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The Relationship of Teachers' Perceptions of Collective Efficacy and Perceptions of Professional Learning Communities

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The Relationship of Teachers' Perceptions of Collective Efficacy and Perceptions of
Professional Learning Communities

By
Danielle Shaw Robertson

A Dissertation Submitted to the
Gardner-Webb University School of Education
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Education

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Approval Page

This dissertation was submitted by Danielle Shaw Robertson under the direction of the persons listed below. It was submitted to the Gardner-Webb University School of Education and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Gardner-Webb University.

_____   _____
David Shellman, Ed.D.   Date
Committee Chair

_____   _____
Sydney K. Brown, Ph.D.   Date
Committee Member

_____   _____
Jane King, Ed.D.   Date
Committee Member

_____   _____
Frances B. Burch, Ph.D.   Date
Dean of Graduate School

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Abstract

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The dissertation was designed to describe the relationship of collective teacher efficacy to the phases of professional learning communities (PLC) in a rural school district in the southern piedmont region of North Carolina. Limited research exists in the area of collective teacher efficacy and its relationship to professional learning communities, especially related to the phases of development conceptualized by Huffman and Hipp (2003) in their Professional Learning Community Organizer (PLCO).

The researcher gathered baseline data regarding the teachers' perceptions of their schools functioning as professional learning communities from the North Carolina Teacher's Working Conditions Survey given in the spring of 2010. The Professional Learning Community Assessment (PLCA) and Collective Teacher Efficacy Instrument (CTE) were administered in the fall to 26 schools within the district. Using this information, the researcher conducted statistical analyses to determine the relationships between professional learning communities and collective teacher efficacy and the relationships between the specific phases of development (initiation, implementation, and institutionalization) of a PLC and collective teacher efficacy.

Educators are seeking to improve student learning by means of internal reform, namely a professional learning community. According to the results of this study, the five dimensions of the PLC have been shown to have some positive, significant relationships with CTE especially at the elementary level. The educators within this district should seek to continue developing their PLCs at every level to build collective teacher efficacy and to sustain a culture conducive to continued reform.

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Chapter 1: Introduction

Nature of the Problem

Public schools in the United States have been in the process of serious reform efforts for the past several decades. As far back as the Great Depression, the question was being asked, is the educational utopia in sight? W. W. Carpenter was the voice behind that particular question, and he believed the answer was yes because Americans were approaching with steady progress the goal of giving every child an appropriate education (Tyack & Cuban, 1995).

In 1957, with the launching of Sputnik, public education was cited as a failure since the United States had fallen behind Russia in the race to space. Many felt that the educational system had *dumbed down* the curriculum (DuFour & Eaker, 1998). In April 1983, *A Nation at Risk* made its debut capturing national headlines. In this report from the National Commission on Excellence, the commission argued that national security was in peril because of substandard education in American schools (National Commission on Excellence in Education, 1983). A new wave of educational reform movements, known collectively as the Excellence Movement, was initiated into public school systems. "The Excellence Movement offered a consistent direction for reform. But it was not a new direction. Schools simply needed to do MORE" (DuFour & Eaker, 1998, p. 3). This movement intensified existing practices, but did not offer any new ideas for reform. As with previous reforms that attempted to mandate improvement with a top-down approach, these ideals soon failed and no significant progress was evident (DuFour & Eaker, 1998).

Hence, the formation of a new effort known as the Restructuring Movement was established. This movement's emphasis was on site-based reform, and the hope was that

administrators and teachers would work collaboratively to make effective decisions that would address the needs of schools and students (Huffman & Hipp, 2003). This gave local educators greater authority to initiate changes and follow their own pedagogical ideas for internal reform. Unfortunately these ideals have not been realized, and educators typically elected to focus on marginal changes instead of core issues of teaching and learning (DuFour & Eaker, 1998).

The most recent national mandate known as the No Child Left Behind Act (NCLB) of 2001 (Public Law 107-110) has brought reform to the forefront of America's consciousness once again. Dufour and Eaker, in 1998, proposed that organizations must be transformed to reflect professional learning communities (PLCs) in order for true reform to occur since school-based reform has been widespread and varied in form. Schools that are successful with reform efforts extend their labors toward building a school culture that supports teacher development through collaborative adult learning (Huffman & Hipp, 2003).

Professional Learning Communities

This educational phenomenon known as professional learning communities is currently making significant progress in the area of school reform. The term p*rofessional learning communities* was introduced by Richard DuFour, and the emphasis of the concept was placed on community (DuFour & Eaker, 1998). DuFour reasoned that "the term 'organization' suggests a partnership enhanced by efficiency, expediency, and mutual interests, 'community' places greater emphasis on relationships, shared ideals, and a strong culture—all factors that are critical to school improvement" (DuFour & Eaker, 1998, p. 15). Since the implementation of this reform, widespread enthusiasm has been generated among educators in school systems across the nation (Eaker, DuFour, &

Dufour, 2002). It is evident that schools with professional learning community characteristics offer high-quality learning environments for teachers, which provide greater learning opportunities for students (Roberts & Pruitt, 2003). Three major themes of a PLC are evident in the policies, programs, and practices of a school or district. The themes are identified by Eaker et al. (2002) as, "(1) a solid foundation consisting of collaboratively developed and widely shared mission, vision, values, and goals; (2) collaborative teams that work interdependently to achieve common goals; and (3) a focus on results as evidenced by a commitment to continuous improvement" (p. 3).

The implementation of a PLC is unique to each school and school district. Since each school must address key questions that will provide the foundation of their professional learning community, there are no formal models to follow. The staff must come together to collectively articulate the shared mission, vision, values, and goals that are the essential building blocks for all decisions driving the success of the PLC (Eaker et al., 2002). The establishment of this foundation is essential if the community is to survive and thrive within the school.

Phases of Implementation

Huffman and Hipp (2003) cited three main phases of development for establishing a professional learning community: initiation, implementation, and institutionalization. The five dimensions of the PLC (shared and supportive leadership, shared values and vision, collective learning and application, shared personal practice, and supportive conditions) are embedded within the phases of development. For the purpose of this study, all stages of the process were investigated. The initiation phase begins when a strong leader advocates a shared vision (an initiative for change), and the staff begins to share dialogue and knowledge as well as a commitment to the effort to

achieve their goals (Huffman & Hipp, 2003). The next phase, known as the

implementation phase, begins when the principal encourages the staff to set high

expectations for meeting their goals and provides them with time and resources necessary

to accomplish the tasks (Huffman & Hipp, 2003). The optimal stage of development in a

PLC is the institutionalization phase where change initiative becomes embedded into the

culture of the school (Huffman & Hipp, 2003).

Each stage of development is used as an organizer to report the progression from

one phase to another which reflects the growth in schools seeking to become PLCs

(Huffman & Hipp, 2003). The PLCO in Appendix A shows the indicators of progression

for each stage of development in the PLC. There is an emphasis on nurturing leadership

among staff, collaboration by sharing information and dialogue, and building trust within

the organization in the initiation phase. The next phase, known as the implementation

phase, requires a focus on sharing power and authority, students and high expectations,

collaboration and problem solving, outcomes, trust, and respect. Finally, in the

institutionalization phase all members of the staff accept that change is ever-present and

that their collective efforts produce the desired results of reform within the school

structure. The transformation of any organization requires building trust and

collaboration among the members, and it requires a substantial provision of time

dedicated to the entire process. The challenge lies in creating a community of

commitment—a professional learning community (DuFour & Eaker, 1998).

Collective Teacher Efficacy

Perceived collective efficacy is defined by Bandura (1997) as "a group's shared

belief in its conjoint capabilities to organize and execute the courses of action required to

produce given levels of attainments" (p. 477). Goddard (2001) stated, "For schools,

collective efficacy refers to the perceptions of teachers in a school that the faculty as a whole can execute the courses of action necessary to have positive effects on students" (p. 467). In order for teachers to fully comprehend the power of collective efficacy, they must be equipped with the firm belief that they can produce valued effects by their collective action (Bandura, 1997). Perceived collective efficacy is much more than the sum of the members' perceived personal efficacies. Studies of perceived collective efficacy demonstrate that it exists as a group attribute and can predict levels of group performance (Bandura, 1997). Schools are well suited for studying the impact of perceived collective efficacy on their organizational accomplishments since there are multiple schools within a district that pursue the same mission and are assessed with the same measurement for student achievement (Bandura, 1997).

District Characteristics

The school district chosen for conducting this research is located in the southern piedmont region of North Carolina. An average of 15,000 students are served based on the 2008-2009 North Carolina School Report Card with an average of 427 students at each elementary school, 811 students at each middle school, and 964 students at each high school. The configuration of schools throughout the county is sectioned into four zones consisting of 16 elementary schools which vary in grades served from K-3, K-4, and K-5; two intermediate schools serving Grades 4-5 and 5-6; four middle schools serving Grades 6-8; four high schools serving Grades 9-12; one early college high school serving Grades 9-12; one alternative school serving Grades 6-12; and one special purpose school serving students with special needs. Currently there are plans to create another intermediate school by reconfiguring two elementary schools after the construction of a new middle school is complete. For the purpose of this study, the focus of the research

was conducted in elementary, middle, and high schools which are currently engaged in the process of promoting PLCs.

The district's superintendent granted permission for the study to be completed. Recognizing that the schools within the district are so diverse and are at different stages of the implementation process of a professional learning community, the research could give validity to the process.

Baseline data were collected from the North Carolina Teacher Working Conditions (NCTWC) Survey results. This instrument is electronically presented to all certified teachers every 2 years. The survey is based on a 5-point Likert scale questionnaire with possible responses of strongly disagree, disagree, neither disagree or agree, agree, and strongly agree. The questions are asked according to the following domains: time, facilities and resources, decision making, leadership, and professional development. The 2008 and 2010 surveys were used to establish the perceptions of the teachers within the district based on the five dimensions of a professional learning community.

Statement of Problem

School systems are constantly seeking to improve the quality of their teachers and the quality of their schools. The connections between school improvement and PLCs are becoming more evident, and schools operating as learning communities have significant potential for a positive impact on student learning (Huffman & Hipp, 2003). A previous study found that collective teacher efficacy, the perceptions of teachers in a school that the efforts of the faculty as a whole will have a positive effect on students, is based on Bandura's social cognitive theory, a unified theory of behavior change (Goddard, Hoy, & Woolfolk Hoy, 2000). Since both PLCs and collective teacher efficacy have been found

to have the potential to create a positive impact on school improvement, further study

needs to be conducted to see if a relationship exists between the phases of PLCs and

collective teacher efficacy.

Purpose of Study

The purpose of this study was to describe the relationship of collective teacher

efficacy to the phases of professional learning communities in a rural school district.

This study concentrated on the 16 elementary schools which vary in grades served from

K-3, K-4, and K-5, two intermediate schools serving Grades 4-5 and 5-6, four middle

schools serving Grades 6-8, and four high schools serving Grades 9-12. In order to

measure the collective teacher efficacy, a survey instrument called the Collective Teacher

Efficacy (CTE) instrument developed by Goddard et al. (2000) was used. The

Professional Learning Community Assessment (PLCA) developed by Huffman and Hipp

(2003) was used to assess the perceptions about the school's principal, staff, and

stakeholders based on the five dimensions of a professional learning community. The

stages of the process developed by Hill's (2008) research using the PLCA instrument

were used to identify the stages of process for this study. Those stages are described as

non-demonstration of PLC, 0-44%; initiation stage, 45-64%; implementation stage, 65-

84%; and institutionalization stage, 85-100%.

Hill (2008) collected raw data and established frequencies and agree/disagree

percentages for each item within a subsection on the PLCA. The mean for each

subsection was calculated, and Hill (2008) determined that specific agree percentage

ranges would need to be established in order to analyze PLCA data for determining the

phase of development. By doing so, the percentage of positive responses was evaluated

for each item in order to determine the phase of development. Afterwards, items in each

subsection were analyzed as a whole to determine the overall phase of development. Through comparing the percentage of positive staff responses, Hill (2008) was able to determine the progress within the various dimensions of PLCs. Huffman and Hipp (2003) noted that all items, except one, from the PLCA survey received a high rating after a group of 76 experts from the field rated the importance of each item. Cronbach's Alpha internal consistency reliability coefficients were computed, and from the five factored subscales, the Alpha coefficients ranged from a low of .83 to a high of .93 (Huffman & Hipp, 2003). Therefore, the instrument yielded satisfactory internal consistency reliability for the factored subscales.

Research Questions

The intended contribution of this study was to provide significant research that described the relationships between collective teacher efficacy and a professional learning community during the various stages of the process of developing a PLC. The study also looked at those relationships at the elementary and secondary levels of the school system to see if these relationships differ. The research was based on the conceptual framework of the Professional Learning Community Organizer (PLCO) (Huffman & Hipp, 2003). The research questions guiding the framework for the study were as follows:

1. What is the relationship between the five dimensions of a professional learning community, as measured by the PLCA, and collective teacher efficacy, as measured by the CTE, at the elementary, middle, and high school levels?

2. How do the relationships between the degree of implementation and collective teacher efficacy differ among the elementary, middle, and high school levels?

Definition of Terms

The following terms were used throughout the study and defined for consistent understanding.

Professional learning community. In a professional learning community educators create an environment that fosters mutual cooperation, emotional support, and personal growth as they work together to achieve what they cannot accomplish alone (DuFour & Eaker, 1998). For the purpose of this research, the five dimensions of the PLC defined by Hord (1997) will be used as they apply to the school setting. The five dimensions defining professional learning communities are 1) shared values and vision, 2) collective learning and application, 3) supportive and shared leadership, 4) supportive leadership conditions, and 5) shared personal practice. These dimensions are shared and reinforced by Huffman and Hipp (2003) and DuFour and Eaker (1998) with the primary focus on student learning.

Collective efficacy. Collective efficacy deals directly with the perceptions of teachers in a school that the faculty as a whole can implement the courses of action necessary to have positive effects on students and their achievement (Goddard, 2001). Schools are well suited for studying the impact of perceived collective efficacy on their organizational accomplishments since there are multiple schools within a district that pursue the same mission and are assessed with the same measurement for student achievement (Bandura, 1997).

Initiation phase. Fullan's work from 1990, as cited in Huffman and Hipp (2003, p. 23), defined the initiation phase where schools connect a change initiative to student needs based on the school's values and norms.

Implementation phase. The PLC is orchestrated by shared control, power, and

responsibility, and the staff is committed to setting high expectations. "Feedback and support related to instruction are evident, which leads to increased student outcomes" (Huffman & Hipp, 2003, p. 23).

