teachers don’t want to be out of their classroom, because even though they want to build their capacity they want to be in there with their students.” Dedicated teachers do not like to leave their classrooms. The interviewed principals and teachers talked about the balance that needs to be struck regarding teacher learning and collaboration.

### *Supportive Conditions*

The issues of time and workload make it even more important to have structures in place that support school staff in forming professional learning communities. The PLCA Survey delineated supportive conditions as (a) supportive conditions–relationships and (b) supportive conditions–structures. Questions 33-36 assessed perceptions of staff about relationships and Questions 37-45 about the structures in the school.

Huffman and Hipp (2003) asserted that positive teacher attitudes are enhanced by involvement in decision making, collegial relationships, and a sense of community. At the heart of positive relationships in a school are trust and respect among and between colleagues (Huffman & Hipp). Questions 33-36 elicited staff perceptions of the relationships within the school as well as the psychological safety that was evidenced in the workplace environment and through staff interactions. For Questions 33-36, the levels of agreement ranged from 76.6% to 92.6%, as presented in Table 9.



Table 9: *Supportive Conditions–Relationships Percent Agreement*

Question	% Agreement
Q33: Caring relationships that are built on trust and respect exist among staff and students.	92.6
Q34: A culture of trust and respect exists for taking risks.	76.6
Q35: Outstanding achievement is recognized and celebrated regularly to our school.	86.3
Q36: School staff and stakeholders exhibit a sustained and unified effort to embed change into the culture of the school.	81.7

There seemed to be a positive climate that supported staff in the schools under study.

Staff members were recognized for their contributions; there were positive relationships between and among the staff, including the administration. One of the assistant principals said,

If you can have a positive climate in the building and you can build relationships, you have won the building over, in my mind, because you're keeping your staff happy and you are building a climate in the building where you are having students take risks and you are opening up doors in classrooms where everybody is interchanging throughout the building, and that what's going on here.

Question 34, *a culture of trust and respect exists for taking risks*, reflected the lowest level of agreement in this subsection. The range of percent agreement was from 43.8% to 100%, with a median response of 80.9%, indicating strong agreement. It appears that, with the exception of two schools, whose percentages of agreement for this question were 56.3% and 43.8%, trust and respect were generally evident in the participating schools.

Supportive conditions also refer to the structures in place that support teaching and learning in a school. Questions regarding the ways in which a school was organized to enhance staff members' proximity to one another, provide time for collaboration, and

reduce staff isolation were included on the survey. The range of agreement for these questions was 50.6% to 93.1%. These data are presented in Table 10.

Table 10: *Supportive Conditions–Structures Percent Agreement*

Question	% Agreement
Q37: Time is provided to facilitate collaborative work.	79.7
Q38: The school schedule promotes collective learning and shared practice.	84.5
Q39: Fiscal resources are available for professional development.	50.6
Q40: Appropriate technology and instructional materials are available to staff.	83.7
Q41: Resource people provide expertise and support for continuous learning.	84.4
Q42: The school facility is clean, attractive, and inviting.	80.2
Q43: The proximity of grade level and department personnel allows for ease in collaborating with colleagues.	93.1
Q44: Communication systems promote a flow of information among staff.	80.1
Q45: Communication systems promote a flow of information across the entire school community.	81.7

Question 39 was stated as follows: *Fiscal resources are available for professional development*. Each school in Cohort 2 received direct PLCI professional development between the summer of 2006 and the summer of 2008. Schools in the PLCI were also granted \$10,000 each to support their school improvement plans. The money and the professional development time were not available for the 2008-2009 school year. Additionally, the district had entered a budget freeze during 2007-2008 and 2008-2009, and all substitute money to support job-embedded professional development was frozen. Therefore, the financial resources to support the professional learning community were limited. During the interviews, many of the staff commented on the loss of these

resources and the challenges of finding the time and resources to enhance the professional learning communities in their schools. There was an effort in all the schools to have team planning time. The comments in the interviews indicated that the structures that had been put into place due to the PLCI were critical to the schools' improvement efforts. Despite the barriers, each school said that team planning was nonnegotiable. Staff in the schools commented on the restructuring of school improvement meetings to include greater stakeholder involvement and more analysis of student data.

When asked what components of professional learning communities were present in his or her school, the principal of one small school noted the following:

I would say supportive conditions because I think I really, really try to support teacher collaboration, teacher growth, teacher needs. You know, I just try to get them whatever they need to do what they need to do.

In another school, the staff development teacher identified the structures in place to support the professional learning community:

We have our small instructional leadership team (comprised of the staff development teacher, reading specialist, assistant principal and principal) that meets weekly. And then, of course you have the bigger leadership team that includes team leaders meets monthly. Usually at the grade-level team meetings instructional concerns might come up and it's brought back to the instructional leadership team.

As the staff development teacher was talking, the researcher perceived that these structures were clearly embedded into the norms and culture of the school. That is how business was done at that school.

Another way to examine the results of the PLCA Survey was to consider the relative strength of each section for these schools by computing the averages. Table 11 presents the mean and median for each of the survey sections.

Table 11: *Measures of Central Tendency for Subsections of the PLCA Survey*

Section	Mean response	Median response
Shared and supportive leadership	79.6	80.1
Shared values and vision	87.7	89.4
Collective learning and application	89.6	89.5
Shared personal practice	81.4	82.0
Supportive conditions–relationships	84.3	83.5
Supportive conditions–structures	79.8	81.7

The mean and the median describe essentially the same results. For this group of schools, shared values and vision, 87.7% and collective learning and application, 89.6% are the characteristics that were perceived to be the strongest. Shared and supportive leadership was perceived to be the least strong component. In a subsequent section, the relative strength of the PLCA Survey sections related to the results of the CE Survey is described. The information collected through the interviews corroborated the survey finding that the components of professional learning communities most prevalent in the schools were shared vision, shared collaboration, and supportive conditions.

#### Overview of Collective Efficacy (CE) Results

The CE Scale was used to collect information about the shared perceptions of the teachers and administrators in a school regarding the impact on students of the efforts of the staff as a whole (Goddard, Hoy & Woolfolk Hoy, 2000; Goddard, 2002). The scale included 21 items to measure a school’s collective efficacy. To determine the internal consistency of the CE Scale, a Cronbach’s Alpha reliability test was computed. The Cronbach’s Alpha reliability coefficient for the CE Scale items was .888. Each of the 21 items generated a Cronbach’s Alpha coefficient of .879 or greater, indicating the scale

was measuring what it was developed to measure. The reliability results compare favorably to the validity and reliability evidence obtained by the developers of the CE Scale.

The Collective Efficacy Scale asked the responders to indicate their level of agreement with various statements about how teachers react to certain situations in the school. The teachers and administrators were asked to respond to 21 questions by checking along a continuum from *strongly disagree* to *strongly agree*, using a 6-point-Likert scale. Ten of the questions (Items 3, 4, 8, 10, 11, 12, 16, 18, 19, and 20) were reverse scored so that 1 was scored as 6, 2 was scored as 5, and so on. Therefore, efficacy was indicated for some items with responses chosen along the continuum toward *strongly agree* and for other items along the continuum toward *strongly disagree*. As the instructions for the responders asked them to indicate their level of agreement with each statement, the data are being presented as the percentage of the three responses toward *strongly agree* or the three responses toward *strongly disagree* depending on whether efficacy was indicated with positive or negative responses.

The collective efficacy results for the Cohort 2 schools are depicted in Table 12, including FARMS percent and percent of positive CE responses. FARMS is an indicator that reflects the percentage of children enrolled in a school who qualify for the Free or Reduced Price Meal Program. Mean school results on the CE Scale ranged from 61.11% to 91.98%.

Table 12: *Collective Efficacy by School*

School	FARMS %	Collective efficacy %
A	51.40	75.25
B	2.80	88.83
C	19.40	91.98
D	57.10	61.11
E	39.80	63.60
F	12.60	89.12
G	57.60	85.45
H	52.30	79.83
I	79.20	71.15
J	23.10	86.03
Total	41.84	79.81

The following section summarizes the aggregate results for the 21 questions on the CE Scale. Table 13 shows the percent of agreement for each question.

Table 13: *Collective Efficacy Scale*

Question	% Agreement
Q1: Teachers in the school are able to get through to the most difficult students.	73.5
Q2: Teachers here are confident they will be able to motivate their students.	88.3
Q3: If a child doesn't want to learn teachers here give up.	91.4
Q4: Teachers here don't have the skills needed to produce meaningful student learning.	93.2
Q5: If a child doesn't learn something the first time teachers will try another way.	92.6
Q6: Teachers in this school are skilled in various methods of teaching.	94.4
Q7: Teachers here are well prepared to teach the subjects they are assigned to teach.	93.9
Q8: Teachers here fail to reach some students because of poor teaching methods.	86.3
Q9: Teachers in this school have what it takes to get the children to learn	96.3
Q10: The lack of instructional materials and supplies makes teaching very difficult.	82.4
Q11: Teachers in this school do not have the skills to deal with student disciplinary problems.	79.4
Q12: Teachers in this school think there are some students that no one can reach	79.6
Q13: The quality of school facilities here really facilitates the teaching and learning process.	86.5
Q14: The students here come in with so many advantages they are bound to learn.	23.5
Q15: The students come to school ready to learn.	62.4
Q16: Drugs and alcohol abuse in the community make learning difficult for students here.	83.1
Q17: The opportunities in the community help ensure that the students will learn.	51.6
Q18: Students here just aren't motivated to learn.	85.1
Q19: Learning is more difficult at this school because students are worried about their safety.	92.6
Q20: Teachers here need more training to know how to deal with the students.	64.2
Q21: Teachers in this school truly believe every child can learn.	91.4

The aggregate collective efficacy of the Cohort 2 schools was generally strong. For 17 of the 21 items, more than three quarters of the responders provided answers supportive of high efficacy beliefs. Two items, Question 15 and Question 20, generated about two-thirds agreement. For Question 17 and Question 14, the positive responses were at 51.6% and 23.5%, respectively.

The responses to Question 15, *the students come to school ready to learn*, were related to the poverty of students in the building. Responses for the four low-poverty schools ranged from 71.43% agreement to 93.33% agreement. Responses for the six high-poverty schools ranged from 28% to 66.67%. Although many of the responses on the efficacy scale reinforced the finding that the staff had high expectations for students, there does seem to be a relationship between staff perceptions in high-poverty schools and the level of students' readiness for school.

Positive responses for Question 10, *teachers here need more training to know how to deal with the students*, ranged from 12.5% to 100%. There does not seem to be a relationship between response to this question and the poverty level of the school. The school system had experienced a variety of new initiatives over a 10-year period: new curriculum at all levels, higher standards for students, new grading and reporting standards, and new assessment tools. Every summer thousands of teachers were required to attend training. School staff wanted to be trained and often felt they were ill equipped to meet the needs of their students.

The responses to Question 17, *the opportunities in the community help ensure that the students will learn*, appeared to be related to the poverty level of the school. High-



poverty schools were more likely to disagree with the statement, whereas low-poverty schools were more likely to agree with the statement.