Institutionalization phase. This is the phase where "the change initiative becomes embedded into the culture of the school," and the schools are guided by the shared vision and the staff is committed and accountable for student learning (Huffman & Hipp, 2003, p. 24).

Summary

Our educational system has been through various types of reforms dating back to the launching of Sputnik to the most current mandate known as the No Child Left Behind Act (NCLB) of 2001. School-based reform has been widespread and varied in form. Schools that are successful with reform efforts extend their labors toward building a school culture that supports teacher development through collaborative adult learning (Huffman & Hipp, 2003). Based on their research and study related to school reform and schools as organizations, Dufour and Eaker, in 1998, proposed that organizations must be transformed to reflect professional learning communities (PLCs) in order for true reform to occur. The connections between school improvement and PLCs are becoming more evident, and schools operating as learning communities have significant potential for a positive impact on student learning (Huffman & Hipp, 2003).

According to Tschannen-Moran and Barr (2004), "collective efficacy refers to the collective perception that teachers in a given school make an educational difference to their students over and above the educational impact of their homes and communities" (p. 189). Significant positive relationships were found in various studies (Brinson & Steiner, 2007; Goddard & Skria, 2006; Stajkovic, Lee, & Nyberg, 2009; Ware & Kitsantas, 2007)

concerning collective efficacy and teacher commitment, group performance, group commitment to its mission and the influence of the school's social composition. Research showing the relationship between collective teacher efficacy and the five dimensions of a professional learning community will be expounded upon in the literature review found in Chapter 2.

Since research exists showing a positive relationship to collective efficacy and some of the elements (supportive and shared leadership, shared values and vision, collective learning and applications, supportive conditions, and shared personal practice) guiding the foundation of a professional learning community, further research is needed to determine if a relationship exists between collective efficacy and professional learning communities. This study examined the relationship of collective teacher efficacy with professional learning communities during the stages of the process of reculturing schools from one school district into professional learning communities.

Chapter 2: Literature Review

Overview

The purpose of this research was to describe the relationship of collective teacher efficacy to the phases of professional learning communities in a rural school district. The study's basis was dependent on two main theories, organizational learning (Argyris, 1992; Eaker et al., 2002; Hord, 2004; Senge, 1990) and motivation based on social cognitive theory of self and collective efficacy (Bandura, 1997; Goddard, 2001). More specifically, the study explored the connections between the five dimensions of the PLC and the relationship(s) to collective efficacy within the elementary and secondary schools in a rural school district.

School Reform

Since the second half of the 20th Century, our American educational system has been under attack by increasing public concern. Due to this public scrutiny dating back to the 1950s, numerous attempts at educational reform have left their marks on the entire educational system. Articles entitled *Crisis in Education*, *What Went Wrong with U.S. Schools*, and *We Are Less Educated than Fifty Years Ago*, published as early as 1957 and 1958, have a familiar theme just as the launching of Sputnik in 1957 did; all implied that our schools had fallen behind in the arena of education (DuFour & Eaker, 1998). In the early 1980s the ascendance of Japan as an economic power led to new waves of reform in the United States known as the Excellence Movement (1983) and the Restructuring Movement (1989) which were both created in response to the report titled *A Nation at Risk* (DuFour & Eaker, 1998). Of the two, the Restructuring Movement offered the most promise since the power for making policies was given directly to the schools and not the district. Huffman and Hipp (2003) stated, "the hope was that administrators and teachers

could collaboratively make decisions to develop policies, procedures, and strategies that would realistically address the needs of schools and students" (p. 3). In spite of these Utopian ideals, this hope has yet to be realized. The studies of the movements' impact have consistently found that the focus has been on marginal changes instead of the core issues of teaching and learning (DuFour & Eaker, 1998).

The threats and punishments that were mandated were supposed to produce specific desired reforms, but these laws misunderstood teachers and what truly inspires them to perform at extraordinary levels (Bullough, 2007). "Reforms driven by distrust cannot endure, nor can they produce sustainable quality programs" (Bullough, 2007, p. 179). Tyack and Cuban (1995) stated the following in regards to creating better schools:

> Better schooling will result in the future—as it has in the past and does now—chiefly from the steady, reflective efforts of the practitioners who work in schools and from the contributions of the parents and citizens who support (while they criticize) public education. (p. 135)

The research suggests that education could benefit substantially from efforts to transform impersonal organizations to places where participants share goals and pursue a common agenda of activities through collaborative work that involves a commitment over time (Leo & Cowan, 2000).

Organizational Learning

One theoretical option, organizational learning, stands above the rest in the realm of educational reform for schools in the 21st Century. This practice in the business industry was the forerunner to professional learning communities. There have been dozens of efforts to implement organizational learning in businesses, nonprofit organizations, government agencies, and schools, but the large fervent audience

dedicated to the process was found among teachers, school administrators, parents, and

community members who care about schools (Senge, 2000). According to Senge (1990),

> learning organizations are where people continually expand their capacity to
>
> create the results they truly desire, where new and expansive patterns of thinking
>
> are nurtured, where collective aspiration is set free, and where people are
>
> continually learning how to learn together. (p. 3)

Innovations in human behavior are led by disciplines, which are a body of theory

and technique that must be studied and mastered to be put into practice (Senge, 1990).

Each of the five disciplines—systems thinking, personal mastery, mental models,

building shared vision, and team learning—provide a vital dimension in building

organizations that can truly *learn* and continually enhance their capacity to realize their

highest aspirations (Senge, 1990).

Other educational researchers often cite Senge's work when recognizing the

importance of building professional learning communities (DuFour & Eaker, 1998;

Fullan, 1993; Louis & Kruse, 1995; Sergiovanni, 1994). A variety of terms have been

used to describe how schools are organized in order to promote student learning

(Leithwood, Louis, Anderson, & Wahlstom, 2004). Sergiovanni (1990) used the terms

collegiality and community stating, "collegiality has to do with the extent to which

teachers and principals share common work values, engage in specific conversations

about their work, and help each other engage in the work of the school" (p. 21).

The key theme throughout the history of organizations has been the collaborative

effort among those working within the organization. Such is true for the guiding

framework with a professional learning community. Schools have been encouraged to

become these learning organizations and to transform their approaches to school

improvement through collaboration, inquiry, and continuous improvement (Mason, 2003). The productiveness of the professional learning community depends upon the collaborative effort of the teachers, staff, administrators, parents, and community (Eaker et al., 2002).

Professional Learning Communities

It is evident from past reforms—the Excellence Movement 1980s, a top-down mandate for reform; the Restructuring Movement 1990s, site-based reform; and No Child Left Behind 2001, accountability measures—that change in America's schools is an insurmountable task. Lieberman and Miller (2008) noted the following about the schools of the future:

> It is clear to us that changes that schools need to embrace now and in the future require invention, adaptation, and a new sense of community; they depend on strategies for professional learning that are long-term and collaborative; and they necessitate enabling policies that are shaped by those constituencies that are involved in the routines of schools and have an investment in their renewal. (p. 1)

Even though professional learning communities may be difficult to form, this creation of communities can lead to authentic changes in teaching practice and improved student learning (Liberman & Miller, 2008).

Schools have continued in their efforts over the past several decades to improve student achievement and stay competitive in an ever increasing global world. Senge (2000) stated that "the safest prediction is change; schools can no longer prepare people to fit in the world of twenty years ago, because that world will no longer exist" (p. 10). "Building a school that learns–or, more precisely, a learning classroom, learning school, and learning community–represents an approach that galvanizes hope" (Senge, 2000, p.

10).   According to Eaker et al. (2002), "The most promising strategy for substantive school improvement is developing the capacity of school personnel to function as a professional learning community" (p. 17). "Professional communities offer an environment where new ideas and strategies emerge, take root, and develop" (Liberman & Miller, 2008, p. 2). These communities can form within schools, across schools, and within districts while others focus on a particular discipline, grade level, or way of thinking about teaching; still others include a heterogeneous mix of people from multiple contexts and disciplines (Liberman & Miller, 2008). It is evident from these previous studies that in order for schools to prepare students to meet the demands and challenges of what lay ahead, the organization of school as we know it must change.

The work of Senge (1990) is known by researchers for setting the foundation and development of professional learning communities (DuFour & Eaker, 1998; Hord, 2004; Louis & Kruse, 1995; Sergiovanni, 1994). The conceptual framework for a PLC described by Eaker et al. (2002) is grouped into "three major themes that are evident in the policies, programs, and practices of the school or district" (p. 3). The themes are "(1) a solid foundation consisting of collaboratively developed and widely shared mission, vision, values, and goals, (2) collaborative teams that work interdependently to achieve common goals, (3) a focus on results as evidenced by a commitment to continuous improvement" (Eaker et al., 2002, p. 3). Similar connections have been recorded in previous studies (Eaker et al., 2002; Fullan, 1993; Glickman, 2002; King & Newmann, 2000; Murphy & Lick, 2001) that defined a professional learning community as having a set of common attributes (inquiry-based, focused on student learning, goal- and results-oriented, collaborative, reflective, based on shared values and beliefs, and committed to continuous improvement). Professional learning communities provide a fundamentally

different and promising way for teachers to think about their practice and improve their craft in support of student learning (Liberman & Miller, 2008). "No two professional learning communities are the same; each is unique, generating its own path of development and finding its own ways to build community identities and to learn from other communities" (Liberman & Miller, 2008, p. 12).

Based on the research of the Southwest Educational Development Laboratory (SEDL) and Creating Communities of Continuous Inquiry and Improvement project (CCCII), Hord (2004) characterized professional learning communities as consisting of five major themes: supportive and shared leadership, shared values and vision, collective learning and application, supportive conditions, and shared personal practice. Like the qualities advocated by Senge (2000) and Eaker et al. (2002), the characteristics of Hord's (2004) professional learning community model are intertwined. The themes expressed by Hord (2004) and conceptualized through the creation of the Professional Learning Community Organizer (PLCO) by Huffman and Hipp (2003) were the foundation for this study. This organizer set the boundaries for identifying the school's phases of development as it progressed toward becoming a professional learning community.

Five Dimensions of Professional Learning Communities

The five dimensions of professional learning communities are not separate entities, but must be intertwined because each dimension affects the other in a variety of ways (Huffman & Hipp, 2003). Hord (1997) defined a professional learning community as "the professional staff learning together to direct efforts toward improved student learning," which is the conceptual framework for the five dimensions of a PLC (Huffman & Hipp, 2003, p. 5). Table 1 gives a brief overview of each dimension described thoroughly throughout this section.

Table 1

Five Dimensions of a Professional Learning Community

Dimension	Descriptor
Supportive and shared leadership	Democracy is practiced by leadership and staff through the sharing of power, authority, and decision making.
Shared values and vision	There is a shared vision among staff regarding school improvement, and this behavior guides decisions for teaching and learning.
Collective learning and applications	Staff works collaboratively to identify and share new knowledge and skills in order to improve learning.
Shared personal practice	Staff is comfortable with observing one another in order to offer encouragement and feedback on instructional practices that will enhance student achievement.
Supportive conditions	The staff works together to build trust and respect in their working relationships. A continuous effort is made to provide adequate space and time for staff to meet and examine current practices.

"*Supportive and shared leadership* requires the collegial and facilitative

participation of the principal who shares leadership–and thus, power and authority–by

inviting staff input and action in decision-making" (Hord, 2004, p. 7). Eaker et al. (2002)

characterized the transformation of leadership as,

> One of the most fundamental cultural shifts that takes place as schools become
>
> professional learning communities involves how teachers are viewed. In
>
> traditional schools, administrators are viewed as being in leadership positions,

while teachers are viewed as "implementors" or followers. In professional

learning communities, administrators are viewed as leaders of leaders. Teachers

are viewed as transformational leaders. (p. 22)

The old cliché that administrators manage and teachers teach has been completely altered

under the premise of a professional learning community. The new trend based on current

reform efforts requires that administrators, along with teachers, must be learners,

questioning, investigating, and seeking solutions for school improvement and increased

student achievement (Hord, 2004). Sergiovanni (1990) believed in site-based

management and stated, "the key to making things better is to enable teachers–to give

them the discretion, the support, the preparation, and the guidance necessary to get the

job done" (p. 21). A leader well versed in the five disciplines as well as data-informed

decision making, strong relationships, and some risk taking behavior would be

instrumental in creating a learning organization (Thompson, Gregg, & Niska, 2004).

"*Shared values and vision* include an unwavering commitment to student learning

that is consistently articulated and referenced in the staff's work" (Hord, 2004, p. 7).

Educators realize there is a common thread among all schools—that they serve a

common purpose to help every child lead a successful and satisfying life and make a

contribution to the community and country (DuFour & Eaker, 1998).

Laying the foundation of the PLC is of utmost importance according to Eaker et

al. (2002):

A school cannot function as a PLC until its staff has grappled with the questions

that provide direction both for the school as an organization and the individuals

within it. What is our purpose, the core reason our organization was created?

What must we become as a school to better fulfill that purpose? What collective

commitments must we make to move our school in the direction we want it to go?

What targets and timelines are we willing to establish to serve as benchmarks of

our progress? When a staff can develop consensus on their collective responses

to these questions, they are articulating the shared mission, vision, values, and

goals that constitute the foundation of a PLC. These essential building blocks

then become the basis for all of the decisions that drive the school. (p. 3)

Senge's (1990) fourth discipline, shared vision, has to do with people in a school being able to hold to a shared picture of the future they seek to create. A school organization must have an agreed upon vision in order to truly transform its current condition into one that promotes collaboration and unity among its members for the betterment of the organization as a whole (Senge, 1990).

"*Collective learning and application of learning* requires that school staff at all levels are engaged in processes that collectively seek new knowledge among staff and application of the learning to solutions that address students' needs" (Hord, 2004, p. 7). A crucial piece toward creating a true PLC is that collective efforts are being made to improve the culture of the school along with student achievement. "Teachers within professional learning communities share their practices, study together, focus instructional strategies on student needs, and use data to make decisions about their teaching" (Huffman & Hipp, 2003, p. 10). Participants in this collective process work across multiple grade levels discussing students, teaching, and learning while identifying related issues and problems. "Professional learning community is built on continual discourse about our important work—conversations about student evaluation, parent involvement, curriculum development, and team teaching" (Barth, 2006, p. 11).

"*Supportive conditions* include physical conditions and human capacities that

encourage and sustain a collegial atmosphere and collective learning" (Hord, 2004, p. 7).

The most significant responsibility of administrators is to provide a time and a place for

educators to meet collectively and regularly during the school day. School staff must

creatively work together to manage time and space on a consistent basis, sometimes

changing the school schedule to have longer school days or early release days in order to

meet for collective inquiry and learning which is essential to the PLC (Huffman & Hipp,

2003).