The range of responses for Question 14, *the students here come in with so many advantages they are bound to learn*, was 0% to 66.67%. In general, respondents at the schools, whether high-or low-poverty schools, did not agree with this item. It appeared that the teachers and administrators believed their schools were responsible for ensuring that students learn. Teachers' believing that they have control over and are responsible for student outcomes is a characteristic of efficacy.

The summary CE Scale data were analyzed in relationship to the poverty of the school. Table 14 presents the comparison of Title 1 schools, mid-poverty schools, and low-poverty schools. For this comparison, the third Title 1 school was not considered, because responses were received from only six staff members at that school. For the purpose of the following comparative analysis, the schools were divided into three categories: high poverty (FARMS of 57.60% or greater), mid poverty (FARMS between 39.1% and 52.3%), and low poverty (FARMS less than 30%). Analysis of variance (ANOVA) procedures were used to determine whether differences in collective efficacy existed between the groups of schools based on poverty. Results of the analysis are shown in Table 14.

Table 14: *Analysis of Variance for Percent of Collective Efficacy by Poverty Level*

	Mean	Standard deviation	Standard error	95% Confidence interval for mean	
				Lower bound	Upper bound
1 High FARMS	77.51	14.12	2.10	73.27	81.75
2 Medium FARMS	73.04	18.19	2.60	67.81	78.26
3 Low FARMS	88.51	9.90	1.25	86.02	91.01
Total	80.53	15.59	1.24	78.07	82.99

	Sum of squares	<i>df</i>	Mean square	<i>F</i>	Sig.
Between groups	7177.616	2	3588.808	17.984	.000
Within groups	30731.879	154	199.558		
Total	37909.495	156			

These results show significant differences between the schools and indicate that the poverty of the school was related to the collective efficacy of the schools. The low-poverty schools had higher efficacy scores. Although the higher poverty schools also reflected strong efficacy, there appeared to be a relationship between the poverty level of the school and the collective efficacy of the school.

#### The Relationship Between the Results of the PLCA Survey and the CE Scale

The major goal of this study was to understand the relationship between collective efficacy and a school's having the characteristics of a professional learning community. More specifically, answers were sought to the following question: Is there a relationship between specific components of professional learning communities that are assessed by

the PLCA Survey and the collective efficacy of the school? Table 15 presents the summary results from both the PLCA Survey and the CE Scale by school; responses are sorted from highest collective efficacy to lowest collective efficacy.

Table 15: *PLCA Survey and CE Scale by School*

School	FARMS	Leader	Values	Learning	Practice	Relation	Structure	Efficacy
School C	19.40	92.50	96.88	93.30	84.72	90.91	89.90	91.98
School F	12.60	90.00	95.54	98.21	70.24	82.14	88.89	89.12
School B	2.80	74.00	88.33	97.50	76.67	92.22	79.37	88.83
School J	23.10	95.91	97.73	98.21	88.89	100.00	86.17	86.03
School G	57.60	86.00	93.75	95.00	94.17	92.50	80.00	85.45
School H	52.30	79.93	90.44	97.06	88.24	91.18	90.20	79.83
School A	51.40	67.50	77.23	89.06	90.63	79.17	70.83	75.25
School I	79.20	73.46	85.58	89.90	86.00	77.67	71.11	71.15
School E	39.80	60.00	69.53	63.62	56.25	50.00	75.69	63.60
School D	57.10	73.33	72.92	75.00	55.56	83.33	64.58	61.11

The results depicted in Table 15 indicate that the higher the efficacy the stronger the professional learning community components. To determine whether there are significant relationships between the components of professional learning communities and efficacy, a bivariate correlation analysis was carried out using the means of each of the five dimensions of a professional learning community as assessed by the PLCA Survey and collective efficacy as assessed by the CE Scale. Pearson product-moment correlation coefficients were computed. In addition, correlations were computed for the length of a teacher's tenure at the current school, years in teaching, and the poverty of the school. Table 16 presents these correlations. A statistically significant correlation with collective efficacy was found for each of the dimensions, with a confidence level of  $p <$

.01. A moderate relationship was found for four of the five dimensions of professional learning communities according to the PLCA Survey and collective efficacy as measured by the CE Scale. The professional learning community component correlating highest with efficacy was relationships: .520. Collective learning, shared values and visions, and structures correlated at .495, .477, and .406, respectively. Shared personal practice correlated at .292, thereby showing a small positive relationship to efficacy. Additionally, a moderate negative correlation, -.366, between efficacy and FARMS was substantiated by the Pearson correlation test and was significant at the  $p < .01$  level. This finding suggests that as the poverty of the school increased, the collective efficacy of the school decreases. Table 16 also depicts significance of a mild positive relationship between years in the current school and collective efficacy: .181 ( $p < .01$ ). This result suggests that the longer a teacher is in a school, the higher the efficacy. A mild negative correlation (-.184,  $p < .05$ ) was noted between years in teaching and the poverty level of the school. Based upon this sample, it appears that more veteran teachers were teaching in lower poverty schools. This result supports the current notion that there is a higher percentage of novice teachers teaching in high-poverty schools. These correlations are presented in Table 16.

Table 16: *Correlations Between Each PLC Characteristic, Collective Efficacy, and Selected Demographics*

	SL	SV	CL	SP	R	S	Efficacy	YT	YCS	FARMS
SL	1.0	.701**	.420**	.367**	.498**	.539**	.331**	.077	.052	-.147
SV			.611**	.478**	.618**	.569**	.477**	-.005	.081	-.146
CL				.557**	.705**	.399**	.495**	-.073	.073	-.135
SP					.555**	.462**	.292**	-.147	.017	.131
R						.441**	.520**	-.077	.015	-.137
S							.406**	.002	.076	-.213**
Efficacy								.124	.181**	-.366**
YT									.549**	-.184*
YCS										-.156
FARMS										1.0

\*\* Correlation is significant at the 0.01 level (2-tailed). \* Correlation is significant at the 0.05 level (2-tailed)

## Examination of Interviews

### *Selection of Interview Schools*

In the sequential explanatory design of this study, the selection of schools to interview was to be based on the identification of schools with high collective efficacy and low collective efficacy as demonstrated on the CE Scale. The researcher was interested in determining whether there were significant differences between schools that had received similar professional development experiences.

The CE Scale generated a mean range of 61.11% to 91.98%. Review of the range of means for the strength of collective efficacy resulted in the data presented in Table 17: collective efficacy according to poverty level of the school, sorted from highest to lowest collective efficacy.

Table 17: *Collective Efficacy by School Poverty Level*

School	Collective efficacy		
	High FARMS	Low FARMS	% FARMS
School C		91.98	19.4
School B		88.83	2.8
School J		86.03	23.1
School F		85.45	12.6
School G	89.12		57.6
School H	79.83		52.3
School A	75.25		51.4
School I	71.15		79.2
School E	63.60		39.8
School D	61.11		57.1

It should be noted that School D, which reflected the lowest collective efficacy at 61.11%, was the school that had only six responders. Because the response rate for this school was so low, this school was not considered for staff interviews. Based upon so few responders, the collective efficacy score may not be representative of the views of the staff. In the original design of the study, the researcher planned to interview participants at only two schools: the one with the lowest and the one with the highest efficacy scores. In looking at the collective efficacy results by school, however, the researcher decided that it might be of interest to select two high-poverty and two low-poverty schools at which to interview teachers and administrators. As one source of efficacy relates to the impact of outside pressures (the affective state), it was assumed that interviewing teachers and principals in high-poverty schools might provide insight into this source of

efficacy. Therefore, the researcher’s selection of four schools included one high-poverty school with relatively high efficacy, one high-poverty school with relatively low efficacy, one low-poverty school with relatively high efficacy, and one low-poverty school with lower efficacy. Some of the schools that were contacted declined to participate in the interview; therefore, the difference in collective efficacy between the low-poverty schools was relatively small. The efficacy scores of the four schools selected to participate in the interviews are presented in Table 18.

Table 18: *Collective Efficacy of Schools Selected to be Interviewed*

Type of school	Collective efficacy score
School G (high poverty)	85.45
School I (high poverty)	71.15
School C (low poverty)	91.98
School F (low poverty)	89.12

The selected schools with the highest levels of poverty (G and I) were also Title 1 schools. The selected Title 1 school with the higher efficacy mean (85.45%) was paired with a school with the third lowest efficacy score (71.15%), another Title 1 school. The other two selected schools (C and F) were low-poverty schools with collective efficacy means of 91.98% and 89.12%, respectively. There was not a considerable difference in collective efficacy between the low-poverty schools; however, interviewing staff from these two schools provided additional understanding of the PLCI experience and contributed to answering the research questions. The four schools selected for interviews were each invited to participate through an e-mail invitation and a hard copy written letter.

### *Interview Participants*

The interviews, which took place at the respective schools, helped to answer the research questions; 18 school-based staff were interviewed. With the exception of the principals, the staff members were given the option of being interviewed alone or with colleagues. The researcher did not want the presence of the principal to interfere with the teachers' being honest about their experiences. Several staff chose to be interviewed in a group situation. In one school, the assistant principal was interviewed with two teacher leaders. The principal and the staff development teacher (SDT) were interviewed in every school. A staff development teacher is a nonevaluative instructional leader who fosters development and growth of professional learning communities and facilitates job-embedded staff development; in this case, one SDT was allocated to each elementary school. The other staff members that were interviewed had volunteered and were representative of classroom teachers and teacher leaders. In one school, the principal thought it would be important to interview the instructional data assistant (IDA). The IDA assists with the collection, analysis, and dissemination of instructional data and prepares reports for use by teachers and administrators. The person in this position is a support professional; the employee does not need to be certified to perform the duties. Every elementary school in the district was allocated one IDA. As depicted in Table 19, the following staff members were interviewed:



Table 19: *List of Interviewees*

School	Staff
School G	Principal, assistant principal, staff development teacher, kindergarten teacher, Grade 1 teacher, Grade 2 teacher
School I	Principal, assistant principal, staff development teacher, reading teacher, kindergarten teacher
School C	Principal, staff development teacher, Grade 3 teacher, instructional data assistant
School F	Principal, staff development teacher, special education resource teacher

The interviews were audio taped and transcribed verbatim. The researcher used a semistructured approach in the interviews. Questions centered on the characteristics of professional learning communities, the types of professional development that the schools had, and the expectations of staff about student achievement. The interview protocol is included in Appendix C. The semistructured approach allowed for clarifying questions to be asked. The information from the interviews was categorized and organized by highlighting the characteristics of professional learning communities as assessed on the PLCA Survey and the CE Scale.

#### *The Interview Schools*

The following section describes the four schools at which staff members were interviewed. The demographics represent the 2008-09 school year. These four schools were representative of the school district, which had 130 elementary schools that ranged from low to high in poverty and diversity.

School G was a Pre K-Grade 2 elementary school with 405 students located in the southern part of the county close to Washington, DC. The school was supported by

Federal Title 1 funds; 57.6% of its students qualified for the free or reduced-price meal program. The student population reflected the demographics presented in Table 20.

Table 20: *Demographics of School G*

	% of Total	Female	Male	African American	American Indian	Asian	Hispanic	White
All students		50.5	49.5	28.4	.7	16.9	35.5	18.4
Special education	15.2	4.2	11.0	5.9	.7	1.7	4.4	2.5
ESOL*	42.4	21.1	21.3	4.4	0	10.5	27.5	0
FARMS	57.6	28.2	29.4	17.9	.2	9.1	29.4	1.0

\* English for speakers of other languages

The mobility rate for School G was 22.2%; the attendance rate was 95%. School F had an ethnically and economically diverse student population of approximately 432 children in preschool through Grade 2. The preschool program was composed of an all-day Head Start class, two half-day PreK classes, and six half-day special education preschool classes for children with developmental delays. School G offered the Even Start Program, which supported local family literacy projects that integrated early childhood education, adult literacy (adult basic and secondary-level education and instruction for English language learners), parenting education, and interactive parent and child literacy activities. The school was a Primary Technology Focus School, and students received additional instructional time in computer technology. The current principal of the school had held that position since 2005.

Additionally, the school was participating in a school-based collaboration among the county health and human services department, the school system, and nonprofit community-based service providers. The program was designed to enable at-risk children

and their families to improve adjustment to and performance in school, at home, and in the community. This joint effort provided for prevention and early intervention services including health, mental health, social services, and educational support. One hundred percent of the teachers in the school were designated as highly qualified.

School I also was supported by Federal Title 1 funds; 79.2% of the students qualified for the free or reduced-price meal program. The total number of students attending School I was 461. The school was located in the mid part of the county. The school’s demographics are presented in Table 21.

Table 21: *Demographics of School I*

	% of Total	Female	Male	African American	American Indian	Asian	Hispanic	White
All students		50.3	49.7	24.5	.7	5.9	61.2	7.8
Special education	8.2	1.5	6.7	3.0	0	.2	4.8	.2
ESOL	49.9	26.9	23.0	3.3	0	2.4	43.4	.9
FARMS	79.2	38.4	40.8	19.5	.2	3.0	53.6	2.8

The mobility rate for School I was 26.3%; the attendance rate was 95.2%. The school had 461 students in preschool through Grade 5. The preschool program included Head Start and PreK classes. As described earlier, the school participated in a school-based collaboration among the county health and human services department, the school system, and nonprofit community-based service providers. School I also participated in the Character Counts Program, a nationwide character education program based on the six pillars of character: respect, responsibility, caring, fairness, honesty, and citizenship. The current principal of the school had held that position since 2003.

School C was a PreK-5 school located in the central part of the county. The total number of students attending School C was 284. The school’s demographics are presented in Table 22.

Table 22: *Demographics of School C*

	% of Total	Female	Male	African American	American Indian	Asian	Hispanic	White
All students		50.7	49.3	13.7	.4	12.0	15.8	58.1
Special education	13.0	5.3	7.7	2.8	0	.7	2.1	7.4
ESOL	13.4	5.6	7.7	.7	0	3.2	7.7	1.8
FARMS	19.4	10.2	9.2	4.9	0	3.5	9.5	1.4

The mobility rate for School C was 7.1%; the attendance rate was 96.4%. The school also had a school- and community-based program for students with multiple disabilities. The students in this program were included in general education classes when appropriate. This school participated in the Character Counts Program. The current principal of the school had held that position since 1997.

School F was a small school with just under 200 students in Grades K-5, located in the northern part of the county. The school was given additional staffing to implement a Home-School Model for special education students who received more than 15 hours of service. These allocations allowed students to stay in their own school. The demographics of the school are presented in Table 23.

Table 23: *Demographics of School F*

	% of Total	Female	Male	African American	American Indian	Asian	Hispanic	White
All students		47.8	52.4	6.8	1.6	4.2	5.8	81.7
Special education	10.5	2.6	7.9	1.6	0	0	.5	8.4
ESOL	3.7	2.6	1.0	0	0	0	3.1	.5
FARMS	12.6	4.7	7.9	5.2	0	0	.5	6.8

The mobility rate for this school was 5.5%; the attendance rate was 94.9%. This school had the least diverse student population of any of the schools in Cohort 2 as well as the lowest mobility rate. The principal had been principal of the school since 2006.

*Analysis of Interview Responses*

This section provides a general overview of the interviewee responses, including the relevance of the responses to the research questions. In coding the comments that related to professional learning communities, it was sometimes difficult to assign a specific characteristic code as many of the remarks could be examples of shared leadership and collective learning or supportive conditions and shared leadership. Therefore, the researcher based the coding on the context of the discussion with the interviewee. For example, if the interviewee discussed team planning as part of the master schedule, the comments were coded as supportive conditions. If the interviewee was responding about what was discussed in team meetings, the response was coded as shared leadership. It was difficult to analyze these dimensions individually. Huffman & Hipp (2003) emphasized that these dimensions are highly interdependent and interrelated.

They stated further, “In the real business of school improvement, the dimensions are addressed holistically, simultaneously, and recursively to achieve desired change” (p. 75).

When asked if their schools could be characterized as professional learning communities, the interviewees reported that they considered their schools to be professional learning communities. The staff members that were interviewed were aware of the characteristics of professional learning communities and were able to articulate specific characteristics that were evident in their schools. As noted in the respondent quotations, the interviewees were able to cite examples of the components of professional learning communities in their schools. When asked about the impact of the PLCI on her school, one assistant principal said, “I think very positively. I think first, it really cemented the collaboration for us as a PLCI team in the way we communicated with each other.” A second grade teacher at the same school commented,

I think it’s been nice to kind of help everyone become more of a stakeholder and be involved in the decision-making process. [We] just have more of an idea as to what’s going on and why it’s going on.

The principal of the school talked about the time the school went through the training.

She said,

It was fortunate at the time that we became a part of it, because prior to my becoming principal of the school, there were multiple leaders. So the staff were trying to figure out, “what exactly am I accountable for?” So relying on the components and the characteristics of the PLCI really helped us to take a look at what we already have in place that’s working well for the school, that’s making a difference for student achievement and what systems and processes do we need to put in place. So I think that’s what the PLCI did for us, is it allowed us to take a collective look around collective ownership of current practices in our building, and get rid of the stuff that really wasn’t a good impact on kids.

The principal of the school with the highest collective efficacy described the learning community in the school. She said.

I would like to begin by telling you I think it was an incredible experience in our school...so we see ourselves, a learning community in our school...first of all we're a community of learners trying to figure out the best way to do things. And what the PLCI gave us was a structure of looking at the things that we were doing that seemed to be working, gave us some ideas, because sharing across professional learning communities was also very powerful.

Another staff development teacher said, "Our school has totally changed since PLCI.

We've gone from a directed principal-led staff to total collaborative staff and that included parents and all stakeholders."

The interviewees gave examples of all the characteristics of a professional learning community; however, most often they commented on the presence of collaboration, shared values and vision, and the structures that supported the professional learning communities in their schools. As reported in a previous section of this chapter, these results align with the results of the PLCA Survey, which generated the highest mean scores for collective learning and application, shared values and vision, and supportive conditions.

There were many comments about collaboration in these four schools. The following comment from one principal is exemplary of the comments from the interviewees; she said,

I mean, I want a more collaborative approach, but I think the PLCI provided the structure and forum and [the] why and the how in terms of the impact on student achievement when you have a forum where people can share their ideas and things like that.

A major strand identified through the interviews related to how teams came together to review and analyze data. A staff development teacher said,

...and the other part is a lot of, there's a lot of focus that's on data, looking at student data using that information to drive instruction.... So really it's not one person who's making decisions or it's not really an up-down type situation; it's really all of us working together to make decisions.

The interviews included many examples of teachers' and administrators' talking about the kinds of structures and supportive conditions that resulted from implementation of the PLCI. The supportive conditions were established by developing supportive relationships and providing supportive structures. There were many comments about developing trust within the group and providing time for the shared work. One kindergarten teacher reported,

It was nice to actually have the time to apply the different strategies that we went through, not necessarily that day but what we need to do as a team. So, I mean, time is rare and for PLCI to give that opportunity for us was very meaningful.

One principal commented,

Putting systems in place such as, like my team leaders, when we do our team data chats, they facilitate the data meetings, not myself or not my assistant principal. We have a systematic process for doing articulation from one grade level to the next. It's very strategic.

When asked what their staff would say about the structures in place to support teaching and learning, another principal said, "I really, really try to support teacher collaboration, teacher growth, teacher needs. You know I just try to get them whatever they need to do [their work]."

For a professional learning community to thrive, shared values and vision must be evident. In the schools where staff were interviewed, every staff member and administrator was able to articulate a common purpose and commitment to that vision. Staff from one school were able to describe the vision with clarity. The staff development teacher at the school with the highest collective efficacy said, "Yeah, I think we're lucky, I mean, everybody really has the core beliefs and high expectations.... I mean everybody really does their best and tries hard." A teacher in the same school reaffirmed that everyone in the school held the same beliefs. She said, "So, I mean again, we go back to



our values. Every kid walks in this door and we try. I really believe that. We try our best.” One school in particular ensured that the shared vision was known not only to the staff but also to the students and school community. Each Monday, the staff and the students began the school week together in the all-purpose room and recited the school’s mission. The mission was to provide all students with a rigorous instructional program in a respectful, nurturing environment. A teacher in this school said,

I think the vision of looking at the children and believing the children in this school can achieve; they can be successful; they will go on to be successful in middle school, high school and further on. I do think it’s shared—I think everybody has the same vision of expectations for children.

To obtain insight on the factors that might contribute to the differences of collective efficacy between PLCI schools, the researcher asked questions about the professional development received by the schools. Many of the responders talked about the time for reflection as being even more significant than some of the direct professional development.

Another theme that was evident in analyzing the interview transcripts was the acknowledgement that the schools were working to ensure high expectations for all students. Administrators and teachers communicated that all students in their schools were expected to learn and to learn at high levels. The shared vision in each of the schools focused on ensuring that all students succeeded and that the staff were doing everything possible to ensure student learning. Clearly, the focus of all the schools on becoming professional learning communities had its underpinning in the groups’ unwavering commitment to student learning.

The interviewees provided specific examples of how shared and supportive leadership was evidenced at their schools. Interviewed teachers and administrators talked

about the importance of sharing leadership. It is difficult to separate supportive and shared leadership from collective learning and application. Both of these characteristics are characterized by school structures that support collaboration. There was substantial evidence from the interviews that shared leadership characterized these schools. When asked if teachers had emerged as leaders and how leadership might be shared, the staff development teacher at one school said,

I think we have moved away from one or two people making the decisions to a group of people making the decisions. And I think it has opened up conversations that have allowed us to move forward with students' best interests in mind.

The reading specialist in the same school commented,

Our team leaders have taken on more of a role than that through our instructional leadership team. We've empowered them as the core team members to go back to their teams and seek information that's not always the administration asking for something.

### Summary of Interview Results

Analysis of the interviews revealed evidence that these schools can be characterized as professional learning communities. Both teachers and administrators provided descriptions and specific examples of the supports and structures that emerged as the school staff worked together. They concurred that the professional development from the PLCI contributed to developing their learning communities and added coherence and direction to their school teams.