       Another supportive factor is trust among all colleagues, administrators, district

level personnel and all others in key roles. When the school conditions are supportive of

the development of a PLC, relationships will promote caring, trusting, and collaborative

attributes (Thompson et al., 2004). Barth (2006) noted the importance of the

relationships among adults within schools by stating the following:

> The nature of relationships among the adults within a school has a greater
>
> influence on the character and quality of that school and on student
>
> accomplishment than anything else. If the relationships between administrators
>
> and teachers are trusting, generous, helpful, and cooperative, then the
>
> relationships between teachers and students, between students and students, and
>
> between teachers and parents are likely to be trusting, generous, helpful, and
>
> cooperative. In short, the relationships among the educators in a school define all
>
> relationships within that school's culture. (p. 9)

Principals should nurture this process of building trust by providing staff members with

some social activities where colleagues can get to know one another and create a caring

environment. It is essential to the PLC for staff members to collaborate, support, care

for, and encourage one another so remarkable things will happen (Eaker et al., 2002).

Congenial relationships are personal and friendly, and they should not be taken lightly. These relationships represent a precondition for another highly prized relationship, collegiality (Barth, 2006). "Schools are full of good players. Collegiality is about getting them to play together, about growing a professional learning community" (Barth, 2006, p. 11).

"*Shared practice* involves the review of a teacher's behavior by colleagues and includes feedback and assistance activity to support individual and community improvement" (Hord, 2004, p. 7). Once trust has been established within the school among all colleagues, teachers share in the vision of the community and value one another's opinions on their practice in the classroom. "In PLCs, review of a teacher's practice and behavior by colleagues should be the norm" (Hord, 2004, p. 11). This review is not an evaluative process, but a way that teachers can help each other by observing, taking notes, and discussing the observations with one another in an effort to improve individuals and the community as a whole. The process of sharing through observation and presentation of work samples can lead to quality debate, discussion, and disagreement only after mutual respect and trustworthiness have been established among staff members (Huffman & Hipp, 2003). "None of us wants to risk being exposed as incompetent. Yet there is no more powerful way of learning and improving on the job than by observing others and having others observe us" (Barth, 2006, p. 12).

A professional learning community's goal should be to fundamentally change the teaching and learning practices within the school. Several actions must take place in order for a transformation of schools to occur: leaders must declare the agenda is to change the learning culture of the school; PLCs must be implemented in every school; the relationship between schools and the district must be refashioned; schools and the district

must see themselves as being engaged in the process; schools must be more accountable

to the public; and the spread of PLCs must be about the proliferation of leadership

(Fullan, 2006).

Development of Collective Efficacy Construct

"As defined in social cognitive theory, all efficacy belief constructs—student,

teacher, and collective—are future-oriented judgments about capabilities to organize and

execute the courses of action required to produce given attainments in specific situations

or contexts" (Goddard, Hoy, & Woolfolk Hoy, 2004, p. 3). These judgments are the

individual's or group's beliefs about their capabilities and are not to be regarded as

assessments and/or a course of action. Goddard and Skria (2006) addressed social

cognitive theory as follows:

> Social cognitive theory addresses how humans, as individuals and as members of
>
> groups, exercise some level of control over their future. When individuals and
>
> groups believe themselves capable of reaching given attainments, they are more
>
> likely to approach those goals with the creativity, effort, and persistence required
>
> to attain success. (p. 217)

Bandura's (1977) work introduced the concept of self-efficacy perceptions, and

distinguished between outcome expectancy (a person's estimate that a given behavior

will lead to certain outcomes) and efficacy expectation (the conviction that one can

successfully execute the behavior required to produce the outcome). "Inquiry into

collective efficacy beliefs emphasizes that teachers have not only self-referent efficacy

perceptions but also beliefs about the conjoint capability of a school faculty" (Goddard et

al., 2004, p. 4).

Clarification of terminology when referring to efficacy is essential to the possible

outcomes. Teacher and collective teacher efficacy are not the same as teacher effectiveness. "Analogous to self-efficacy, collective efficacy is associated with tasks, level of effort, persistence, shared thoughts, stress levels, and achievement groups" (Goddard et al., 2000, p. 482). Goddard et al. (2004) also concluded that "although empirically related, teacher and collective efficacy perceptions are theoretically distinct constructs, each having unique effects on educational decisions and student achievement" (p. 3).

Sources of Efficacy

"Perceived personal and collective efficacy differ in the unit of agency, but in both forms efficacy beliefs have similar sources, serve similar functions, and operate through similar processes" (Bandura, 1997, p. 478). Four sources of efficacy-shaping information are mastery experience, vicarious experience, social persuasion, and affective state (Bandura, 1997). In theory, all sources should hold at the group level, but some sources—affective states, for example—are less germane in the explanations of how collective efficacy perceptions form and change (Goddard et al., 2004).

"Mastery experience is the most powerful source of efficacy information" (Goddard et al., 2004, p. 5). This experience is based on teachers' perceptions that they and others like them have been successful in similar tasks (Bandura, 1993). Teachers as a group experience successes and failures, and through the learning of group members organizational learning occurs (Goddard et al., 2004). Carefully supported opportunities to experience mastery, such as role playing and microteaching experiences with specific feedback, are essential during implementation of new strategies (Tschannen-Moran, Hoy & Hoy, 1998).

"Vicarious mastery experiences—in which the positive skill is modeled by

someone else—also contribute to efficacy beliefs and are easier to provide" (Jerald, 2007, p. 4). Goddard et al. (2004) stated that "schools wanting improved educational outcomes may experience gains in perceived collective efficacy by observing successful educational programs offered by higher achieving schools" (p. 5). It may be reasoned that borrowing from other organizations is a form of vicarious organizational learning, but more research needs to be done in the field of organizational learning and how observational learning affects perceived collective efficacy.

Social persuasion is yet another factor that can influence a teacher or the faculty's conviction that they have the capabilities to reach their goals (Bandura, 1997). This source may entail encouragement or specific performance feedback for a supervisor or colleague, or it may be as casual as discussions in the teacher's lounge, community, or media about the ability of teachers to influence students (Goddard et al., 2004). "Encouragement from teacher colleagues, principals, and district leaders may be insufficient alone, but coupled with the requisite training and experience, it has the potential to strengthen teachers' self- and collective-efficacy beliefs" (Goddard & Skria, 2006, p. 219).

Individuals and organizations react to situations either of anxiety or excitement in an affective state, which adds to the perceptions of self- or group-capability or incompetence (Goddard et al., 2004). Organizations with strong beliefs in group capability can tolerate pressure, continue to function, and learn to rise to the challenge when confronted with disruptive forces. However, "there is little research on the impact of the affective states of organizations on the collective efficacy beliefs and performance of participants; but, the theory is plausible and merits attention in future research" (Goddard et al., 2004, p. 6).

Collective Efficacy and School Organization

Teacher efficacy and collective teacher efficacy both play a role in the effectiveness of a school as an organization of learning. Personal teacher efficacy has been documented over the last 2 decades, but research regarding collective teacher efficacy is relatively new. Within an organization, perceived collective efficacy represents the shared perceptions of group members regarding "the performance capability of a social system as a whole" (Bandura, 1997, p. 469). Collective teacher efficacy requires group judgment and effort, along with a willingness for a group to remain together (Ware & Kitsantas, 2007). Many elements within the school's organization are influential to the amount of collective efficacy among the staff. "Schools can influence teacher efficacy and collective efficacy beliefs by cultivating and providing organizational support through positive collaboration within the teaching staff and administrators via supervision, as well as providing resources and direction for their use" (Ware & Kitsantas, 2007, p. 304). Goddard and Skria (2006) concluded that "the stronger an organization's collective efficacy beliefs, the more likely its members are to put forth the sustained effort and persistence required to attain desired goals" (p. 217). This research signifies that in order to foster organizational support, teachers must believe that their school values the contributions teachers make.

As evidenced by the preceding research, the existence of collective efficacy in schools can influence teachers and provide a vast array of positive consequences that improve the organization of the school and impact its effectiveness. Based on a study completed by Goddard et al. (2000), principals who work to build collective teacher efficacy will make greater strides in closing the achievement gap in schools which strengthens the school as an organization.

Collective Efficacy and the Five Dimensions of PLCs

  Shared and supportive leadership. According to Goddard et al. (2004), "the

more teachers have the opportunity to influence instructionally relevant school decisions,

the more likely the school is to be characterized by a robust sense of collective efficacy"

(p. 10). Leadership within a school is directly related to the commitment of the teachers

and their willingness to collaborate on ideas. According to Brinson and Steiner (2007),

"principals and district leaders should turn their attention to improving CTE because it

has an impressive list of positive consequences" (p. 2). "Strong collective efficacy: (1)

improves student performance, (2) ameliorates the negative effects of low socioeconomic

status (SES), (3) enhances parent/teacher relationships, (4) creates a work environment

that builds teacher commitment to the school" (Brinson & Steiner, 2007, p. 2).

There are no guaranteed set of steps for school leaders to follow in order to build

collective efficacy among the staff, but research does provide some guidance for leaders

who want to prioritize their actions and set a path for increasing collective efficacy.

Although research on collective efficacy is relatively new, researchers have begun to look

at explicit actions that school and district leaders can take to improve collective efficacy.

Brinson and Steiner (2007) noted that "this emerging body of research, though still in its

early stages," suggests that principals can improve collective efficacy by implementing

the following actions: "(1) build instructional knowledge and skills, (2) create

opportunities for teachers to collaboratively share skills and experiences, (3) interpret

results and provide actionable feedback on teachers' performance, (4) involve teachers in

school decision making" (p. 3). In order to create an organization that seeks to delve into

learning through continuous improvement, it is imperative that schools develop a high

sense of collective capacity in a culture that fosters meaningful participation and

leadership across the school community (Oliver & Hipp, 2006). "The challenge for school leaders in this millennium is to guide school communities from concept to capability—a capability that is self-sustaining and that will institutionalize school reform" (Huffman & Hipp, 2003, p. 150).

Shared values and vision. Goddard et al. (2000) theorized, "that the consequences of high collective teacher efficacy will be the acceptance of challenging goals, strong organizational effort, and a persistence that leads to better performance" (p. 486). The development and components of collective teacher efficacy have been summarized by Goddard et al. (2000) as "the proficiency of performance provides feedback to the organization, which provides new information that will further shape the collective teacher efficacy of the school" (p. 486). Goddard et al. (2004) stressed the importance of shared values as follows:

> In a school with a high level of collective teacher efficacy, teachers are more likely to act purposefully to enhance student learning. Such purposeful actions result from an organizational agency that influences a school to intentionally pursue its goals. Schools are capable of self-regulation, which helps in the identification, selection, and monitoring of educational efforts that are likely to meet the unique needs of students. To understand the influence of collective teacher efficacy in schools, it is necessary to understand that teachers' shared beliefs shape the normative environment of schools. These shared beliefs are an important aspect of the culture of the school. Collective teacher efficacy is a way of conceptualizing the normative environment of a school and its influence on both personal and organizational behavior. That is, teachers' beliefs about their faculty's capability to educate students constitute a norm that influences the

actions and achievements of schools. (p. 502)

Research demonstrates the importance of developing a high level of collective teacher

efficacy when setting goals, which is an element of creating shared vision and values in a

professional learning community.

Collective learning and application. "The agency that schools exercise and the

choices that teachers make are influenced by beliefs about collective capability"

(Goddard, 2001, p. 12). Teachers with strong perceptions of efficacy put more effort into

planning lessons, are more open to new ideas, and persevere in the face of new

challenges (Jerald, 2007). Fullan's (2007) concept of capacity building is "the daily habit

of working together and the necessity for constantly developing leadership for the future"

(p. 69). This concept demands the need to promote contextual or job-embedded learning

in which working and learning together is the norm and leadership permeates throughout

the organization (Oliver & Hipp, 2006). With regard to social cognitive theory, "The

higher the sense of collective efficacy, the better the team performance" (Bandura, 1997,

p. 470).

> A group's belief that it can handle certain tasks is important because collective
>
> efficacy, a task- and context-specific variable, influences a group to initiate
>
> action, how much effort the group will exert, and how long the group's effort will
>
> be sustained. (Stajkovic et al., 2009, p. 814).

The collective effort of the team deepens the level of collective teacher efficacy achieved.

Supportive conditions. Building collegial relationships of respect and trust

require teachers to consider the credibility and trustworthiness of the persuader, their own

prior enactive and vicarious experiences (Goddard & Skria, 2006). According to

Goddard and Skria (2006), the impact of the supportive conditions affects the group in

the following way:

> The effects of a given experience on a group member's collective efficacy beliefs
> are thus less a function of the actual events than of what group members make of
> those events in the context of the dense and influential social networks within
> which group members act. (p. 219)

Discussions, workshops, professional development opportunities, and feedback related to achievement can inspire action by means of social persuasion which strengthens the staff's conviction that it has the capabilities to set and achieve goals (Goddard et al., 2004). "Encouragement from teacher colleagues, principals, and district leaders may be insufficient alone, but coupled with the requisite training and experience, it has the potential to strengthen teachers' self- and collective-efficacy beliefs" (Goddard & Skria, 2006, p. 219).

When administrators provide supportive feedback and a willingness to collaborate on ideas, then the staff is more receptive and committed to the school. "Organizational support is the extent to which teachers believe that their school values their contributions and cares about their well-being" (Ware & Kitsantas, 2007, p. 304).

Shared practice. The strength of collective teacher efficacy "encourages individual teachers to more effectively deploy the skills they already have, find new ways to tackle difficult challenges, and share what they know with others" (Brinson & Steiner, 2007, p. 3). Principals can support perceptions of efficacy "if they design interventions that are focused on instructional practices and promote increased sharing of skills and experiences between teachers" (Brinson & Steiner, 2007, p. 4). Principals can also add to shared practice experiences "by giving teachers the opportunity to observe classroom lessons presented by particularly effective peers or by providing articles about,

videotapes of, or chances to visit effective schools" (Jerald, 2007, p. 5). Goddard et al.
(2000) described a vicarious experience as

> one in which the skill in question is modeled by someone else. When a model
> with whom the observer identifies performs well, the efficacy beliefs of the
> observer are most likely enhanced. When the model performs poorly, the efficacy
> beliefs of the observer tend to decrease. (p. 5)

The same premise is true regarding the organization. "Schools wanting improved
educational outcomes may experience gains in perceived collective efficacy by observing
successful educational programs offered by higher achieving schools" (Goddard et al.,
2004, p. 5).