### Differences Between Schools

It has previously been noted that the poverty level of the school was negatively related to the strength of collective efficacy: the higher the poverty level of a school, the lower the collective efficacy. Although the schools surveyed in this study affirmed this

relationship, it should be noted that there were high-poverty schools that reflected high collective efficacy.

Another factor that generated a mild significant relationship to collective efficacy was the number of years that teachers had been in their current schools. Working together over time allows a team to build with the same people, and if the culture of the school is one where people work together as a professional learning community, higher efficacy can be achieved. Table 24 includes the schools sorted by efficacy. With the exception of School A, which was at the lower end of collective efficacy, teachers' years in their current schools represented one factor that influenced efficacy.

Table 24: *Collective Efficacy and Years in Current School*

School	Efficacy	Years in current school
C	91.98	11.17
F	89.12	5.88
B	88.83	8.73
J	86.03	7.95
G	85.45	5.20
H	79.83	6.07
A	75.25	10.67
I	71.15	6.33
E	63.60	5.88
D	61.11	4.20

Therefore, it is extremely relevant to the development of efficacy that staff have the opportunity to work with each other over a period of time.

## Leadership Practices and Collective Efficacy

As leadership is extremely important to the success of a school, one of the questions addressed in this research was related to leadership practices that might influence collective efficacy. Leadership and collective efficacy were moderately related based on the correlation of .331. There were differences in the levels of collective efficacy between schools, which ranged from 63.60% to 91.98%. This range of outcomes was based on nine schools. Although the 10<sup>th</sup> school reflected the lowest collective efficacy, it had only six responders and was not used in this analysis. Table 25 depicts the leadership scores (Questions 1-10) on the PLCA Survey for nine of the ten Cohort 2 schools. These questions assessed the extent to which there was shared leadership in the school in relationship to the collective efficacy of the school. The scores are displayed from the highest efficacy to the lowest efficacy.

Table 25: *Collective Efficacy and Shared Leadership*

School *	Collective efficacy	Shared leadership average	Years at school
School C	91.98	92.50	12.0
School F	89.12	90.00	3.0
School B	88.83	74.00	1.0
School J	86.03	95.91	2.0
School G	85.45	86.00	4.0
School H	79.83	79.93	4.0
School A	75.25	67.50	8.0
School I	71.15	73.46	6.0
School E	63.60	60.00	4.0

\*School D is excluded from the analysis due to the low respondent rate

These data reveal that, in general, the higher the collective efficacy the higher the leadership scores. Only School B, which demonstrated high efficacy, had a lower relative leadership score. It should be noted that the principal, who was new to the school, was not the principal that participated in the PLCI training with the core team. This fact might have influenced the outcome of the surveys. Review of the number of years that all principals had been at their schools revealed a lack of patterns related to the leadership subsection on the PLCA Survey. Although the principal with the longest tenure led the school with the highest collective efficacy, the principals with the second and third longest tenures led schools with relatively lower shared leadership averages.

During interviews, the principals and the assistant principals often mentioned the importance of sharing leadership with regard to the success of their schools. Additionally, the interviewed teachers affirmed that they participated in the decisions made at the school.

#### The Professional Learning Communities Institute Training

Review of the professional development that the schools received provided additional information about the relationship between professional learning communities and collective efficacy. PLCI artifacts and documents that included Board of Education memoranda about the PLCI initiative and professional development agendas were reviewed. State achievement test results and responses to a locally developed survey assessing the perceptions of the school staff about professional learning communities and student expectations were examined. The Cohort 2 schools began their professional development in July 2006 and completed their direct professional development in June 2008. After exiting the formal structured professional development, these schools

continued to receive informal consultative support, and at times staff members from Cohort 2 schools were called upon to share their experiences with the current cohort group.

The PLCI team comprised a director, a teacher specialist, and an administrative support person to facilitate and train the school core team and support the school through the 2 years that the schools were designated PLCI schools. Responsibilities of the team members included designing, planning, and implementing the structured training and providing technical support to the PLCI schools. The director was a former elementary principal who was the current principal of one of the case study schools. The teacher specialist was a nationally board certified teacher and a former staff development teacher. In addition to providing face-to-face professional development, the PLCI team went to each school and met with key staff. This arrangement was essentially a coaching model and an example of social persuasion, one of the sources of efficacy. Additionally, when invited, the PLCI team participated in leadership, school improvement, team, and parent meetings at the school.

The focus of the professional development was to improve the capacity of each school's core leadership team to become a professional learning community. The core team members, including administrators, teachers, support service personnel, and parents from the schools, worked together to increase the skills and knowledge important in sustaining high-performing professional learning communities in their schools (Memorandum, 2007). The core team met for structured professional development 12 times during the 2 years. These full-day sessions were designed to increase the teams' understanding of the characteristics of high-performing professional learning

communities. This structured training was intended to build the capacity of the teams with the hope of creating change at the school level (Memorandum, 2007). These sessions included a morning session from 8:30 a.m.-12:00 noon for the direct professional development experience. Morning sessions included intensive review and reflection of the case studies. These reviews were structured to include small group discussions, whole group debriefing, and reflection (Memorandum, 2007). The studies presented included case studies of successful schools in the district and other organizations including Southwest Airlines and the New York City Police Department. A major part of the professional development included the stories of successful schools and organizations presented through the case studies and through direct communication from the teachers and principals of successful schools. The core teams also had the opportunity to speak with teachers and administrators from the case study schools. During afternoon professional development sessions, from noon to 4:00 p.m., the core teams applied their learning to their own schools. At this time, school data were reviewed and planning related to what was going to happen back at the school occurred. During the interviews, both teachers and administrators commented on the significance of the afternoon session as one of the cohort structures that was critical to the school's becoming a community of learners.

During the interviews, many teachers and administrators talked about the case studies, stating that the case studies spurred discussion and reflection that assisted them in developing their school improvement plans. A staff development teacher from one school mentioned the trainings that were most effective. She said, "Looking at the case studies, I

think was a good kickoff for us to get talking. And then one other thing—another school shared their interventions. I think that was really helpful.”

One of the principals talked about the business models that were presented in the case studies. He said,

I really think that some of the case studies that we looked at, even though they were business models, people just didn't think about how some of the things we were trying to work on here had actually been taken from other settings. We did a couple of book studies, so we had small groups working and a couple of different excerpts from the professional literature, and [were] given opportunities to talk together and then share out with the larger groups.

This type of learning exemplifies two sources of efficacy, vicarious experiences and social persuasion. The case studies, in particular, involved the PLCI cohort teachers' reading about the successful schools and organizations and visiting these schools. The teachers and administrators were given the opportunity to observe what organizations were doing to support learning and reflection. Additionally, the PLCI staff brought in other teachers and administrators to talk to and coach the members of the PLCI cohort. At times, staff from the previous cohort also came to work with the Cohort 2 schools. This direct engagement from successful people with expertise to share is an example of social persuasion, another source of efficacy. These experts met with the core teams, assisted them in becoming more cohesive groups, and supported the groups' shared beliefs. Just as Hoy and Woolfolk (1990) noted that teachers new to a school are socialized by the organization to learn about the school culture and expectations, in this case, the core teams' learning from and working together with the previous teams influenced the development of the groups' beliefs. An assistant principal explained how the school used some of the learning:



I don't think that we so much tried to replicate anything from any of the schools. We said maybe we had a commonality with something but we really looked at our school and we said, "What can we do to make our school better?"

At the heart of professional development is how the work connects to school improvement and increased student results.

The PLCI training used DuFour's May 2004 *Educational Leadership* article "What Is a Professional Learning Community?" as the basis for describing a professional learning community. DuFour emphasized that the professional learning community model establishes the core mission of formal education: to ensure that students learn. This shift from teaching to learning is critical to schools' becoming professional learning communities. To change the focus from teaching to learning, teachers must work together. The PLCI professional development emphasized teachers' working together to analyze and improve instructional practices.

Each school in the PLCI applied for up to \$10,000 to support the implementation of its school improvement plan. These applications were developed collaboratively with the school staff and parents. The funds provided to the schools during the 2 years of structured professional development were used to support the school improvement goals. Some of the activities that the funds supported were additional time for collaboration, after-school intervention and enrichment for students, mentoring programs, and parent outreach.

#### *PLCI Training and the Sources of Collective Efficacy*

The researcher sought evidence of experiences and activities in the PLCI training related to the sources of efficacy. As schools reflected upon the learning from case studies, school teams assessed what was working in their own schools and determined the

current state of the school culture that supported student achievement. All the sources of efficacy were exhibited in the core teams' learning. Table 26 includes examples of the professional development that related to the sources of efficacy:

Table 26: *PLCI Activities and Sources of Efficacy*

Sources of efficacy	Professional development activity
Mastery learning	<ul style="list-style-type: none"> <li>• Team analysis of data for decision making</li> <li>• Celebration of successes</li> <li>• Gap analysis with regard to what works and what does not work in the school</li> <li>• Reflections about what success looks like in their school</li> </ul>
Vicarious experiences	<ul style="list-style-type: none"> <li>• Case studies</li> <li>• Learning from other schools</li> <li>• Observation of teams</li> <li>• Reflective discussions about observations and interactions with other schools</li> </ul>
Social perception	<ul style="list-style-type: none"> <li>• Support from PLCI central office coaches</li> <li>• Teamwork</li> <li>• Working to support cultural competence</li> <li>• Building shared knowledge</li> </ul>
Affective state	<ul style="list-style-type: none"> <li>• Organizational culture</li> <li>• Building psychological safety</li> <li>• School system initiatives</li> </ul>

During the interviews, participants provided examples of learning that demonstrated sources of efficacy; several examples were related to vicarious learning and social persuasion. Teachers reported that they learned a great deal from other teachers

during the professional development activities. Two principals that were interviewed were from the two smallest schools, and they commented that learning from schools similar to theirs was helpful. Because of the unique problems and issues of small schools, the principals asserted, having colleagues from other schools for consultation was useful.

#### Achievement Results and Other Success Measures

Several measures of Cohort 2 schools revealed that these schools had demonstrated characteristics of professional learning communities and had applied them in their schools. Most interesting was the examination of school culture and belief systems within each school. Each PLCI cohort took a 14-question survey (Appendix E), developed by the PLCI team to capture the perceptions of the team about their school as a professional learning community. Questions were asked about some of the dimensions of professional learning communities, such as collaboration, shared leadership, decision-making processes, and use of data. The school staff also were asked about their beliefs with regard to student learning. This survey was administered six times during the 2 years of structured training to gauge changes in perceptions at the school level. Many of these questions were similar to the questions on the PLCA Survey and the CE Scale. These results triangulate the outcomes of the surveys administered in this study. Survey results indicated that the PLCI team members clearly identified characteristics of professional learning communities in each school. In particular, school staff had high expectations for students, the school culture supported collaborative teams, and the work of the school focused on student learning (Memorandum, 2009). Responses to all 14 questions increased in strength from 2006 to 2008. The aggregated results of this survey provided support for the notion that becoming a professional learning community directly

influences the beliefs and attitudes of staff. The most recent survey results from the Cohort 2 schools revealed that even 1 year after the direct professional development, schools were demonstrating characteristics of professional learning communities as well as strong beliefs about their commitment to student learning. These results align well with the results of the PLCA Survey and the CE Scale administered to the schools for this research study.