Professional Learning Communities and Collective Teacher Efficacy

Schools with high levels of collective efficacy believe they can collectively make
a difference in the learning and success of their schools. Teachers who collectively
perceive themselves as being capable of promoting student academic success develop
within the school a positive culture for achieving academic goals (Bandura, 1993). Thus,
"collective efficacy can set the stage for developing a high-performance learning culture
in which teachers help to expand collective responsibility within their PLC" (Oliver &
Hipp, 2006, p. 507). Evidence from research provided in this chapter, along with the
overall finding from Oliver and Hipp (2006) which stated, "overall findings from the
survey measures showed moderate to moderately strong statistically significant positive
correlations among subgroup scales measuring leadership capacity, collective efficacy,
and PLC dimensions" (p. 516), demonstrate the need for further research that connects
collective teacher efficacy to the dimensions of a PLC.

Summary

As evidenced earlier in the chapter, school reform is at the forefront of education, especially since the passing of the No Child Left Behind Legislation (2001). Educators and administrators are seeking to close achievement gaps, improve student achievement, and reduce dropout rates along with a whole host of other educational concerns facing education in the 21st Century. Research (Bandura, 1997; DuFour & Eaker, 1998; Goddard, 2001; Hord, 1997; Louis & Kruse, 1995; Newmann & Wehlage, 1995) has shown that professional learning communities and collective teacher efficacy create positive improvements in student learning and the organization of schools.

This chapter highlighted the literature as related to professional learning communities and the theories of collective teacher efficacy. Throughout the literature, links to the perceptions of teachers that they can make a difference as a group (collective teacher efficacy) and the structure of the school itself (professional learning community) were addressed in regard to improving and reculturing schools.

Through examination of the literature, evidence revealed a connection exists between professional learning communities and collective teacher efficacy in regards to the five dimensions of a PLC. This study examined the relationship of collective teacher efficacy and the developmental phases of PLCs in schools from one school district using surveys developed by Goddard et al. (2000) and Huffman and Hipp (2003). The following chapter describes the design of the study to determine the correlation between collective teacher efficacy and the phases of development of professional learning communities in elementary and secondary schools.

Chapter 3: Methodology

Introduction

This chapter describes the methodology used to study the relationship between the degree of implementation of a professional learning community and collective teacher efficacy. Survey research is defined by Creswell (2009) as "a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population" (p. 12). The rationale for using surveys for this study was based on the economy of the design and the rapid turnaround in data collection. The chapter also specifies the participants, instruments, methods of collection, analysis of data, and the limitations of the study.

The main purpose of this research was to study the relationship between the degree of implementation of a professional learning community and collective teacher efficacy in a rural school district. In order to achieve the purpose for this study, the following questions were generated as the guiding framework:

1. What is the relationship between the five dimensions of a professional learning community, as measured by the PLCA, and collective teacher efficacy, as measured by the CTE, at the elementary, middle, and high school levels?

2. How do the relationships between the degree of implementation and collective teacher efficacy differ among the elementary, middle, and high school levels?

Data from the PLCA and CTE were collected and used as data sources. Information from these data sources served to explore each school's progress in the five dimensions of a professional learning community in order to establish the degree of implementation and to determine the level of collective teacher efficacy.

Participants

        The certified teachers surveyed from 26 schools for this study were all from the same school district in the southern piedmont region of North Carolina. This district was chosen for the study due to the district-wide adoption of PLCs operating under the same working definition as developed by the district. That district-wide definition states, "Our district is committed to reflective, collaborative, professional learning communities across the district and in the schools, whose purpose and outcomes evolve around the creation, nurture, and maintenance of high quality, research-based teaching and learning for all students" (M. Hill, personal communication, June 18, 2010).

        For the purpose of this study, certified teachers from 26 schools in the district were asked to participate in the Professional Learning Community Assessment (PLCA) and the Collective Teacher Efficacy Instrument (CTE). From those 26 schools, 16 were elementary, two were intermediate, four were middle schools, and four were high schools. Also, for the purpose of the study, the two intermediate schools were categorized as elementary since the majority of students were in Grades 4 and 5. The 1,310 participants (621 elementary teachers, 225 middle school teachers, and 464 high school teachers) were also asked to provide demographic information in the surveys, and the researcher anticipated a 70% response rate from each school level.

        The schools were all identified as professional learning communities based on specific questions answered on the 2008 and 2010 North Carolina Teacher's Working Conditions Survey (NCTWCS). All schools began the process at different times over the past several years according to baseline data acquired from the school district's assistant superintendent of curriculum and instruction. The tables below represent summaries of the items that were compared among the 2008 and 2010 surveys and serve as indicators

of the teacher perceptions of PLCs according to the North Carolina Teacher Working

Conditions Survey (North Carolina Teaching Working Condition Survey, 2010). The

percent agree is based on the percentage of participants that responded as strongly agree

or agree on the 5-point Likert scale (strongly disagree, disagree, agree, strongly agree,

don't know) used for this survey. Comparisons included questions identically worded on

both the 2008 and 2010 survey.

Table 2

NCTWC Survey Percentage Agree–Time (Supportive Conditions)

Domain	2008 % Agree 88.21% Response Rate	2010 % Agree 94.79% Response Rate
Class sizes are reasonable, time available to meet needs of students	77.6	70.0
Time to collaborate	75.0	82.0
Non-instructional time is sufficient	67.7	75.8
Minimized paperwork	66.5	61.4

Table 2 contains information that appears to conflict with the growth of the professional

learning community in the area of class size being reasonable, the time available to meet

needs of students, and minimized paperwork. The increase in class size may be due to

the state of the economy and decrease of school funding. Also, the area of minimized

paperwork may be due to the fact that paperwork is created to analyze the function of a

school as a professional learning community.

Table 3

NCTWC Survey Percentage Agree–Facilities (Supportive Conditions)

Domain	2008 % Agree 88.21% Response Rate	2010 % Agree 94.79% Response Rate
Access to instructional materials	85.9	89.8
Sufficient access to technology	84.1	89.6
Access to reliable communication technology	85.0	93.5
Sufficient access to office equipment and supplies	81.0	91.0
School environment clean and maintained	89.2	93.0
Teachers have adequate space to work	75.6	89.9
Reliability of Internet sufficient to support instructional practices	90.8	92.8

In Table 3, all categories demonstrated positive growth with increases in the percentage agree, but the supportive conditions for the area of sufficient access to office equipment and supplies and adequate space to work demonstrated meaningful growth in the area of supportive conditions.

Table 4 shows significant increases, especially for teachers making decisions about educational issues and the process for group decisions to solve problems, in the agree percentages for the shared leadership within the schools in the district which is important to the growth of a professional learning community.

Table 4

NCTWC Survey Percentage Agree–Teacher Leadership (Shared Leadership)

Domain	2008 % Agree 88.21% Response Rate	2010 % Agree 94.79% Response Rate
Teachers trusted to make sound professional decisions on instruction	81.7	90.2
Teachers make decisions about educational issues	67.4	88.2
Process for group decisions to solve problems	69.1	83.9
School takes steps to solve problems	75.2	86.1

Table 5 illustrates that every category showed an increase in the percentage agree. There was also noteworthy growth in the categories of faculty/staff shared vision, school improvement team provides effective leadership, school leadership addresses leadership issues, school leadership addresses facilities and resources, and school leadership addresses new teacher support which are all contributors to building successful professional learning communities.

Table 5

NCTWC Survey Percentage Agree–School Leadership (Vision, Collective Learning and Supportive Leadership)

Domain	2008 % Agree 88.21% Response Rate	2010 % Agree 94.79% Response Rate
Faculty/staff have shared vision	76.7	86.2
Atmosphere of trust/respect	75.1	77.8
Leadership consistently supports teachers	79.3	81.7
High professional standards for teachers	90.0	94.7
Teacher's feedback improves teaching	83.5	88.9
Teacher evaluation procedures consistent	83.7	91.1
School improvement team provides effective leadership	70.0	88.7
School leadership addresses leadership issues	70.7	82.4
School leadership addresses facilities and resources	79.0	89.5
School leadership addresses use of time	77.6	84.7
School leadership addresses professional development	81.3	89.6
School leadership addresses new teacher support	77.0	88.4

The above tables signify an increase in the percentage agree in most categories of

a professional learning community within this school district from 2008 to 2010. This

information demonstrates that perceptions of the certified staff members indicate that

schools are functioning as PLCs. This data also corresponds with the information

provided from the assistant superintendent of curriculum and instruction which stated that

the schools in the district were all functioning as professional learning communities, but

some had started the process earlier than others over the past several years. Most areas of

the NCTWCS have higher increases in percentage agree over the 2-year timeframe which

could be due to the fact that some schools began the process of becoming PLCs earlier

than others.

Instruments

Two instruments were used to collect data. These instruments were combined

into one survey to be administered through the school district's county-wide email. The

first portion of the combined survey produced the demographic information which is

found in Appendix B. The PLCA (Appendix C) survey is a 45-item Likert scale

assessment designed by Huffman and Hipp (2003). By publishing the survey, the authors

have granted permission to use the instrument for future studies. The reconceptualization

of the PLC dimensions and creation of the PLCO (Appendix A) created the need for a

new assessment, the PLCA (Huffman & Hipp, 2003). This PLCA extends the work of

Hord (1997) and is designed to assess perceptions about the school's principal, staff, and

stakeholders (parents and community members) based on the five dimensions of a PLC

and the critical attributes (Huffman & Hipp, 2003). The measure serves as a more

descriptive tool of the five dimensions within a school.

Field testing of the instrument required participants to respond to statements about

practices occurring in schools utilizing a 4-point "Likert scale ranging from 1 = Strongly

Disagree to 4 = Strongly Agree" (Huffman & Hipp, 2003, p. 73). In order to provide

evidence of the construct validity, a factor analysis was performed utilizing a series of

statistical procedures for the total sample of respondents (n = 247) (Huffman & Hipp,

2003). Cronbach's Alpha was used for internal consistency and reliability, and over the

five dimensions the coefficient span was .83 to .93. Therefore, a high level of internal

consistency exists for the PLCA.

The stages of implementation were established in Hill's (2008) research and were

identified as follows based on the raw data and established frequencies and agreement

percentages of each item within a subsection of the five dimensions: non-demonstration

of PLC, 0-44%; initiation stage, 45-64%; implementation stage, 65-84%; and

institutionalization stage, 85-100%. "The percentage of positive responses was evaluated

for each item in order to determine the phase of development" (Hill, 2008, p. 33). From a

thorough comparison of the percentage of positive staff responses, Hill (2008)

determined the progress within the various dimensions of PLCs.

The second portion of the survey developed by Goddard et al. (2000) was the

Collective Teacher Efficacy Instrument (CTE) which is found in Appendix D. This

instrument consisted of 12 items and employed a 6-point Likert scale, ranging from

strongly disagree to strongly agree.

The original long form of CTE (Goddard et al., 2000) was tested for criterion-

related validity, predictive validity, and reliability and three variables were examined.

"As predicted, there was a moderate and positive ($r = .54$, $p < .01$) correlation between

personal teacher efficacy aggregated at the school level and collective teacher efficacy"

(Goddard et al., 2000, p. 494). Also, a significantly positive relationship related to

collective teacher efficacy and trust in colleagues was evident ($r = .62$, $p < .01$). The

third criterion variable, environmental press, as related to collective teacher efficacy was

not statistically significant ($r = .05$, n.s.). Hierarchical linear modeling demonstrated

predictive validity. The internal reliability of the CTE instrument was found to be very high with an alpha equal to .96.

Using the foundation of the long form, Goddard (2002) elected to create a 12-item scale with three items representing each of the four categories of group competency (GC) and task analysis (TA) identified as either positively (+) or negatively (-) worded. Collective efficacy is dependent upon these two factors defined by Goddard (2002) as,

> Group-teaching competence consists of judgments about the capabilities that a faculty brings to a given teaching situation. These judgments include inferences about the faculty's teaching methods, skills, training, and expertise. Task analysis (TA) refers to perceptions of the constraints and opportunities inherent in the task at hand. In addition, to the abilities and motivations of students, TA includes teachers' beliefs about the level of support provided by the students' home and the community. (p. 100)

Based on the definition of group competency and task analysis as defined by Goddard (2002), connections can be made to the five dimensions of the PLCA. Group competency, by definition, aligns with collective learning and application and shared personal practice which are more skill-oriented categories. In the same manner, task analysis is based on teachers' perceptions of constraints or opportunities inherent in the task at hand which aligns more directly with shared and supportive leadership, shared values and vision, and supportive conditions. The use of these survey instruments provides information based on the teachers' perceptions in all five dimensions and perceptions based on group competency and task analysis to identify the relationships.

Table 6 shows the alignment of the questions to GC or TA within the short form of the survey. "Because in there is nothing in the conceptual model guiding the measure

of collective efficacy to suggest GC and TA should be unevenly weighted in a school's collective efficacy score, it seemed more desirable to seek a balance across categories" (Goddard, 2002, p. 101).

Table 6

CTE Items Aligned with Positive and Negative GC and TA

Question #	Item	GC+	GC-	TA+	TA-
CTE1	Teachers in this school are able to get through to the most difficult students.	X			
CTE2	Teachers here are confident they will be able to motivate their students.	X			
CTE3	If a child doesn't want to learn teachers here give up.		X		
CTE4	Teachers here don't have the skills needed to produce meaningful learning.		X		
CTE5	Teachers in this school believe that every child can learn.	X			
CTE6	These students come to school ready to learn.			X	
CTE7	Home life provides so many advantages that students here are bound to learn.			X	
CTE8	Students here just aren't motivated to learn.				X
CTE9	Teachers in this school do not have the skills to deal with student disciplinary problems.		X		
CTE10	The opportunities in this community help ensure that these students will learn.			X	
CTE11	Learning is more difficult at this school because students are worried about their safety.				X
CTE12	Drug and alcohol abuse in the community make learning difficult for students here.				X

The approach to select items for inclusion with the largest structure coefficients from each of the four categories yielded only one item, CTE12, that correlated less than .72 with the extracted factor. However, the inclusion of this item was not problematic because its factor structure coefficient (.65) was deemed adequate (Goddard, 2002). The explanation of the correlation was defined by Goddard (2002) as follows:

> With all but 1 item correlated .73 or above, a single factor having an eigenvalue of 7.69 and explaining 64.10% of the variance was extracted. This compares favorably to the single factor obtained from the 21-item scale that explained 57.89% of the variance. (p. 105)

In addition to the previous information noted, the 12-item scale yielded scores with high internal consistency (alpha = .94) (Goddard, 2002). For validity, scores from both scales were highly correlated ($r = .983$) suggesting that little change resulted from the omission of almost 43% of the items (Goddard, 2002). Since the correlation was not low, the 12-item test was measuring the same constructs at the original 21-item scale. "In addition to providing a theoretically balanced measure, the 12-item scale is more parsimonious using 43% fewer items than the original" (Goddard, 2002, p. 108). The following table identifies the comparisons of the original and short forms of collective efficacy scales.