*MSA Results for the PLCI Schools*

The PLCI schools participated in the direct professional development in 2006-2007 and 2007-2008. Table 27 presents the aggregate results for the Maryland State Assessments (MSA) from 2006 to 2008:

*Table 27: MSA Proficiency Percent by Subject and School*

	2006		2007		2008		2006-2008	2006-2008
	Math	Reading	Math	Reading	Math	Reading	Difference	Difference
School C	72.9	72.6	82.5	87.9	97.8	100.0	24.9	27.4
School F	80.4	78.5	78.1	79.3	78.1	91.4	-2.3	12.9
School B	84.2	85.6	70.7	84.5	76.2	81.4	-7.9	-4.2
School J	84.1	77.3	82.7	88.4	80.9	88.1	-3.2	10.8
School G	58.9	60.3	65.0	70.5	72.5	66.1	13.6	5.7
School H	53.2	55.8	61.7	64.6	71.0	75.1	17.8	19.2
School A	69.5	58.7	73.4	71.1	71.4	74.6	1.9	16.0
School I	64.7	65.3	77.3	72.5	85.4	85.9	20.7	20.5
School E	63.1	75.6	74.0	80.6	75.9	88.8	12.8	13.2
School D	72.9	74.7	74.6	74.7	71.4	79.2	-1.5	4.6

The schools in Cohort 2 showed improvement in their MSA performance over a 3-year period. Analysis of 2006-2008 MSA scores revealed that student outcomes had

increased, exceeding state and county results (Memo, 2009). Only one high-performing school had a negative difference in both math and reading. Six of the ten schools had increased performance in both math and reading. Seven of the ten schools had double-digit improvements in reading, and five of the ten schools had double-digit increases in mathematics.

Studies of schools with high collective efficacy have indicated that student achievement is less predictable by race and socioeconomic factors (Goddard et al., 2000; Tschannen-Moran & Barr, 2004). A school having a strong sense of collective efficacy is an important factor in closing the achievement gap. Table 28 shows that although all groups improved on their math and reading MSA results over the 3-year period (2006-2009), African American, Hispanic, special education, limited English proficient (LEP), and FARMS students show a higher percentage point increase, compared with White and Asian students.

Table 28: *Average Changes in MSA Scores from 2006-2009 by Disaggregated Groups*

Subgroup	Change in scores 2006-2009	
	Math	Reading
African American	13.24	13.86
Asian	3.62	8.19
Hispanic	9.07	11.99
White	3.62	11.99
LEP	11.01	13.10
Special education	7.07	13.26
FARMS	10.88	15.60

The results in this chart depict significant improvements on the Maryland State Assessments (MSA) in math and reading for the 10 Cohort 2 schools. The fact that traditionally underserved populations achieved relatively more growth than White and Asian students is encouraging. The comments from the teachers and administrators corroborated the assertion that the school staff was focused as a professional learning community on increasing student achievement. The interviews and the surveys validated the existence of a strong sense of efficacy nurtured by staff members' working together and experiencing effective professional development.

### Summary

This chapter presented the findings from the data that were collected to investigate the relationship between the characteristics of professional learning communities evidenced in 10 elementary schools and perceived collective efficacy. The perceptions of teachers and administrators were ascertained using two surveys. Demographic information also was collected from the teachers and administrators in the 10 schools. Further, interviews with administrators and teachers provided more in-depth information about the relationships between professional learning communities and collective efficacy.

## CHAPTER 5: DISCUSSION, CONCLUSIONS, AND IMPLICATIONS

### Overview

This mixed-method study examined the relationship between professional learning communities and the collective efficacy in 10 elementary schools that participated in the Professional Learning Communities Institute (PLCI) in a large suburban school district outside Washington, DC. The researcher used a conceptual framework that was based on organizational learning to analyze the relationship between professional learning communities and the collective efficacy of teachers and administrators through the lens of the characteristics of professional learning communities as outlined by Hord (1997). Educating students to meet high accountability standards and, even more importantly, preparing students to be competitive in a complex and demanding world require schools to become high functioning organizations. The goal of a school community is to enhance personal and collective effectiveness so that students can learn at high levels (Olivier, 2001). Although the relationship between teacher efficacy and professional learning communities has been studied previously (Goddard & Skrla, 2006; Goddard & Goddard, 2001; Goddard et al., 2000), there have been relatively few studies that specifically examined the relationship of professional learning communities and collective efficacy (Pangallo, 2009; Mawhinney et al., 2005; Olivier).

The following section includes the purpose of the study, research questions, methodology, conclusions of the study, and implications from the results.

## Purpose of Study

The implementation of the PLCI allowed the researcher to analyze the relationship between schools' receiving structured and deliberate professional development in becoming a professional learning community and the effect of this experience on the beliefs of the group about their ability to make a difference for their students. These beliefs were identified through the perceptions of the teachers and principals about the strength of collective efficacy in their schools. Quantitative and qualitative data were collected from teachers and administrators in 10 elementary schools.

## Research Questions

This study sought to investigate the relationship between the structure of professional learning communities and the characteristics of a professional learning community appearing to be more strongly linked to the sources of perceived collective efficacy. Specifically, this research focused on exploring the following questions:

1. What are the perceptions of the PLCI participants about their school's being a professional learning community?
2. Are there characteristics of professional learning communities that seem to have an influence on perceived collective efficacy of teachers?
3. What are the perceived leadership practices that contribute to the differences in the perception of collective efficacy between PLCI schools?
4. What are the factors that contribute to the differences in the perception of collective efficacy between the PLCI schools?



## Methodology

This study used both quantitative and qualitative approaches to collect data to answer the research questions. This mixed-method approach utilized a sequential explanatory design in which quantitative surveys were administered first to inform the qualitative part of the study. The qualitative part of the study included interviews with teachers and administrators from four schools. Two surveys, the Professional Learning Communities Assessment (Huffman & Hipp, 2003) and the Collective Efficacy (CE) Scale (Goddard, 2002) were administered to teachers and administrators in the 10 Cohort 2 schools. The PLCA Survey assessed the perceptions of staff about the extent to which the five characteristics of professional learning communities were evidenced in their schools. The CE Scale assessed the strength of the teachers' and administrators' perceptions regarding the collective efficacy in their schools. In addition, the following demographic information was collected: the poverty level of the school, the role of the participant in the school, the participant's years in education and years at the current school, and the gender of the participant.

The qualitative portion of the study included individual and group interviews with 18 teachers and administrators from four schools. The researcher interviewed the administrators, several teacher leaders, classroom teachers, and one support professional. A semistructured question approach allowed the researcher to develop questions about the PLCI experience, the components of professional learning communities present in the school, and the evidence of sources of efficacy. This approach also allowed the researcher to ask follow-up questions and probe more deeply about the professional

development and structures apparent in the schools. In addition, a review of the professional development that the schools received provided evidence about the relationship between the components of professional learning communities and the sources of collective efficacy.

### Summary of Findings

The following section summarizes the answers to the research questions explored in this study.

1. What are the perceptions of the PLCI participants about their school's being a professional learning community?

Both the quantitative survey data and the interview data indicated positive perceptions about the PLCI experience. The survey and the interviews revealed ample evidence that the staff viewed their schools as professional learning communities. The comments from the interviews reinforced the finding of the PLCI's positive impact on the school culture. The PLCA Survey substantiated the finding that the 10 Cohort 2 schools demonstrated characteristics of professional learning communities. Although all the dimensions outlined by Hord (1997) were perceived in these schools, shared values and vision, collective learning and application, and supportive conditions were the dimensions perceived most strongly by the teachers and administrators. In responses similar to the survey outcomes, interviewees shared many examples of shared values and vision, collective learning and application, and supportive conditions. The essence of a school's being a professional learning community is linked to the organizational culture of the school. This study was conducted during the year following the schools' participation in the direct professional development. Even after the structured

professional development was completed and the funding for the PLCI was exhausted, the schools still functioned as professional learning communities; the culture seemed to be ingrained for the way “things were done in these schools.” In fact, teachers in one school reported that all interviews for new staff were conducted by both teachers and administrators and that dimensions of professional learning communities, such as collaboration, shared leadership, having high expectations for students, and utilizing data to drive decisions, were used in the interview process. They wanted to hire teachers that would fit into the professional learning community at their school.

2. Are there characteristics of professional learning communities that seem to have an influence on collective efficacy of teachers?

The correlations between the dimensions of professional learning communities and collective efficacy were significant, with four of the dimensions being moderately related and one dimension, shared personal practice, being mildly related. Shared personal practice was the characteristic that the teachers and administrators perceived to be the most difficult to execute. Participants commented that there were many opportunities for informal sharing; this type of sharing seemed to be supported by the professional relationships and trust that had been established in the schools. The lack of time and resources affected schools’ being able to implement formal structures for peer reflection, coaching, and mentoring.

Although there was no evidence to indicate which dimensions of professional learning communities strengthened specific sources of efficacy, examples of the sources of efficacy were evident in the PLCI experience. According to Haas (2005), increasing student achievement over time, which is related to increasing collective efficacy, is

supported by mastery experiences. The schools in this PLCI demonstrated increased student results. Clearly, interaction with school staff from successful schools and opportunities to visit and observe successful schools reinforce efficacy through vicarious experiences. Working as a team and learning together strengthen efficacy; this type of activity was reported by all interviewees. Many teachers and principals spoke about building shared knowledge and relying on team structures as being key to their school organization. The development of trust and an expectation that the organizational structures in schools support professional learning communities bolster collective efficacy (Louis, 2006). Staff members' learning from one another provides the environment for all the sources of efficacy to be reinforced.

Although the urgency of No Child Left Behind and the emphasis on state accountability results were mentioned during the interviews, the driving force to make a difference for students was perceived in the laser-like focus on student achievement. During the interviews, administrators, teacher leaders, and classroom teachers reported that meeting high standards for every student was the core mission of their school.

3. What are the perceived leadership practices that contribute to the differences in the perception of collective efficacy between PLCI schools?

Although it is difficult to identify specific leadership practices that contributed to differences in the collective efficacy between schools, it is clear that the administrators in all of the Cohort 2 schools utilized a distributive form of leadership. There were many comments from the teachers and administrators in the school about how teachers were engaged in decision making and sharing leadership. All teachers highlighted many occurrences of shared leadership. Administrators were proud of the structures that were

in place to support shared leadership. Collaboration was highly regarded in all the schools as evidenced by the outcomes on the PLCA Survey and the interviews. Both teachers and administrators reported that being a professional learning community cemented the collaboration among stakeholders. Each of the schools had either implemented or refined the school structure so that staff would have many opportunities to work together to review student achievement data, plan instruction, and problem solve. The interviewees commented that the professional learning community culture was part of their school's character. Moreover, shared leadership and collaboration exemplified this culture.

4. What are the factors that contribute to the differences in the perceptions of collective efficacy between the PLCI schools?