Table 7

Comparison of the Original and Short Collective Efficacy Scales

Attribute	Short Form	Original
Number of items	12	21
Internal consistency (alpha)	.94	.96
Eigenvalue from principal axis factor analysis	7.69	7.53
Proportion of variance explained with single factor	.6410	.5789

The researcher obtained prior permission from Dr. Roger Goddard to use the CTE instrument. Dr. Goddard was affiliated with the University of Michigan during the creation of the CTE instrument, and he is currently affiliated with Texas A&M. The request for permission can be found in Appendix E.

Procedures

This study utilized a quantitative research approach which measured variables, typically on instruments, so that numbered data could be analyzed using statistical procedures. "Survey research provides a numeric description of trends, attitudes, or opinions of a population by studying a sample of that population" (Creswell, 2009, p. 12). The surveys given in this study looked at the perceptions teachers have about collective teacher efficacy and the perceptions they have toward their schools functioning as professional learning communities across the five dimensions of a PLC.

The first step in the process was to meet informally with the school district's superintendent and acquire permission to complete the study in this rural school system. He agreed to the study, and written permission to use the school system was signed by

the researcher and the superintendent. Next, the researcher contacted the assistant

superintendent of curriculum and instruction to acquire the working definition of the PLC

for the district as baseline information. At that time, permission was also given to use the

district's technology department personnel to distribute the surveys electronically to all

schools in the district. The next step of the process was to acquire permission to use the

CTE instrument. An email was sent to Dr. Goddard seeking permission, and he

responded via email granting permission.

The combined surveys were distributed to all certified teachers on January 4,

2011, through the district email with a 2-week response timeframe. These surveys were

combined to ensure responses from each subject could be verified when data were

collected. Information from the surveys was collected electronically, and email

reminders were sent to schools twice encouraging those who had not responded within

the response timeframe to respond. The researcher expected a 70% response rate from

each school level—elementary, middle, and high schools. When the anticipated response

rate was not acquired after three contact attempts were made by the researcher, a different

approach was used to see if a better response rate could be acquired. The researcher

contacted the assistant superintendent of curriculum and discussed two options for

resubmitting the surveys. It was determined that the best option would be to print the

surveys for district-wide distribution, and the assistant superintendent of curriculum

agreed to distribute the surveys to the principals at the February 8, 2011 county-wide

principal's meeting. Each survey had a letter for the participants attached so teachers

would know that their participation in the survey was optional. The letter also reminded

them that the information obtained from the surveys would be held in confidence by the

researcher. The researcher submitted a letter to each principal requesting that the surveys

be distributed during their faculty meetings over the next 2-week timeframe. The researcher agreed to pick up the surveys from each school on February 25, 2011. Since the surveys did not require any personal identification through the paper and pencil distribution, confidentiality to the participants was assured. Data were collected by school with results being combined into one summary for each school level. Each school was assigned a code number to identify the school as elementary, middle, or high school. The data were entered into an Excel format so that data could be imported into SPSS and analyzed to answer the research questions. The cover letter for participants sent via email and distributed with the paper and pencil surveys is found in Appendix F. The cover letter given to principals explaining the procedure for paper and pencil survey distribution is found in Appendix G.

After data collection was complete, the researcher began to analyze the data to answer the research questions defining the study. The researcher analyzed the data using descriptive statistics to determine what relationship existed, if any, between collective teacher efficacy and the degree of implementation of a PLC, and how the relationships differ between collective teacher efficacy and the degree of implementation at the elementary, middle, and high school levels. Since these instruments are Likert scale questionnaires, the use of Cronbach's Alpha made the strongest case for internal consistency.

Limitations

This study was limited in three areas. First of all, this study investigated only certified teachers' perceptions of the school's progress in the development of a professional learning community and as to the collective teacher efficacy within their individual schools. Secondly, the study focused on one school district in the southern

piedmont region of North Carolina, so generalizations do not necessarily apply to other areas of the nation. Lastly, by combining the two separate surveys into one large survey, the reliability of the data collected may have been affected. The researcher took steps to limit this risk by using the short form of the CTE, instead of the long form, reducing the amount of questions from 21 to 12.

Delimitations

The focus of the inquiry was to examine schools in this system at a particular time to determine the stage of development for each school as a PLC and how it related to the collective teacher efficacy within each school. This study was not a longitudinal study, but rather a glimpse of each school's stage of development as it currently functioned as a professional learning community based on the PLCA. The study was also limited to the elementary, middle, and high schools in this particular district.

Summary

The purpose of this study was to examine the relationship of collective teacher efficacy and the degree of implementation of PLCs in schools from one school district using the CTE survey developed by Goddard et al. (2000) and the PLCA instrument created by Huffman and Hipp (2003). This chapter provided an overview of information regarding to the procedures and instruments involved in conducting this study in order to address the research questions mentioned earlier.

Chapter 4: Results

Purpose

This study was designed to examine the relationship between the five dimensions of a PLC and CTE of a rural school district in the southern piedmont region of North Carolina. The study was based on the conceptual framework of the PLCO created by Huffman and Hipp (2003) and measured by the PLCA and CTE instruments described in the previous chapter. The following questions guided the study:

1. What is the relationship between the five dimensions of a professional learning community, as measured by the PLCA, and collective teacher efficacy, as measured by the CTE, at the elementary, middle, and high school levels?

2. How do the relationships between the degree of implementation and collective teacher efficacy differ among the elementary, middle, and high school levels?

Research sources provided in the literature review (Brinson & Steiner, 2007; Goddard et al., 2000; Goddard et al., 2004; Goddard & Skria, 2006; Huffman & Hipp, 2003; Jerald, 2007; Oliver & Hipp, 2006; Stajkovic et al., 2009) of this study indicate that a relationship exists between the five dimensions of the PLCA and collective teacher efficacy. With this information as the foundation for this study, the PLCA (Huffman & Hipp, 2003) and the CTE (Goddard et al., 2000) were used to collect the data necessary to answer the research questions governing this study.

Description of Sample

The population of this study consisted of 1,310 certified teachers within 26 schools. This population included members from elementary, middle, and high schools within the rural district in the southern piedmont region of North Carolina. All certified teachers were asked to participate in this study by completing the PLCA survey that was

distributed by principals throughout the county. Five hundred ninety-four certified staff

members (346 elementary school, 96 middle school, and 152 high school) returned the

completed surveys for a response rate of 45%. Survey questions with invalid answers

were considered missing data. Exact N (total numbers) and valid percents were used to

represent respondents' responses accounting for the differences in the total number, N, as

shown in the tables that follow in this chapter.

From the total number of participants, 94 were male, 493 were female, and seven

were not identified by gender. The participants were equally represented across the

number of years taught, ranging from 0-5 years to 20+ years of service. Ninety-six

percent of respondents held either a bachelor's or master's degree. Table 8 shows the

survey results for the number of training hours that respondents submitted on the survey.

The data in the table is reported by school level and total number (N) of respondents.

Table 8

Respondents' Survey Results for Number of PLC Training Hours Participants Received

Hours of Training	N	High School	Middle School	Elementary School
1-5 hours	275	60	36	179
6-10 hours	148	33	18	97
10+ hours	132	52	20	60
None	27	4	8	15

The data in Table 8 show that most respondents received 1-5 hours of training

across the school levels which is almost double the other categories (6-10 hours and 10+

hours). The data also clearly show that the teachers have undergone some training for the implementation of PLCs across the district.

Table 9 provides the frequencies for the number of years that teachers perceived their schools to be functioning as a PLC. These data were also presented across the school level for comparisons.

Table 9

Respondents' Survey Results for Number of Years that Teachers Perceived School as Functioning as a PLC

Years Functioning as PLC	N	High School	Middle School	Elementary School
0-1 years	269	54	39	176
2-3 years	190	48	27	115
3-4 years	40	18	8	14
4-5 years	13	9	0	4
6+ years	39	10	5	24

The data in Table 9 show that most respondents believe they have been functioning as a PLC for the past 0-3 years. This accounts for 459 of the 551 (83.30%) respondents. The data also reveal that 39 (7.08%) respondents perceived their schools as functioning PLCs for more than 6+ years.

PLCA Data Analysis by Frequencies

The results of the PLCA data were used to establish the percent agree/strongly agree for the five dimensions (shared and supportive leadership, shared values and vision, collective learning and application, shared personal practice, and supportive conditions–

relationships and structures) of the PLCA collectively for all 26 schools and for each school level (elementary, middle, and high schools) to determine the phases of development. According to Hill (2008), phases of development are determined from the percentage of agreement: non-demonstration of PLC, 0-44%; initiation stage, 45-64%; implementation stage, 65-84%; and institutionalization stage, 85-100%.

Tables of frequencies were created by items for each domain of the PLCA by global view and school levels to establish patterns in the data. The following tables show the frequency count and percentages of respondents' perceptions of shared and supportive leadership. The items were coded as follows: strongly disagree (SD), disagree (D), agree (A), strongly agree (SA), number (N), and percent (%). These codes were used to provide consistency in the information reported. The PLCA is based on a Likert scale (1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree). Any dimension with a percentage at 85% or above agreement demonstrates that the item on the survey is considered as functioning at the institutionalization stage of development.

In Tables 10, 11, 12, and 13, the researcher analyzed the frequencies of percentages for the shared and supportive leadership dimension of the PLCA from the following perspectives: global view and school levels.

Table 10

Respondents' Perceptions of Shared and Supportive Leadership: Frequencies and Percentages by Global View

Questions	SD		D		A		SA		Total	
	N	%	N	%	N	%	N	%	N	% Agreement
Staff involved decision making	14	2.37	67	11.34	335	56.68	175	29.61	591	86.29
Principal includes staff advice	14	2.38	64	10.87	330	56.03	181	30.73	589	86.76
Staff access to information	16	2.72	71	12.07	337	57.31	164	27.89	588	85.20
Principal active and supportive	15	2.53	47	7.91	294	49.49	238	40.07	594	89.56
Opportunities for staff to initiate change	17	2.88	79	13.39	349	59.15	145	24.58	590	83.73
Principal shares responsibility and rewards actions	13	2.21	63	10.70	311	52.80	202	34.30	589	87.10
Principal shares power and authority	18	3.06	109	18.51	313	53.14	149	25.30	589	78.44
Leadership is promoted	11	1.86	71	11.99	325	54.90	185	31.25	592	86.15
Decision making by committees communication	10	1.70	57	9.69	326	55.44	195	33.16	588	88.61
Stakeholders assume shared responsibility	19	3.32	104	18.18	330	57.69	119	20.80	572	78.50
Total	147		732		3,250		1,753		5,882	85.06

Note. % Agreement = agree and strongly agree.

Data from the respondents' responses established that this dimension is functioning at the institutionalization stage of development. However, three question items from this domain (opportunities for staff to initiate change, principal shares power

and authority, and stakeholders assume shared responsibility) recorded percentages of

agreement below 85%.

Table 11

Respondents' Perceptions of Shared and Supportive Leadership: Frequencies and Percentages by High Schools

Questions	SD		D		A		SA		Total	
	N	%	N	%	N	%	N	%	N	% Agreement
Staff involved decision making	4	2.63	22	14.47	90	59.21	36	23.68	152	82.89
Principal includes staff advice	4	2.67	14	9.33	91	60.67	41	27.33	150	88.00
Staff access to information	5	3.31	17	11.26	98	64.90	31	20.53	151	85.43
Principal active and supportive	4	2.63	10	6.58	83	54.61	55	36.18	152	90.79
Opportunities for staff to initiate change	3	1.99	18	11.92	97	64.24	33	21.85	151	86.09
Principal shares responsibility and rewards actions	3	2.01	19	12.75	79	53.02	48	32.21	149	85.23
Principal shares power and authority	4	2.68	30	20.13	85	57.05	30	20.13	149	77.18
Leadership is promoted	4	2.63	18	11.84	86	56.58	44	28.95	152	85.53
Decision making by committees communication	3	1.97	23	15.13	88	57.89	38	25.00	152	82.89
Stakeholders assume shared responsibility	6	4.05	31	20.95	84	56.76	27	18.24	148	75.00
Total	40		202		881		383		1,506	83.93

Note. % Agreement = agree and strongly agree.

With a total percentage of 83.93, the perceptions of respondents at the high school level

have this dimension functioning at the implementation stage of development. The data

illustrate that several items, six out of 10 (60%) obtained percentage responses of

agreement above 85% (88%, 85.43%, 90.79%, 86.09%, 85.23%, 85.53%, respectively).

The items below 85% were related to shared power, authority, and change.

  Table 12 provides the respondents' perceptions at the middle school level for the

shared and supportive leadership dimension of the PLCA.

Table 12

Respondents' Perceptions of Shared and Supportive Leadership: Frequencies and Percentages by Middle Schools

Questions	SD		D		A		SA		Total	
	N	%	N	%	N	%	N	%	N	% Agreement
Staff involved decision making	3	3.13	16	16.67	56	58.33	21	21.88	96	80.21
Principal includes staff advice	2	2.07	12	12.50	59	61.46	23	23.96	96	85.42
Staff access to information	3	3.23	16	17.20	50	53.76	24	25.81	93	79.57
Principal active and supportive	2	2.08	10	10.42	52	54.17	32	33.33	96	87.50
Opportunities for staff to initiate change	2	2.11	16	16.84	59	62.11	18	18.95	95	81.05
Principal shares responsibility and rewards actions	1	1.05	9	9.47	58	61.05	27	28.42	95	89.47
Principal shares power and authority	3	3.13	20	20.83	56	58.33	17	17.71	96	76.04
Leadership is promoted	0	0.00	15	15.63	61	63.54	20	20.83	96	84.38
Decision making by committees communication	0	0.00	5	5.38	60	64.52	28	30.11	93	94.62
Stakeholders assume shared responsibility	1	1.10	26	28.57	49	53.85	15	16.48	91	70.33
Total	17		145		560		225		947	82.89

Note. % Agreement = agree and strongly agree.

From Table 12 we see the respondents' percentage agreement (82.89%) at middle

school level indicated they were functioning at the implementation stage of development

for this dimension. The data also reveal that four items (principal includes staff advice,

principal active and supportive, principal shares responsibility and rewards actions, and

decision making by committees communication) recorded percentages above 85% for the

shared and supportive leadership of this domain.

Table 13

Respondents' Perceptions of Shared and Supportive Leadership: Frequencies and Percentages by Elementary Schools

Questions	SD		D		A		SA		Total	
	N	%	N	%	N	%	N	%	N	% Agreement
Staff involved decision making	7	2.04	29	8.45	189	55.10	118	34.40	343	89.50
Principal includes staff advice	8	2.33	38	11.08	180	52.48	117	34.11	343	86.59
Staff access to information	8	2.33	38	11.05	189	54.94	109	31.69	344	86.63
Principal active and supportive	9	2.60	27	7.80	159	45.95	151	43.64	346	89.60
Opportunities for staff to initiate change	12	3.49	45	13.08	193	56.10	94	27.33	344	83.43
Principal shares responsibility and rewards actions	9	2.61	35	10.14	174	50.43	127	36.81	345	87.25
Principal shares power and authority	11	3.20	59	17.15	172	50.00	102	29.65	344	79.65
Leadership is promoted	7	2.03	38	11.05	178	51.74	121	35.17	344	86.92
Decision making by committees communication	7	2.04	29	8.45	178	51.90	129	37.61	343	89.50
Stakeholders assume shared responsibility	12	3.60	47	14.11	197	59.16	77	23.12	333	82.28
Total	90		385		1,809		1,145		3,429	86.15

Note. % Agreement = agree and strongly agree.

In Table 13 we see the total percentage of 86.15, indicating respondents at the elementary level believe they are at the institutionalization stage of development for a PLC. Along with this evidence, we see that three items (opportunities for staff to initiate change, principal shares power and authority, and stakeholders assume responsibility) were below the 85% percentage of agreement.

Collectively, we see from these tables that the data from the global view show this dimension functioning at the institutionalization stage of development. As we process this evidence further, we notice that the high school and middle school levels were both below the institutionalization stage of development with a percentage agreement of 83.93% and 82.89%, respectively.

Table 14 shows the respondents' perceptions of shared values and vision by the global view. According to this data, the schools are functioning at the institutionalization stage of development.

Table 14

Respondents' Perceptions of Shared Values and Vision: Frequencies and Percentages by Global View

Questions	SD		D		A		SA		Total	
	N	%	N	%	N	%	N	%	N	% Agreement
Collaboration process for developing shared values	6	1.02	64	10.85	357	60.51	163	27.63	590	88.14
Shared values guide decisions	6	1.02	44	7.48	387	65.82	151	25.68	588	91.50
Shared vision on student learning	7	1.19	32	5.42	344	58.31	207	35.08	590	93.39
Decisions align with values and vision	5	.85	34	5.75	326	55.16	226	38.24	591	93.40
Collaborative process to develop values	6	1.02	63	10.70	331	56.20	189	32.09	589	88.29
Goals focus on student learning	26	4.41	89	15.11	289	49.07	185	31.41	589	80.48
Policies aligned to vision	6	1.02	20	3.38	361	61.08	204	34.52	591	95.60
Stakeholders create high expectations for student learning	14	2.41	114	19.66	316	54.48	136	23.45	580	77.93
Total	76		460		2,711		1,461		4,708	88.62

Note. % Agreement = agree and strongly agree.

Goals focus on student learning and stakeholders create high expectations for

student learning were the two survey items that fell below 85% for this dimension of the

PLCA. Although both items are still in the implementation stage of development ($\geq$65%

to $\leq$84.99%), the data suggest that, for this dimension, the question item regarding

stakeholders expectations are perceived the lowest.

Table 15

Respondents' Perceptions of Shared Values and Vision: Frequencies and Percentages by High Schools

Questions	SD		D		A		SA		Total	
	N	%	N	%	N	%	N	%	N	% Agreement
Collaboration process for developing shared values	2	1.33	17	11.33	96	64.00	35	23.33	150	87.33
Shared values guide decisions	2	1.33	12	8.00	109	72.67	27	18.00	150	90.67
Shared vision on student learning	1	.66	9	5.96	101	66.89	40	26.49	151	93.38
Decisions align with values and vision	2	1.32	10	6.62	92	60.93	47	31.13	151	92.05
Collaborative process to develop values	2	1.32	19	12.50	97	63.82	34	22.37	152	86.18
Goals focus on student learning	3	1.99	36	23.84	78	51.66	34	22.52	151	74.17
Policies aligned to vision	2	1.33	6	4.00	106	70.67	36	24.00	150	94.67
Stakeholders create high expectations for student learning	5	3.33	37	24.67	77	51.33	31	20.67	150	72.00
Total	19		146		756		284		1,205	86.31

Note. % Agreement = agree and strongly agree.

According to data in Table 15, we see the respondents' responses by high schools were below 85% for the same two items noted in Table 14: goals focus on student learning and stakeholders create high expectations for student learning. Again, the item regarding stakeholders had the lowest percentage agreement. In this study, stakeholders are identified as parents and the community members for the PLCA.

Table 16

Respondents' Perceptions of Shared Values and Vision: Frequencies and Percentages by Middle Schools

Questions	SD		D		A		SA		Total	
	N	%	N	%	N	%	N	%	N	% Agreement
Collaboration process for developing shared values	0	0.00	12	12.50	64	66.67	20	20.83	96	87.50
Shared values guide decisions	1	1.04	10	10.42	68	70.83	17	17.71	96	88.54
Shared vision on student learning	1	1.05	8	8.42	62	65.26	24	25.26	95	90.53
Decisions align with values and vision	0	0.00	7	7.29	61	63.54	28	29.17	96	92.71
Collaborative process to develop values	0	0.00	13	13.68	59	62.11	23	24.21	95	86.32
Goals focus on student learning	5	5.26	7	7.37	59	62.11	24	25.26	95	87.37
Policies aligned to vision	0	0.00	2	2.08	67	69.79	27	28.13	96	97.92
Stakeholders create high expectations for student learning	2	2.20	17	18.68	56	61.54	16	17.58	91	79.12
Total	9		76		496		179		760	88.82

Note. % Agreement = agree and strongly agree.

In Table 16, the only item that fell below 85% at the middle school level was stakeholders create high expectations for student learning (79.12%). The overall responses place middle school in the institutionalization phase, yet stakeholders' expectations are below this stage of development.

Table 17 displays information of respondents' perceptions at the elementary level.

Table 17

Respondents' Perceptions of Shared Values and Vision: Frequencies and Percentages by Elementary Schools

Questions	SD		D		A		SA		Total	
	N	%	N	%	N	%	N	%	N	% Agreement
Collaboration process for developing shared values	4	1.16	35	10.17	197	57.27	108	31.40	344	88.66
Shared values guide decisions	3	.88	22	6.43	210	61.40	107	31.29	342	92.69
Shared vision on student learning	5	1.45	15	4.36	181	52.62	143	41.57	344	94.19
Decisions align with values and vision	3	.87	17	4.94	173	50.29	151	43.90	344	94.19
Collaborative process to develop values	4	1.17	31	9.06	175	51.17	132	38.60	342	89.77
Goals focus on student learning	18	5.25	46	13.41	152	44.31	127	37.03	343	81.34
Policies aligned to vision	4	1.16	12	3.48	188	54.49	141	40.87	345	95.36
Stakeholders create high expectations for student learning	7	2.06	60	17.70	183	53.98	89	26.25	339	80.24
Total	48		238		1,459		998		2,743	89.57

Note. % Agreement = agree and strongly agree.

Table 17 shows that teachers' perceptions at the elementary level have them functioning at the institutionalization stage. The two items below the institutionalization stage of development at the elementary level are the same two items below 85% for the global view and at the high school level. The percent agreement at all levels regarding the last question item, stakeholders create high expectations for student learning, is below

85%.

The data in Table 18 show that 89.69% of the respondents' perceptions were positive for the dimension of collective learning and application. One item, staff and stakeholders learn together, was below 85% agreement.

Table 18

Respondents' Perceptions of Collective Learning and Application: Frequencies and Percentages by Global View

Questions	SD		D		A		SA		Total	
	N	%	N	%	N	%	N	%	N	% Agreement
Staff works together to seek knowledge, skills, and strategies	7	1.19	43	7.34	331	56.48	205	34.98	586	91.47
Collegial relationships exist	6	1.02	47	8.02	330	56.31	203	34.64	586	90.96
Staff plan and work together to meet diverse needs	7	1.20	39	6.68	343	58.73	195	33.39	584	92.12
Opportunities/ structures exist for collective learning	12	2.06	62	10.63	354	60.72	155	26.59	583	87.31
Staff engage in dialogue	10	1.70	58	9.88	359	61.16	160	27.26	587	88.42
Professional development	6	1.02	39	6.62	312	52.97	232	39.39	589	92.36
Staff and stakeholders learn together	6	1.03	111	19.14	322	55.52	141	24.31	580	79.83
Staff committed to programs that enhance learning	4	.68	17	2.89	317	53.91	250	42.52	588	96.43
Total	58		416		2,668		1,541		4,693	89.69

Note. % Agreement = agree and strongly agree.

In Table 19, the high school level was the only category with two items

(opportunities/structures exist for collective learning, 79.87%; and staff and stakeholders learn together, 74.32%) that were below 85%. Overall, the respondents agree (87.83%) they are functioning at the institutionalization stage of development.

Table 19

Respondents' Perceptions of Collective Learning and Application: Frequencies and Percentages by High Schools

Questions	SD		D		A		SA		Total	
	N	%	N	%	N	%	N	%	N	% Agreement
Staff works together to seek knowledge, skills, and strategies	1	.67	16	10.67	93	62.00	40	26.67	150	88.67
Collegial relationships exist	1	.66	11	7.28	82	54.30	57	37.75	151	92.05
Staff plan and work together to meet diverse needs	1	.67	8	5.33	101	67.33	40	26.67	150	94.00
Opportunities/ structures exist for collective learning	3	2.01	27	18.12	90	60.40	29	19.46	149	79.87
Staff engage in dialogue	2	1.32	14	9.27	99	65.58	36	23.84	151	89.40
Professional development	3	1.99	17	11.26	87	57.62	44	29.12	151	86.75
Staff and stakeholders learn together	2	1.35	36	24.32	85	57.43	25	16.89	148	74.32
Staff committed to programs that enhance learning	1	.67	3	2.00	97	64.67	49	32.67	150	97.33
Total	13		132		734		320		1,200	87.83

Note. % Agreement = agree and strongly agree.

Table 20

Respondents' Perceptions of Collective Learning and Application: Frequencies and Percentages by Middle Schools

Questions	SD		D		A		SA		Total	
	N	%	N	%	N	%	N	%	N	% Agreement
Staff works together to seek knowledge, skills, and strategies	0	0.00	5	5.26	69	72.63	21	22.11	95	94.74
Collegial relationships exist	0	0.00	5	5.26	71	74.74	19	20.00	95	94.74
Staff plan and work together to meet diverse needs	0	0.00	6	6.25	59	61.46	31	32.29	96	93.75
Opportunities/ structures exist for collective learning	0	0.00	11	11.58	62	65.26	22	23.16	95	88.42
Staff engage in dialogue	0	0.00	8	8.42	66	69.47	21	22.11	95	91.58
Professional development	0	0.00	9	9.38	56	58.33	31	32.29	96	90.63
Staff and stakeholders learn together	0	0.00	23	24.21	53	55.79	19	20.00	95	75.79
Staff committed to programs that enhance learning	0	0.00	5	5.21	57	59.38	34	35.42	96	94.79
Total	0		72		493		198		763	90.83

Note. % Agreement = agree and strongly agree.

Data in Table 20 report one item at the middle school level had a percentage agree/strongly agree that was below 85%. This question was the item stating staff and stakeholders learn together and it recorded teachers' perceptions at 75.79%. Overall, the

percent agree (90.83%) was at the institutionalization stage of development with seven

out of the eight items reporting a percentage agreement above 85% at the middle school

level.

Table 21

Respondents' Perceptions of Collective Learning and Application: Frequencies and Percentages by Elementary Schools

Questions	SD		D		A		SA		Total	
	N	%	N	%	N	%	N	%	N	% Agreement
Staff works together to seek knowledge, skills, and strategies	6	1.76	22	6.45	169	49.56	144	42.23	341	91.79
Collegial relationships exist	5	1.47	31	9.12	177	52.06	127	37.35	340	89.41
Staff plan and work together to meet diverse needs	6	1.78	25	7.40	183	54.14	124	36.69	338	90.83
Opportunities/ structures exist for collective learning	9	2.65	24	7.08	202	59.59	104	30.68	339	90.27
Staff engage in dialogue	8	2.35	36	10.56	194	56.89	103	30.21	341	87.10
Professional development	3	.88	13	3.80	169	49.42	157	45.91	342	95.32
Staff and stakeholders learn together	4	1.19	52	15.43	184	54.60	97	28.78	337	83.38
Staff committed to programs that enhance learning	3	.88	9	2.63	163	47.66	167	48.83	342	96.49
Total	44		212		1,441		1,023		2,720	90.59

Note. % Agreement = agree and strongly agree.

From Table 21 we see the respondents' responses at the elementary level held true to the other categories for the item regarding staff and stakeholders learn together. This question was the only item at the elementary level to fall below 85%. For the dimension of collective learning and application, all categories reported percentages of agreement above 85% (89.69%, 87.83%, 90.83%, and 90.59%, respectively), placing each one at the institutionalization stage of development.

Table 22 represents the global view of respondents' perceptions for shared personal practice.

Table 22

Respondents' Perceptions of Shared Personal Practice: Frequencies and Percentages by Global View

Questions	SD		D		A		SA		Total	
	N	%	N	%	N	%	N	%	N	% Agreement
Opportunities exist to observe peers	26	4.45	135	23.12	297	50.86	126	21.58	584	72.43
Staff provide feedback	18	3.07	111	18.94	342	58.36	115	19.62	586	77.99
Staff informally share ideas and suggestions	6	1.02	19	3.22	335	56.78	230	38.98	590	95.76
Staff review student work together to improve practice	15	2.55	125	21.26	329	55.95	119	20.24	588	76.19
Opportunities for coaching and mentoring	10	1.69	89	15.08	348	58.98	143	24.24	590	83.22
Individuals/ teams apply and share	6	1.02	53	9.00	376	63.84	154	26.15	589	89.98
Total	81		532		2027		887		3527	82.62

Note. % Agreement = agree and strongly agree.