The schools in Cohort 2 included schools with high poverty levels and diverse student populations as well as low-poverty schools with little racial diversity. The schools ranged in size from small elementary schools to midsize elementary schools. The school principals varied in their tenure at the schools. In general, the 10 schools demonstrated strong collective efficacy; however, there were some differences between schools. The range of perceived collective efficacy was 61.11% to 91.98%. There was a moderate inverse significant relationship between poverty and collective efficacy. Low-poverty schools exhibited higher collective efficacy than high-poverty schools. The length of time teachers were in their current school was mildly related to the collective efficacy in that school. The building of trust between team members occurs when the team works together, and it gets stronger over time. Additionally, there was a moderate relationship between years in education and poverty level. This finding reflects the problem that many districts have in that less experienced teachers work in the neediest schools.

## Conclusions Based on Results

### *The Relationship between Professional Learning Communities and Collective Efficacy*

As indicated in previous research (Hall & Hord, 2001; Olivier, 2001, Ross & Gray, 2006; Haas, 2005; Pangallo, 2009), this research corroborated the relationship between schools that demonstrate the characteristics of professional learning communities and the collective efficacy of teachers and administrators. Although there were positive correlations between the dimensions of professional learning communities and collective efficacy, it is most likely that the interactions of all these characteristics related to building the collective efficacy in schools. It is unmistakable that these dimensions work together to create a professional learning community in a school. As indicated in chapter four, in coding the dimensions during analysis of the interviews and PLCI documents, it was difficult to categorize a comment about collaboration as to whether the interviewee was reporting on shared leadership, collective learning, or structures that were in place to support working together. The culture in a school in which professional learning communities are evident is one in which teachers and administrators do not necessarily think about specific characteristics; rather, there are structures and a climate that support teachers', administrators', and other stakeholders' working together on behalf of the students and families in the schools. When pressed in the interviews, teachers and administrators could identify examples of the dimensions, but most often, their responses were related to how the school staff worked together to ensure that all students learned. All of the characteristics of professional learning communities showed a positive relationship to collective efficacy in the Cohort 2 schools,

with collective learning, shared vision, and supportive conditions reflecting the strongest agreement. This study's findings are similar to Huffman & Hipp's (2003) findings from an in-depth study of six schools that were considered professional learning communities; those researchers wrote, "There is a distinct yet overlapping nature and interdependency of each of the five PLC dimensions" (p.143). Huffman & Hipp found in their qualitative study that "when principals share decision making and nurture the capabilities of all staff to focus on a common vision, school goals are more likely to be achieved" (p. 145). This description is the essence of a professional learning community.

Huffman & Hipp (2003) reported that it was difficult in their research to separate the dimensions of collective learning and application and shared personal practice. In this research both teachers and administrators commented on the informal opportunities to share with each other afforded them due to the various structures that were implemented to support collaboration in the schools. Confirming the recent research by Pangallo (2009), this study found that formal opportunities to engage in peer observation and reflection, formal walkthroughs, and formalized occasions to share practices did not occur as much as school staff would have liked. The teachers and administrators all reported that time was a precious commodity. With the pressures on the schools due to high-stakes testing and the loss of financial support for substitutes, the schools relied on more informal ways to share their learning. All of the schools, however, were committed to grade-level team planning and instructional leadership meetings to review student data. There was an expectation in these schools that teachers work with each other. According to Huffman & Hipp, supportive conditions are necessary to hold the other dimensions

together. These organizational structures for teams to work together were embedded into the schools and were considered nonnegotiable factors by the staff.

The results of the surveys and the information received from the interviews confirmed the need for a high level of trust and a culture of respect for a professional learning community to be in place in a school. Positive working relationships seemed to exist in these schools, and the teachers and administrators reported that teachers liked working in the schools. These relationships do not occur by happenstance; they are developed through the structures in place for staff to engage with each other. Through this engagement, trust is developed. During the interviews staff commented that they could go to colleagues and administrators for help and support. In one of the highest poverty schools, the principal stated that teachers traveled from far distances to work in the school because they felt a part of the learning community.

#### *High Expectations for Student Learning*

A school's being a professional learning community and building collective efficacy among staff is critical to improving student results. Research has substantiated the notion that both of these constructs influence student achievement. Both high-poverty schools and low-poverty schools in this study demonstrated increased student achievement over a 3-year period. Additionally, the schools in this cohort exhibited greater improvements in math and reading scores for African American and Hispanic students. Six of the ten schools that were examined showed increases on the state assessments in mathematics, and nine of the ten schools showed increases in reading. The presence of professional learning communities and the existence of high levels of collective efficacy have been shown to influence higher student achievement. An



encouraging finding from this study is that in these schools, students in traditionally underserved groups increased their achievement at a greater rate than did White and Asian students. Structuring schools as professional learning communities builds collective efficacy. The concept of reciprocal causality comes into play with regard to the interaction between the sources of efficacy and professional learning communities; these factors are reinforced by one another.

Shared vision was one of the strongest professional learning community dimensions identified by the schools in this study; this factor relates to high expectations for students. When the researcher asked interviewees about the shared vision in the schools and how it was displayed, there were many comments from the principals and teachers about the school staff's having high expectations for all students. The majority of administrators and teachers emphasized that there was a culture of high expectations for every child in their schools, noting that providing rigor and eliminating the achievement gap was at the forefront of discussions about every child. In these schools, student data were disaggregated for all student groups. All school improvement plans for the schools had set targets to decrease and eliminate the achievement gap. There is a link between perceived collective efficacy and differences in student achievement among schools (Bandura, 1993; Goddard, 2001). Goddard and Goddard (2001) found that perceived collective efficacy was a stronger predictor of differences among schools. The effect of perceived collective efficacy on student achievement has been found to be stronger than SES, race or ethnicity, or gender (Goddard et al., 2004). Therefore, when schools organized as professional learning communities and staff work together to develop a shared vision, the collective efficacy of the staff is enhanced. This phenomenon

is critically important given the finding of this research related to the poverty level of the school and collective efficacy.

### *Collective Efficacy and School Poverty*

A noteworthy finding of this study is the relationship between the poverty level of a school and collective efficacy: the lower the school's poverty rate, the higher the collective efficacy. Mastery experiences, one of the four sources of efficacy, have been found to be strongly related to the strength of collective efficacy (Haas, 2005; Goddard, 2001). Low-poverty schools tend to have higher achievement results. Mastery experiences build upon previous successes, in turn, increasing the perceptions of people about their own ability to continue to meet high goals. Past school achievements are strong predictors of collective efficacy. In general, although all schools have challenges to meet the needs of their students, there are generally more challenges in high-poverty schools. The stresses on schools to meet AYP and the ways in which schools respond to outside pressures are related to another source of efficacy that Bandura has named *affective states*. In the staff interviews at the two Title 1 schools, the general response about the outside pressures indicated that instead of deterring staff to meet goals, these pressures invigorated them to even higher levels. It appeared that these schools could tolerate external pressures and were adaptable and flexible enough to cope with these challenges.

Another finding in this study was that years in teaching and the poverty level of the school were inversely related. Earlier research had found that more experienced teachers were more likely to work in lower poverty schools (Goldhaber, 2008; Von Secker, 2009); in the district in this study, teachers in the high-poverty schools had about

1.5 fewer years of teaching experience than teachers in the lower poverty schools. Also, in this district, the teacher turnover data in high-poverty schools paralleled the pattern that has been observed in urban school districts (Elfers, Plecki, & Knapp, 2006), where there is greater teacher turnover in high-poverty schools. Teacher turnover negatively affects school climate and program stability (Von Secker). Coupling this finding with the positive relationship between teachers' years in their current schools and collective efficacy indicates that it is essential to provide supports and incentives to keep teachers in their schools, working together and building high functioning teams. This factor is particularly important in high-poverty schools.

#### Recommendations for Future Practice

It is essential that schools be organized to support collaboration for administrators and teachers to work together to meet the learning needs of students. There must be an infrastructure that supports all the dimensions of a professional learning community. In this study, each principal with his or her staff participated in structured professional development to learn how to be a professional learning community. The type of professional development was important as well. The job-embedded professional development included activities that strengthened the sources of collective efficacy through vicarious experiences and social persuasion. The school teams working together reinforced the affective state or the emotional support that the teams provided to one another; the team became more than its parts. The teachers and principals in these schools believed they were accountable for all the students in their school to learn at high levels.

It is important to provide time for school teams to plan together, review and analyze student data, and reflect upon the teaching and learning that occur in their

schools. Of all the professional development activities that the interviewees discussed, having time to interact and work with colleagues was unanimously considered to be the most beneficial. Even without the financial support that the schools received during their 2-year professional development in the PLCI, the schools continued to prioritize the importance of finding the time to work together. This time can be found by restructuring the master schedule and refocusing priorities to ensure collaboration.

It is critical to emphasize to principals the importance of shared leadership. Professional development for administrators should include the study of distributive leadership with the emphasis on instructional leadership and shared decision making. Because of the complexity and challenges of ensuring that all students meet high standards, principals cannot do it alone. The administrators in this study, the principals in particular, felt comfortable distributing the leadership and taking the time needed for collaboration and shared leadership to flourish in their schools. As future school-based leaders are trained, they need to be comfortable with this style of leadership. Huffman & Hipp (2003) emphasized how important it is that leaders do not simply “give lip service or make half-hearted attempts to engage stakeholders in important school efforts” (p. 146).

Professional learning communities and collective efficacy are powerful constructs that have a strong relationship. Schools and school districts should provide job-embedded professional development that supports the development of professional learning communities through strengthening the sources of efficacy. In this study, shared vision, collective learning, and supportive conditions were the professional learning community dimensions that generated the highest levels of agreement among the schools. Schools

need to provide structures such as joint planning, easy access to student data, and a master schedule that supports the needs of the students as well as the strengths of the staff. These structures then build opportunities for teachers and administrators to establish respectful and trusting relationships. When staff members learn together, relationships are cemented and teams thrive.

There are specific activities that fortify the sources of efficacy. Peer reflection provides the opportunity for colleagues to influence each other; this activity is an example of social persuasion. Shared personal practice is the component that exhibited a mild relationship to collective efficacy, and both teachers and principals reported that lack of time rather than a lack of interest to engage in more formal shared personal practice opportunities hindered such activities. It is recommended that schools seek more ways to formalize opportunities for teachers to reflect on their practice. In addition, opportunities to work with mentors and coaches support two of the sources of collective efficacy: vicarious experiences and social persuasion. Schools and school systems should support these kinds of interactions with teachers.

Professional learning communities shape both the culture and the organizational structures within a school building. The transformation of a school requires that the organization in the school become more flexible to respond to the instructional needs of the students. Mulford and Silins (2003) emphasized the importance of establishing a culture within the organization that promotes trust and caring and establishes structures that reinforce reflective practice and ongoing learning. For schools to build this type of culture of collaboration and trust, the central office needs to align its work to support teaching and learning and the establishment of professional learning communities.

Central offices will benefit from becoming professional learning communities themselves as they align their supports.