The dimension of shared personal practice was identified as functioning at the implementation stage of development with an overall positive percentage of 82.62. There were several items in this category that had low percentages of positive responses compared to the 85% required for the institutionalization stage of development. Those items included opportunities exist to observe peers, 72.43%; staff provide feedback, 77.99%; staff review student work together to improve practice, 76.19%; and opportunities for coaching and mentoring, 83.22%.

Table 23 displays the data for the respondents' perceptions of shared personal practice at the high school level. Respondents' perceptions for three items (same three from global view) at the high school level were recorded as performing at the implementation stage of development with percentages of 76.35%, 82.99%, and 69.33%, respectively. From the total number of responses, 84% of the respondents positively agree which indicates they are functioning at the implementation stage of development.

Table 23

Respondents' Perceptions of Shared Personal Practice: Frequencies and Percentages by High Schools

Questions	SD		D		A		SA		Total	
	N	%	N	%	N	%	N	%	N	% Agreement
Opportunities exist to observe peers	5	3.38	30	20.27	82	55.41	31	20.95	148	76.35
Staff provide feedback	3	2.04	22	14.97	100	68.03	22	14.97	147	82.99
Staff informally share ideas and suggestions	2	1.33	4	2.67	87	58.00	57	38.00	150	96.00
Staff review student work together to improve practice	3	2.00	43	28.67	89	59.33	15	10.00	150	69.33
Opportunities for coaching and mentoring	2	1.33	10	6.67	100	66.67	38	25.33	150	92.00
Individuals/ teams apply and share	2	1.34	17	11.41	94	63.09	36	24.16	149	87.25
Total	17		126		552		199		894	84.00

Note. % Agreement = agree and strongly agree.

Although the total percentage agreement was 84% identifying the high schools as functioning at the implementation stage of development, there were two items with percentages considerably above 85% (staff informally share ideas and suggestions, 96%; and opportunities for coaching and mentoring, 92%).

Table 24 records the respondents' perceptions at the middle school level. The data reveal consistencies in percentage of agreement for several items in this dimension that concur with the global view and high school level.

Table 24

Respondents' Perceptions of Shared Personal Practice: Frequencies and Percentages by Middle Schools

Questions	SD		D		A		SA		Total	
	N	%	N	%	N	%	N	%	N	% Agreement
Opportunities exist to observe peers	9	9.57	23	24.47	48	51.06	14	14.89	94	65.96
Staff provide feedback	6	6.38	19	20.21	52	55.32	17	18.09	94	73.40
Staff informally share ideas and suggestions	1	1.05	2	2.11	62	65.26	30	31.58	95	96.84
Staff review student work together to improve practice	5	5.21	28	29.17	48	50.00	15	15.63	96	65.63
Opportunities for coaching and mentoring	0	0.00	23	24.21	51	53.68	21	22.11	95	75.79
Individuals/ teams apply and share	1	1.06	9	9.57	65	69.15	19	20.21	94	89.36
Total	22		104		326		116		568	77.82

Note. % Agreement = agree and strongly agree.

There were four items (same as global view: opportunities exist to observe peers, 72.43%; staff provide feedback, 77.99%; staff review student work together to improve practice, 76.19%; and opportunities for coaching and mentoring, 83.22%) that met the criteria for the implementation stage of development for this dimension at the middle school level. Of the four items, two of them (opportunities exist to observe peers, 65.96%; and staff review student work together to improve practice, 65.63%) recorded scores with the lowest percentage of agreement for this stage. The respondents in this school level also recorded the lowest total percentage (77.82%) for this dimension. One

item (staff informally share ideas and suggestions, 96.84%) had a very strong percentage

agreement for this school level for this dimension.

Table 25 documents the respondents' perceptions for shared personal practice at

the elementary level. The data in this table concur with the other categories in that all

total percentages of agreement are below 85%.

Table 25

Respondents' Perceptions of Shared Personal Practice: Frequencies and Percentages by Elementary Schools

Questions	SD		D		A		SA		Total	
	N	%	N	%	N	%	N	%	N	% Agreement
Opportunities exist to observe peers	12	3.51	82	23.98	167	48.83	81	23.68	342	72.51
Staff provide feedback	9	2.61	70	20.29	190	55.07	76	22.03	345	77.10
Staff informally share ideas and suggestions	3	.87	13	3.77	186	53.91	143	41.45	345	95.36
Staff review student work together to improve practice	7	2.05	54	15.79	192	56.14	89	26.02	342	82.16
Opportunities for coaching and mentoring	8	2.32	56	16.23	197	57.10	84	24.35	345	81.45
Individuals/ teams apply and share	3	.87	27	7.80	217	62.72	99	28.61	346	91.33
Total	42		302		1149		572		2065	83.34

Note. % Agreement = agree and strongly agree.

The respondents' perceptions remained constant for the same four survey items

that were below 85% in three of the four categories (global view, middle school, and

elementary school). Also, three of those items were reported with scores below 85% for

the high school level. These data reveal that the respondents' responses for this

dimension identify it as the lowest total percentage for the global view of the PLCA

(82.62%). Two of these question items (staff informally share ideas and suggestions,

95.36%; and individuals/teams apply and share, 91.33%) reported scores at the

institutionalization stage of development for elementary schools.

The dimension of shared personal practice recorded the lowest percent agreement

across all categories (82.62%, 84%, 77.82%, 83.34%, respectively). The following items

recorded the lowest percentages consistently across the categories: opportunities exist to

observe peers, staff provide feedback, and staff review student work together to improve

practice. Conversely, there were two items (staff informally share ideas and suggestions,

and individuals/teams apply and share) that were consistently above 85% for all

categories.

Tables 26-29 provide the data for the respondents' perceptions of supportive

conditions for each category (global view and school levels).

Table 26

Respondents' Perceptions of Supportive Conditions: Frequencies and Percentages by Global View

Questions	SD		D		A		SA		Total	
	N	%	N	%	N	%	N	%	N	% Agreement
Caring relationships exist	7	1.18	30	5.06	292	49.24	264	44.52	593	93.76
Culture of trust and respect exists	7	1.19	77	13.10	324	55.10	180	30.61	588	85.71
Outstanding achievement recognized/celebrated	17	2.88	54	9.15	285	48.31	234	39.66	590	87.97
Staff and stakeholders exhibit unified effort to embed culture change	14	2.41	93	16.01	339	58.35	135	23.24	581	81.58
Time is provided	23	3.90	96	16.30	343	58.23	127	21.56	589	79.80
School schedule promotes collective learning and shared practice	22	3.75	100	17.04	339	57.75	126	21.47	587	79.22
Fiscal resources available for professional development	49	8.39	154	26.37	294	50.34	87	14.90	584	65.24
Appropriate technology	17	2.87	60	10.14	303	51.18	212	35.81	592	86.99
Resource staff provide expertise/support	10	1.71	54	9.23	357	61.03	164	28.03	585	89.06
Facility is clean and attractive	8	1.36	33	5.60	273	46.35	275	46.69	589	93.04
Proximity of grade level and department personnel allows for easy collaboration	19	3.23	67	11.38	303	51.44	200	33.96	589	85.40
Communication systems promote flow of information	8	1.35	52	8.78	338	57.09	194	32.77	592	89.86
Communication systems promote flow of information across the school community	11	1.88	61	10.41	355	60.58	159	27.13	586	87.71
Totals	212		931		4,145		2,357		7,645	85.05

Note. % Agreement = agree and strongly agree.

The global view records total percentages of agreement above 85%, but the

following question items fell below the institutionalization stage: staff and stakeholders exhibit a unified effort to embed culture change, 81.58%; time is provided, 79.80%; school schedule promotes collective learning and shared practice, 79.22%; and fiscal resources available for professional development, 65.24%.

Table 27 demonstrates the perceptions of the respondents at the high school level for the dimension. The total percentage agreement of 82.99% is below the institutionalization phase of development, and there are six items recorded below 85%.

Table 27

Respondents' Perceptions of Supportive Conditions: Frequencies and Percentages by High Schools

Questions	SD		D		A		SA		Total	
	N	%	N	%	N	%	N	%	N	% Agreement
Caring relationships exist	1	.66	2	1.32	85	56.29	63	41.72	151	98.01
Culture of trust and respect exists	1	.67	14	9.40	93	62.42	41	27.52	149	89.93
Outstanding achievement recognized/celebrated	4	2.68	21	14.09	79	53.02	45	30.20	149	83.22
Staff and stakeholders exhibit unified effort to embed culture change	3	2.03	25	16.89	88	59.46	32	21.62	148	81.08
Time is provided	9	6.04	32	21.48	81	54.36	27	18.12	149	72.48
School schedule promotes collective learning and shared practice	11	7.33	35	23.33	79	52.67	25	16.67	150	69.33
Fiscal resources available for professional development	20	13.61	50	34.01	64	43.54	13	8.84	147	52.38
Appropriate technology	2	1.33	12	8.00	93	62.00	43	28.67	150	90.67
Resource staff provide expertise/support	3	2.03	12	8.11	98	66.22	35	23.65	148	89.86
Facility is clean and attractive	2	1.33	7	4.67	69	46.00	72	48.00	150	94.00
Proximity of grade level and department personnel allows for easy collaboration	8	5.37	24	16.11	71	47.65	46	30.87	149	78.52
Communication systems promote flow of information	3	1.99	10	6.62	92	60.93	46	30.46	151	91.39
Communication systems promote flow of information across the school community	3	2.01	16	10.74	91	61.07	39	26.17	149	87.25
Totals	70		260		1,083		527		1,940	82.99

Note. % Agreement = agree and strongly agree.

The following six items from Table 27 that are below 85% account for the low percentage of agreement in this category: outstanding achievement recognized/ celebrated, 83.22%; staff and stakeholders exhibit unified effort to embed culture change, 81.08%; time is provided, 72.48%; school schedule promotes collective learning and shared practice, 69.33%; fiscal resources available for professional development, 52.38%; and proximity of grade level and department personnel allows for easy collaboration, 78.52%. One item, fiscal resources available for professional development, 52.38%, at this school level was reported as functioning at the initiation stage of development.

Table 28 shows the respondents' perceptions at the middle school level. This category had the most responses below 85% in eight of the 13 question items. Seven of these items were categorized at the implementation stage of development (77.89%, 77.42%, 81.25%, 81.25%, 76.04%, 82.11%, and 79.79%) and one question item was functioning at the initiation stage of development, 59.57%. Also, we see that there are four items, specific to this category alone, that are below 85%. Those items include: culture of trust and respect exists, 77.89%; appropriate technology, 76.04%; resource staff provide expertise/support, 82.11%; and communication systems promote flow of information across the school community, 79.79%. Out of the 1,236 respondents' responses, 1,004 (81.23%) of those were positive.

Table 28

Respondents' Perceptions of Supportive Conditions: Frequencies and Percentages by Middle Schools

Questions	SD		D		A		SA		Total	
	N	%	N	%	N	%	N	%	N	% Agreement
Caring relationships exist	0	0.00	9	9.38	50	52.08	37	38.54	96	90.63
Culture of trust and respect exists	0	0.00	21	22.11	55	57.89	19	20.00	95	77.89
Outstanding achievement recognized/celebrated	2	2.08	9	9.38	54	56.25	31	32.29	96	88.54
Staff and stakeholders exhibit unified effort to embed culture change	1	1.08	20	21.51	54	58.06	18	19.35	93	77.42
Time is provided	4	4.17	14	14.58	57	59.38	21	21.88	96	81.25
School schedule promotes collective learning and shared practice	4	4.17	14	14.58	56	58.33	22	22.92	96	81.25
Fiscal resources available for professional development	8	8.51	30	31.91	49	52.13	7	7.45	94	59.57
Appropriate technology	7	7.29	16	16.67	52	54.17	21	21.88	96	76.04
Resource staff provide expertise/support	5	5.26	12	12.63	58	61.05	20	21.05	95	82.11
Facility is clean and attractive	1	1.05	12	12.63	46	48.42	36	37.89	95	86.32
Proximity of grade level and department personnel allows for easy collaboration	0	0.00	10	10.53	55	57.89	30	31.58	95	89.47
Communication systems promote flow of information	1	1.05	13	13.68	49	51.58	32	33.68	95	85.26
Communication systems promote flow of information across the school community	2	2.13	17	18.09	52	55.32	23	24.47	94	79.79
Totals	35		197		687		317		1236	81.23

Note. % Agreement = agree and strongly agree.

Table 29 reports respondents' perceptions at the elementary level.

Table 29

Respondents' Perceptions of Supportive Conditions: Frequencies and Percentages by Elementary Schools

Questions	SD		D		A		SA		Total	
	N	%	N	%	N	%	N	%	N	% Agreement
Caring relationships exist	6	1.73	19	5.49	157	45.38	164	47.40	346	92.77
Culture of trust and respect exists	6	1.74	42	12.21	176	51.16	120	34.88	344	86.05
Outstanding achievement recognized/celebrated	11	3.19	24	6.96	152	44.06	158	45.80	345	89.86
Staff and stakeholders exhibit unified effort to embed culture change	10	2.94	48	14.12	197	57.94	85	25.00	340	82.94
Time is provided	10	2.91	50	14.53	205	59.59	79	22.97	344	82.56
School schedule promotes collective learning and shared practice	7	2.05	51	14.96	204	59.82	79	23.17	341	82.99
Fiscal resources available for professional development	21	6.12	74	21.57	181	52.77	67	19.53	343	72.30
Appropriate technology	8	2.31	32	9.25	158	45.66	148	42.77	346	88.44
Resource staff provide expertise/support	2	.58	14	4.07	201	58.77	109	31.87	342	90.64
Facility is clean and attractive	5	1.45	14	4.07	158	45.93	167	48.55	344	94.48
Proximity of grade level and department personnel allows for easy collaboration	11	3.19	33	9.57	177	51.30	124	35.94	345	87.25
Communication systems promote flow of information	4	1.16	29	8.38	197	56.94	116	33.53	346	90.46
Communication systems promote flow of information across the school community	6	1.75	28	8.16	212	61.81	97	28.28	343	90.09
Totals	107		474		2,375		1,513		4.469	87.00

Note. % Agreement = agree and strongly agree.

From Table 29 we see that out of 4,469 respondents, 3,888 (87%) were positive

which indicates they believe they are functioning at the institutionalization stage of development. Although the overall perception is above 85%, there were four items (staff and stakeholders exhibit unified effort to embed culture change, 82.94%; time is provided, 82.56%; school schedule promotes collective learning and shared practice, 82.99%; and fiscal resources available for professional development, 72.30%) that fell below 85% for this category.