The finding that there was a difference between the collective efficacy of staff in low-poverty and high-poverty schools highlights the essentiality of professional development's being focused on building collective efficacy at the school level. Clearly, understanding the sources of efficacy will help teachers and administrators at the school level to design and implement professional development that strengthens these sources. Having a strong professional learning community is one way to build the collective efficacy at the school level.

As indicated by the positive correlation between years in the current school and collective efficacy, it is important to keep teachers together for as long as possible. Providing teachers with incentives to stay at their school supports the development of the school team, thus shaping a school culture and building collegial relationships. These incentives not to change schools may also help keep great teachers in high-needs schools rather than having them move to lower poverty schools. Some school systems are exploring differentiated pay structures to encourage high-performing teachers to stay in high-needs schools.

#### Implications for Policy

The findings of this study have policy implications. The PLCI is a district initiative that provides structured professional development in becoming a professional learning community to selected schools. Initially, the project supported elementary schools; in 2008, the initiative was opened to selected middle schools. Since 2005, including those schools entering their 2 years of professional development, 38 elementary

schools and 10 middle schools will have participated in PCLI. In the large system of 200 schools, in which this study was conducted, it will take a long time for all schools to reap the benefits of this professional development. This research studied one cohort of schools, but there is evidence from the other schools in the project that student achievement is increasing and the achievement gap decreasing. It appears that the changes in school culture that result from participation in a professional learning community are what Cuban (1990) called second-order changes. These changes endeavor to alter the way organizations work and are put together by ensuring that goals, structures, and roles are aligned. In essence, these deeper organizational changes can sustain school improvement. Therefore, school systems must utilize effective reform strategies and align district policies to support improvement at the school level. School systems need to consider redirecting resources from traditional professional development activities to initiatives that intentionally bring school staff together to build professional learning communities.

The issues of time and the way in which a school is structured are critical to meeting school achievement targets. School systems need to review how schools are organized and how teachers and administrators utilize time, particularly for collaboration, shared personal practice, and reflection. Although the central office PLCI team provided coaching and direct professional development to these schools, it appears that the most powerful professional development strategy was the teams' working together and having time to reflect on their practice and to analyze student data. All the structures that the schools put in place to support their professional learning community focused on finding more time to collaborate. State departments of education and school boards need to

review how time is utilized in schools and establish policies that support teacher and administrator collaboration. Teachers participating in professional learning communities have reported greater satisfaction, higher morale, and lower rates of absenteeism (Hord, 1997; Vescio, et al., 2006) Strong professional learning communities and the efficacy beliefs of teachers are related to higher student achievement. For schools to implement these organizational structures, time must be available.

#### Recommendations for Future Research

Although the outcomes from this research support the notion that building and sustaining professional learning communities in schools can strengthen the collective efficacy of school staff, the sample size was quite small; therefore, caution should be taken in generalizing the results. Nevertheless, the results of this study continue to build on the research that professional learning communities and collective efficacy are two constructs that can make significant differences in terms of building an organizational culture in a school that influences staff commitment and student achievement.

Future research should consider a study that examines a larger research sample. Pangallo (2009) utilized the Web site AllThingsPLC.com to obtain the research sample for her research. This Web site provides research, articles, data, and tools for teachers and administrators seeking information about professional learning communities. The Web site hosts schools that have demonstrated the characteristics required to be identified as professional learning communities. Connecting with a broader network of schools and school districts could provide a larger research sample and a broader perspective.

The schools in this study were elementary schools. Some research has shown that there are differences between the perceptions of teachers in elementary and secondary



schools (Calcasola, 2009; Pangallo, 2009; Haas, 2005; Cowley & Meehan, 2001).

Elementary schools and secondary schools are organized in different ways, and there are different leadership structures in the schools that could influence the development of professional learning communities and collective efficacy. In the school district in which this study was conducted, the PLCI has been expanded to support middle schools as well.

Although this study touched upon the leadership practices of administrators, a more in-depth study of the principal's role in implementing and sustaining professional learning communities would add to the research literature. Leadership is critical to sustaining effective schools (Tschannen-Moran & Barr, 2004; Leithwood & Jantzi, 2008). Although the school with the strongest efficacy of the 10 schools studied was headed by the principal with the longest tenure, other schools with novice principals also demonstrated strong collective efficacy. It would be interesting to explore how the structures in the school influence the leadership practices. What is the balance between authority and collaboration in schools that have strong professional learning communities? Strong collective efficacy contributes to an increase in teachers' beliefs in their own teaching efficacy (Tschannen-Moran & Barr). Therefore, through their leadership, principals should nurture and enhance collective efficacy so that teachers increase their own beliefs about their abilities, thereby ultimately influencing student achievement. It might also be interesting to examine school leadership through the lens of professional learning communities and collective efficacy in high-achieving schools and low-achieving schools.

There needs to be a more in-depth study of the impact of poverty on the collective efficacy of schools, including ways in which building a professional learning community

might mitigate the influence of poverty on the collective efficacy of staff. This study identified a relationship between teachers' tenure in a school and collective efficacy; it might be beneficial for future research to examine this variable as well as other demographic variables.

The achievement results over a 3-year period for the schools in this study revealed a greater increase in scores for African American, Hispanic, ESOL, and special education students than for White and Asian students. Although a small sample was studied, the results for these schools indicated that something was at play related to the professional learning community dimensions evident in the schools and the strength of collective efficacy. Research has shown that when collective teacher efficacy is taken into account, the impact of student characteristics such as socioeconomic status on achievement is reduced (Tschannen-Moran & Barr, 2004). In situations in which the gap between White and Asian students and African American and Hispanic students has been narrowed, that success has been due to teachers' demonstrating high expectations for all students (Bamburg, 1994; Bembenutty, 2006). Conducting research on the relationship between collective efficacy and professional learning communities and the impact on the achievement gap could identify organizational structures and instructional practices to aid in closing the achievement gap.

The efficaciousness of school staff has been tied to higher levels of student achievement. Are there ways to identify the efficacy of teacher candidates? It would be interesting to explore ways to assess efficacy through the teacher selection interview process. Several teachers and principals reported that when they interviewed new teachers for their schools, they were interested in finding teachers that liked working in a

team, were comfortable with using and analyzing data, and were committed to all students. Organizations such as Teach for America, The New Teacher Project, and New Leaders for New Schools utilize a more behavioral approach to interviewing and identifying candidates for the school systems that these organizations support. These organizations are not looking for people who went through teacher education programs; rather they want people that have the beliefs and attitudes to make a difference for children to join the teaching ranks. An interesting study might examine the interview processes for new teachers through the lens of efficacy beliefs.

### Summary

Schools are not simply places to work; they are more than that. Teachers and principals come together to ensure teaching and learning in increasingly challenging times. When schools develop into communities of learners, interactions occur that lead to positive outcomes for students. One of the most powerful phenomena that can occur is for the group to believe they can make a difference for all students. So how can educators organize schools to build and strengthen the collective efficacy of staff? Being a professional learning community provides the structures and organization through which the sources of collective efficacy can be observed and developed. Shared leadership leads to greater collaboration. Collaboration allows staff members the opportunity to learn from one another; this type of opportunity is an example of vicarious learning and social persuasion. Having structures in place that build trust, such as joint planning time, time for peer reflection, celebration, and recognition, reinforces social persuasion and affective states. Building upon success and mastery enhances collective efficacy.

The professional development that these schools received was rich with examples of specific activities that can build efficacy. Clearly, individual teachers who are efficacious can make a difference for students in their classrooms; however, a group of teachers in a school makes a difference for the whole school, and having multiple schools with strong collective efficacy can make a difference for a district.

The current economic crisis is affecting schools as 2014 approaches, when schools must ensure that all students meet NCLB standards. Bandura (2000) stated that the higher the perceived collective efficacy, the more the staff takes ownership of what they are doing and the more they stay on course even when things are not going well. As there are difficult times ahead, organizing and supporting schools as professional learning communities may be a district's best use of limited resources.

## APPENDICES

## APPENDIX A: SURVEYS

### Part I. Professional Learning Communities Assessment

**Directions:**

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

**Key terms:**

Principal - Principal, not Associate or Assistant Principal

Staff - All adult staff directly associated with curriculum, instruction, and assessment of students.

Stakeholders - Parents and community members.

**Scale:**

1-Strongly Disagree (SD)

2-Disagree (D)

3-Agree (A)

4-Strongly Agree (SA)

### Part I: Professional Learning Communities Assessment

#### A. Shared and Supportive Leadership

	Strongly Disagree	Disagree	Agree	Strongly Agree
1. The staff is consistently involved in discussing and making decisions about most school issues.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. The principal incorporates advice from staff to make decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. The staff have accessibility to key information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. The principal is proactive and addresses areas where support is needed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Opportunities are provided for staff to initiate change.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. The principal shares responsibility and rewards for innovative actions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. The principal participates democratically; with staff sharing power and authority.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Leadership is promoted and nurtured among staff.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Decision-making takes place through committees and communication across grade and subject areas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Shareholders assume shared responsibility and accountability for student learning without evidence of imposed power and authority.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## B. Shared Values and Vision

	Strongly Disagree	Disagree	Agree	Strongly Agree
11. A collaborative process exists for developing a shared sense of values among staff.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Shared values support norms of behavior that guide decisions about teaching and learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. The staff share visions for school improvement that have a undeviating focus on student learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Decisions are made in alignment with the school's values and vision.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. A collaborative process exists for developing a shared vision among staff.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. School goals focus on student learning beyond test scores and grades.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Policies and programs are aligned to the school's vision.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Stakeholders are actively involved in creating high expectations that serve to increase student achievement.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## C. Collective Learning and Applications

	Strongly Disagree	Disagree	Agree	Strongly Agree
19. The staff work together to seek knowledge, skills and strategies and apply this new learning to their work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Collegial relationships exist among staff that reflect commitment to school improvement efforts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. The staff plan and work together to search for solutions to address diverse student needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. A variety of opportunities and structures exist for collective learning through open dialogue.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. The staff engage in dialogue that reflects a respect for diverse ideas that lead to continued inquiry.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. Professional development focuses on teaching and learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. School staff and stakeholders learn together and apply new knowledge to solve problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. School staff is committed to programs that enhance learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## D. Shared Personal Practice

	Strongly Disagree	Disagree	Agree	Strongly Agree
27. Opportunities exist for staff to observe peers and offer encouragement.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. The staff provide feedback to peers related to instructional practices.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
29. The staff informally share ideas and suggestions for improving student learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
30. The staff collaboratively review student work to share and improve instructional practices.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
31. Opportunities exists for coaching and mentoring.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
32. Individuals and teams have the opportunity to apply learning and share the results of their practices.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### E. Supportive Conditions-Relationships

	Strongly Disagree	Disagree	Agree	Strongly Agree
33. Caring relationships exist among staff and students that are built on trust and respect.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
34. A culture of trust and respect exists for taking risks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35. Outstanding achievement is recognized and celebrated regularly in our school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
36. School staff and stakeholders exhibit a sustained and unified effort to imbed change into the culture of the school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### F. Supportive Conditions-Structure

	Strongly Disagree	Disagree	Agree	Strongly Agree
37. Time is provided to facilitate collaborative work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
38. The school schedule promotes collective learning and shared practice.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
39. Fiscal resources are available for professional development.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
40. Appropriate technology and instructional materials are available to staff.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
41. Resource people provide expertise and support for continuous learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
42. The school facilities is clean, attractive and inviting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
43. The proximity of grade level an department personnel allows for ease in collaborating with colleagues.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
44. Communications systems promote a flow of information among staff.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
45. Communication system promote a flow of information across the entire school community including: central office, parents, and community members.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



## Part II. Collective Efficacy Scale

Indicate your level of agreement with each of the following statements from Strongly Disagree to Strongly Agree.

	Strongly Disagree					Strongly Agree
1. Teachers in the school are able to get through to the most difficult students.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Teachers here are confident they will be able to motivate their students.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. If a child doesn't want to learn teachers here give up.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Teachers here don't have the skills needed to produce meaningful student learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. If a child doesn't learning something the first time teachers will try another way.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Teachers in this school are skilled in various methods of teaching.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Teachers here are well-prepared to teach the subjects they are assigned to teach.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Teachers here fail to reach some students because of poor teaching methods.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Teachers in this school have what it takes to get the children to learn.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. The lack of instructional materials and supplies makes teaching very difficult.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Teachers in this school do not have the skills to deal with student disciplinary problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Teachers in this school think there are some students that no one can reach.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. The quality of school facilities here really facilitates the teaching and learning process.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. The students here come in with so many advantages they are bound to learn.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. The students come to school ready to learn.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Drugs and alcohol abuse in the community make learning difficult for students here.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. The opportunities in this community help ensure that the students will learn.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Students here just aren't motivated to learn.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Learning is more difficult at this school because students are worried about their safety.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Teachers here need more training to know how to deal with the students.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Teachers in this school truly believe every child can learn.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Part III: Demographics and Work Experience

### 1. Gender

- Male  
 Female

**2. Total Number of years in teaching/education (For example, type 10 for 10 years).**

**3. Total number of years in current school.**

**4. What grade level do you teach for the majority of your time this years?**

**5. Number of years you have taught this grade level.**

**6. If you do not have classroom teachers responsibilities, please indicate your role. (check all that apply)**

Staff Development Teacher

Math Content Coach

Focus Teacher

Principal

Assistant Principal

Other (please specify)

Thank you very much.

## Appendix B: SURVEY CONSENT LETTER

### Letter of Invitation to Participants

The purpose of this e-mail is to invite you to participate in a study about the Professional Learning Communities Institute (PLCI). This research has been approved by XXPS. The purpose of this research project is to document and examine the professional development of teachers participating in the PLCI in the context of collective teacher efficacy. You have been chosen to be part of this study because of your school is one of ten schools that participated in cohort two of the PLCI.

There are two parts to this study. The first part is for all teachers and administrators to take two short surveys. The survey is for all teachers and administrators in the schools whether you were part of the PLCI core team. I would like you to take two surveys that contain statements about characteristics of professional learning communities and perceived collective efficacy beliefs. The surveys should take no more than twenty to twenty-five minutes to complete. The survey for Elementary School A is on the following Survey Monkey link:

[http://www.surveymonkey.com/s.aspx?sm=vVydeZtqmugsPoTGATKXHA\\_3d\\_3d](http://www.surveymonkey.com/s.aspx?sm=vVydeZtqmugsPoTGATKXHA_3d_3d)

In the second part of the study, I will invite teachers and administrators from only two of the ten cohort two PLCI schools to be interviewed about the PLCI experience. If your school is selected for the second part of the study, I will send you a letter inviting you to meet with me.

The survey will also ask you to give demographic information, but you will not be asked to give your name and the survey is set up to ensure your anonymous participation. Only the members of my dissertation committee and I will have access to the information obtained directly from the survey. Your participation in this study is voluntary, and you may decide not to continue at any time. The results of the study will be provided in the form of an executive summary and made available to XXPS and all participants upon request.

Thank you in advance for your participation and prompt response. If you have any questions, please feel free to contact me at 301-633-0929 or e-mail me at [susan\\_marks@xxpsmd.org](mailto:susan_marks@xxpsmd.org). Thank you for your participation.

Sincerely,

Susan Marks  
Doctoral Candidate  
University of Maryland

## APPENDIX C: INTERVIEW QUESTIONS

1. How would you describe the impact of PLCI at your school?
  - a. Describe any changes in the structure and organization of your school since the inception of the PLCI.
  - b. What would you say are the characteristics of the learning community at your school?
  
2. Can you describe the staff beliefs about their ability to make a difference for students?
  
3. What does it mean to have high expectations for students at your school?
  
4. What trainings or activities were the most helpful in your school's becoming a professional learning community?
  
5. Were there specific people who influenced your learnings?
  
6. How does the requirement of No Child Left Behind impact your school's implementation of the PLCI?

## APPENDIX D: INTERVIEW CONSENT LETTER

Dear Professional Learning Communities Institute Participant,

Thank you for taking the survey about your school's participation in the Professional Learning Communities Institute (PLCI). The purpose of this letter is to invite you to participate in a second part of this study. I chose two schools from the survey schools to participate in interviews to obtain more in-depth information about the PLCI experience. Questions will be asked to learn how professional learning communities are structured in your school. Additional questions will be asked about how the PLCI influenced your beliefs about student learning. The interviews will be about an hour in length. The interviews will be audio taped.

The data will be analyzed in terms of themes and patterns that relate to the research questions. If there are patterns that are identified by role or responsibility in a school, the discussion will not attribute responses to any one specific person or school. Only the members of my dissertation committee and I will have access to the records of information obtained directly from the interviews. Your participation in this study is voluntary, and you may decide not to continue at any time.

The results of the study will be provided in the form of an executive summary and made available to the school system and the participants upon request.

Thank you in advance for your participation and prompt response. If you have any questions, please feel free to contact me at 301-633-0929.

Sincerely,

Susan Marks  
Doctoral Candidate  
University of Maryland

## APPENDIX E: THE PLCI SURVEY

### The PLCI Survey Cohort 2 Results based On a 7-point scale

Questions	May 06	Nov 06	May 07	Nov 07	Jan 08	May 09
1. Currently at our school, all staff members believe the fundamental purpose of our school is to achieve high levels of learning for all students.	5.51	6.12	6.22	6.19	6.22	6.31
2. Currently at our school, all staff members demonstrate the belief that all students can learn. Teachers do this through setting high expectations for students.	5.02	5.67	5.80	5.73	5.66	6.04
3. Currently at our school, teachers are members of collaborative teams who work interdependently to achieve common goals set by those teams.	4.86	5.80	5.78	6.03	5.92	6.18
4. Currently at our school, the time that teachers have to meet and work as collaborative teams on a regular basis is adequate.	3.58	4.72	4.78	5.41	5.31	5.50
5. Currently at our school, all staff members are involved in the decision-making processes of the school.	3.63	4.52	4.70	4.95	4.90	5.15
6. Currently at our school, school improvement is viewed as a collective responsibility of all staff members.	4.65	5.44	5.36	5.65	5.55	5.66
7. Currently at our school, teams develop, adopt, and observe ground rules and protocols that clarify how team members will work together and fulfill their responsibilities.	4.11	5.53	5.60	5.62	5.64	5.92
8. Currently at our school, teachers have worked together to clarify the essential outcomes for each grade level and each unit of instruction. They focus their instruction on these essential outcomes.	4.17	5.76	5.90	5.78	5.92	6.16
9. Currently at our school, teachers use common formative assessments they have developed together. These assessments are aligned with state and local standards.	4.62	5.61	5.92	5.86	5.90	6.25
10. Currently at our school, teams use formative assessments throughout the year to identify students who need additional time and support.	5.07	6.01	6.09	6.12	6.24	6.37
11. Currently at our school, when a student is having difficulty learning, there is a school-wide systemic response to provide extra time and support to that student.	4.33	5.24	5.43	5.76	5.93	6.22
12. Currently at our school, when a student is provided with extra time and support, the intervention that is provided is carefully matched to the individual student needs.	4.49	5.51	5.52	5.68	5.82	6.19

Questions	May 06	Nov 06	May 07	Nov 07	Jan 08	May 09
13. Currently at our school, student interventions are monitored over time to determine their effectiveness.	4.22	5.50	5.59	5.81	5.97	6.21
14. Currently at our school, parents are full partners in the educational decisions that affect their children.	3.69	4.87	4.90	4.92	4.86	4.83

APPENDIX F: LITERATURE SUMMARY TABLE

Professional Learning Communities and Collective Efficacy  
Literature Review

<b>Concept</b>	<b>Researcher</b>
Characteristics of professional learning communities	Darling-Hammond (1996, 1998, 2000, 2003) Darling-Hammond & McLaughlin (1995, 1999) Rosenholtz (1989) DuFour & Eaker (1998) Dufour (1997, 1998, 2001, 2004) Hord (1996, 1997, 2000) McLaughlin & Talbert (1993, 2001, 2003) Morrissey (2000) Newmann & Wehlange (1995) Hipp & Huffman (2000, 2002, 2003, 2007) Huffman & Hipp (2003) Elmore (1999) Vescio, Ross, & Adams (2006) Wenger, (1998)
Professional learning communities and student achievement	Hord (1996, 1997) DuFour & Eaker (1998) DuFour (2001) Elmore & Burney (1999) Haas (2005) Marks & Louis (1998) McLaughlin & Talbert (1993, 2001, 2003) Darling-Hammond (1993) Lee, Smith, & Croniger (1997) Thiessen & Anderson (1999)
Efficacy beliefs	Allinder (1994) Bandura (1977, 1986, 1993, 1997, 2000) Dembo & Gibson (1985) Gibson & Dembo (1984) Goddard (2001, 2002) Goddard, Hoy, & Woolfolk Hoy (2000, 2004) Goddard & Goddard (2001) Goddard & Skrla (2006) Hoy & Woolfolk (1990) Mawhinney, Haas & Wood (2006) Moore & Esselman (1992)



	Ross (1994) Pajares (1996) Pajares & Miller (1994)
Efficacy and student achievement	Gibson & Dembo (1984) Goddard & Goddard (2001) Goddard, Hoy, & Woolfolk-Hoy (2000) Haas (2005) Guskey & Passaro (1994) Pajares (1996) Mawhinney, Wood, & Haas (2005) Olivier (2001) Ross (1994) Tschannen-Moran & Goddard (2001) Tschannen-Moran, Woolfolk Hoy, & Hoy, (1998)
Professional learning communities and collective efficacy beliefs	Calcasola (2009) Haas (2005) Garica (2004) LeGerfo (2006) Mawhinney, Wood & Haas (2005) Olivier (2001) Pangello (2009) Ross (2004) Ross & Bruce (2007)
Organizational learning	Bandura (1977, 1997) Bolman & Deal (2003) Cuban (1990) Elmore (2000) Fullan (1991, 1993, 2006) Hargreaves (1995) Hoy & Miskel (1996, 2005) Leithwood (1997) Louis, Marks, & Kruse (1996) Newmann & Wehlage (1995) Senge (1990, 1996, 2000) Sergiovanni (1994)

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