For the dimension of supportive conditions, the overall perception from all categories indicates the respondents perceive they are functioning at the institutionalization stage of development. Within each category, there are specific question items that are below 85% agreement.

The data represented in Tables 10-29 provide the percentages agree/strongly agree reported from the respondents in all 26 schools. From these results, evidence exists to support that respondents truly believe they are operating at the highest level of development in four of the five dimensions of a PLCA.

Table 30 displays summary data for the respondents' positive responses by dimension for all schools. This information was used to determine the phase of development for each dimension based on the positive response percentages.

Table 30

Frequency and Percentage Summary of Positive Responses by Dimension for All Schools

Five Dimensions	Percent Agreement	Number	Phase of Development
Shared and supportive leadership	85.04	492	Institutionalization
Shared vision and values	88.58	522	Institutionalization
Collective learning and application	89.93	522	Institutionalization
Shared personal practice	82.62	485	Implementation
Supportive conditions	85.08	510	Institutionalization

Note. Non-demonstration <44.99%, initiation ≥45% to ≤64.99%, implementation ≥65% to ≤84.99%, and institutionalization ≥85.

The general perception, based on the aggregated data and the percentages established by Hill (2008), suggests that schools are performing at the institutionalized phase of development except for the fourth dimension, shared personal practice. The implementation phase includes the range of percentages from ≥65% to ≤84.99% and the institutionalized phase includes percentages equal to or above 85%.

Table 31 displays data for the responses by frequency and percentage of positive responses (%A/SA) by the PLCA dimensions for each school level, high school (HS), middle school (MS), and elementary school (ES); and phases of development (POD), non-demonstrated (ND), initiation (II), implementation (IM), and institutionalization (IN).

Table 31

Frequency and Percentage of Positive Responses by Dimensions by School Levels

Five Dimensions	HS %A SA	N	POD	MS %A SA	N	POD	ES %A SA	N	POD	Total %A SA	Total N	POD
Shared and supportive leadership	83.88	123	IM	82.90	79	IM	86.21	290	IN	85.04	492	IN
Shared values and vision	86.20	129	IN	88.93	82	IN	89.56	311	IN	88.58	522	IN
Collective learning and application	87.90	131	IN	90.63	85	IN	90.63	306	IN	89.93	522	IN
Shared personal practice	84.17	127	IM	77.85	75	IM	83.23	283	IM	82.62	485	IM
Supportive Conditions	83.60	126	IM	81.34	81	IM	86.93	303	IN	85.08	510	IN

Note. Non-demonstration (ND) <44.99%, initiation (II) ≥ 45% to ≤64.99%, implementation (IM) ≥65% to ≤84.99%, and institutionalization (IN) ≥85.

Disaggregation by school level concurs with the data from Table 30 in the sense that the total percentages for all schools indicate that four out of the five dimensions for the PLCA were operating at the institutionalization stage. However, a closer look revealed that respondents' perceptions at the high schools and middle schools indicated they were only at the institutionalization phase of development for two dimensions of the PLC. Both school levels reported a percentage agreement below the institutionalization phase to the implementation stage in three of the same dimensions: shared and supportive leadership (83.88% and 82.90%, respectively), shared personal practice (84.17% and 77.85%, respectively), and supportive conditions (83.60% and 81.34%, respectively).

PLCA Data Analysis by Number of Respondents

Tables 32-36 were created to show the breakdown of teachers by school level at each stage of development (ND = non-demonstration, II = initiation, IM = implementation, IN = institutionalization) and within each dimension of the PLCA. The data illustrate that there were far more teachers who perceive their schools as functioning at the institutionalization level than any other.

The total number of respondents was calculated by recoding the questions for the PLCA. The variables were set as follows: 0 = strongly disagree/disagree and 1 = agree/strongly agree. The mean of such binary outcome variables represents the proportion of those cases falling into category 1. When the mean is taken across variables, per person, we see the percentage of positive (agree/strongly agree) responses each person answered. These percentages were recoded as 1, 2, 3, or 4 for the stages of development (ND, II, IM, and IN, respectively). A frequency count was completed for each stage of development. This analysis by teacher demonstrated teachers' perceptions, which determined the stage of development for correlation with CTE.

Table 32 concurs with previous data reported regarding the shared and supportive leadership dimension of the PLCA. The results of the respondents responding positively (N = 592) show the majority, 74.83%, believe they are functioning at the institutionalization stage of development. However, there are 61 (10.30%) respondents that feel they are at the non-demonstration stage of development.

Table 32

Stages of Development by Total Number Respondents at Each School Level for Dimension 1: Shared and Supportive Leadership

School	ND	II	IM	IN	Total
High	14	14	15	108	151
Middle	11	6	11	68	96
Elementary	36	19	23	267	345
Total	61	39	49	443	592

From Table 33, the data show that 479 of 594 respondents (80.64%) perceive themselves in the institutionalization stage of development.

Table 33

Stages of Development by Total Number Respondents at Each School Level for Dimension 2: Shared Values and Vision

School	ND	II	IM	IN	Total
High	10	13	16	113	152
Middle	3	11	4	78	96
Elementary	17	18	23	288	346
Total	30	42	43	479	594

Table 34 reports the data for dimension 3, collective learning and application, concur with the previous tables in the fact that the majority of respondents, 480 (81.36%), agree they are at the institutionalization stage.

Table 34

Stages of Development by Total Number Respondents at Each School Level for Dimension 3: Collective Learning and Application

School	ND	II	IM	IN	Total
High	6	14	13	118	151
Middle	3	8	9	76	96
Elementary	17	20	20	286	343
Total	26	42	42	480	590

The data show in Table 35 that the majority of respondents, 335 (56.49%), believe they are functioning at the institutionalization stage of development.

Table 35

Stages of Development by Total Number Respondents at Each School Level for Dimension 4: Shared Personal Practice

School	ND	II	IM	IN	Total
High	8	16	48	79	151
Middle	14	7	29	46	96
Elementary	31	32	73	210	346
Total	53	55	150	335	593

The number of those in agreement for this dimension is much smaller than in previous dimensions for the institutionalization stage of development.

In Table 36, we see the amount of respondents' responses, 412 (69.48%), met the criteria for the institutionalization phase of development.

Table 36

Stages of Development by Total Number Respondents at Each School Level for Dimension 5: Supportive Conditions

School	ND	II	IM	IN	Total
High	5	20	31	95	151
Middle	5	10	23	58	96
Elementary	16	27	44	259	346
Total	26	57	98	412	593

The agreement percentage at the institutionalization stage of development accounts for 69.48% of the respondents. The data from this table coincide with the other dimensions of the PLCA with regards to the respondents' perceptions of agreement.

The data in Tables 32-36 show that the majority of the respondents perceive themselves in the institutionalization phase of development. The percentage of respondents for each category, ND ~10%, II < 10%, IM <20, and IN > 65%, concur with previous data which show the majority of respondents perceive themselves as functioning at the institutionalization stage of development.

Analysis of CTE Data

The CTE short form was used to determine the collective efficacy of the schools based on the average item score for each of the 12 items. Only valid responses from respondents were entered into the Excel spreadsheet by the researcher. Therefore, the number of participants, N, varies from the 594 total participants in the data. The CTE instrument used a Likert scale ranging from 1 to 6 with 1 being strongly disagree, 2 being moderately disagree, 3 being disagree slightly more than agree, 4 being agree slightly

more than agree, 5 being moderately agree, and 6 being strongly agree. Half of the items

(#3, #4, #8, #9, #11, and #12) on this scale were designed to be reverse-scored. This was

completed by the researcher on the Excel spreadsheet before it was loaded into SPSS for

processing.

Table 37 shows the overall mean scores for collective teacher efficacy and the

total mean score for each dimension of the PLCA for each of the 26 schools in the

district. Of these 26 schools, schools A-R represent elementary schools, S-V represent

middle schools, and W-Z represent high schools.

Table 37

Overall Mean Scores for CTE and Total Mean Scores for the Five Dimensions of the PLCA

School	N	CTE	N	D1	N	D2	N	D3	N	D4	N	D5	N	Total PLCA
A	30	34.70	27	32.56	29	26.00	29	25.45	30	18.03	28	41.54	30	143.10
B	17	36.00	13	33.00	16	27.13	15	26.87	16	17.19	14	39.64	17	141.00
C	14	36.07	14	29.29	14	24.71	14	24.79	14	18.43	14	41.50	14	138.71
D	10	35.20	10	27.70	10	25.30	10	25.60	10	16.20	10	42.00	10	136.80
E	22	37.50	20	32.85	21	27.81	21	28.14	21	20.52	21	43.52	22	150.18
F	14	35.07	14	31.86	13	25.46	13	26.77	13	18.23	14	43.79	14	144.21
G	14	35.29	12	30.33	13	25.00	14	25.29	14	18.43	14	39.21	14	137.86
H	27	36.33	25	31.04	25	24.36	25	24.52	25	17.48	24	38.13	27	133.48
I	26	35.54	25	27.88	24	24.29	25	24.60	25	19.76	23	41.83	26	129.62
J	15	36.33	16	29.13	15	23.93	15	24.20	16	17.06	14	37.57	16	132.06
K	17	39.18	15	34.33	17	28.94	16	28.50	16	20.00	17	44.82	17	154.12
L	22	36.00	21	33.76	22	27.46	20	27.55	22	19.18	22	45.50	22	152.91
M	15	37.07	14	35.71	15	27.87	14	28.07	15	19.33	14	47.14	15	156.13
N	14	34.57	14	34.50	13	28.46	14	28.00	14	19.36	13	42.84	16	144.50
O	13	37.54	13	36.69	13	29.46	13	29.31	13	21.46	11	48.36	13	164.62
P	27	35.81	23	26.04	28	23.39	26	23.69	28	17.79	27	37.96	28	129.93
Q	11	35.18	10	32.60	10	27.90	10	26.80	11	19.64	11	43.36	11	149.00
R	33	36.64	32	33.47	30	25.37	32	25.38	33	18.03	33	38.30	33	139.42
S	41	35.76	35	29.20	39	24.82	40	24.93	39	17.05	39	39.26	41	134.29
T	15	34.00	13	32.08	14	24.79	15	25.67	14	17.79	14	39.29	15	137.27
U	28	36.36	27	31.59	25	25.48	26	26.12	26	18.54	25	39.00	28	138.46
V	12	34.83	12	31.25	12	23.25	12	24.17	12	17.67	12	41.58	12	137.92
W	32	37.00	31	31.29	32	24.69	32	25.19	31	18.35	32	40.41	33	138.97
X	32	35.81	30	26.83	31	22.06	31	22.68	30	16.93	29	35.69	32	123.41
Y	33	36.85	31	30.94	31	25.54	33	25.85	33	18.94	31	39.58	33	140.42
Z	53	34.92	51	32.41	51	25.59	51	26.00	50	18.50	47	42.00	54	140.61

Overall mean scores were used due to the differences in the sample size to provide more information regarding CTE and the domains of the PLCA.

Table 38 disaggregates the data by school level and dimensions of the PLCA.

Table 38

Maximum and Minimum Overall CTE Scores and Total Mean Scores by School Level and Dimensions of PLCA

_____

| School | CTE | | D1 | | D2 | | D3 | | D4 | | D5 | |
Level	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Elementary	34.57	39.18	26.04	36.69	23.39	29.46	23.69	29.31	16.20	21.46	37.57	48.36
Middle	34.00	36.36	29.20	32.08	23.25	25.48	24.17	26.12	17.05	18.54	39.00	41.58
High	34.92	37.00	26.83	32.41	22.06	25.59	22.68	26.00	16.93	18.94	35.69	42.00

_____

Overall CTE scores ranged from 34.00 (school T–middle) to 39.18 (school K–elementary). The range for D1, shared and supportive leadership, was from 26.04 (school P–elementary) to 36.69 (school O–elementary). Shared values and vision, domain 2, had a range from 22.06 (school X–high school) to 29.46 (school O–elementary). Collective learning and application, domain 3, displayed a range from 22.68 (school X–high school) to 29.31 (school K–elementary). Shared personal practice, domain 4, had a range from 16.20 (school D–elementary) to 21.46 (school O–elementary). Domain 5, supportive conditions, displayed a range from 35.69 (school X–high school) to 48.36 (school O–elementary). Domain 4, shared personal practice, had the lowest range of scores. School O (elementary school) had the highest total mean scores for four of the five dimensions, and school K, also elementary, accounted for the highest total mean in the other dimension as well as the overall CTE score. School X (high school) had the lowest total mean score for three of the five dimensions. The totals from Table 38 were used to create the following table showing correlations by schools between each domain of PLCA and the CTE.

The data in Table 39 show the Pearson's bivariate correlations between each

domain of the PLCA and CTE by schools.

Table 39

Pearson's Bivariate Correlation Between Each Domain of PLCA and CTE by School

_____

School	CTE D1	CTE D2	CTE D3	CTE D4	CTE D5
A	0.31	0.34	0.28	0.31	0.36
B	-0.12	-0.21	0.26	0.26	0.37
C	0.14	0.25	0.30	0.14	0.15
D	0.73*	0.73*	0.81**	0.73*	0.05
E	0.12	-0.07	-0.01	0.11	0.01
F	-0.07	-0.13	-0.07	-0.35	-0.09
G	0.30	0.66*	0.47	0.52	0.54*
H	0.26	0.28	0.48*	0.56**	0.57**
I	0.02	-0.18	-0.07	0.17	0.01
J	0.05	0.24	0.08	0.15	0.31
K	-0.18	-0.29	-0.41	-0.11	-0.21
L	-0.24	-0.05	-0.15	-0.26	-0.13
M	0.54*	0.14	0.21	0.54*	0.23
N	-0.14	0.30	0.39	0.67*	0.68*
O	0.58*	0.62*	0.60*	0.62*	0.61*
P	0.11	0.18	0.12	0.22	0.16
Q	0.01	-0.71*	-0.07	-0.04	-0.36
R	-0.11	-0.18	-0.17	0.11	0.11
S	0.11	0.10	0.28	0.38*	0.37*
T	0.15	0.09	-0.09	0.33	-0.08
U	0.17	0.22	0.09	-0.10	0.03
V	0.08	-0.05	-0.03	-0.19	-0.12
W	0.33	0.28	0.26	0.36*	0.24
X	0.03	0.05	-0.01	-0.37*	0.10
Y	-0.13	-0.12	-0.08	-0.07	-0.17
Z	-0.06	0.09	0.17	0.09	0.17

Note. *$p < 0.05$. **$p < 0.01$.

In Table 39, correlations were presented to illustrate patterns among all schools in the district. Data in domain 1, shared and supportive leadership, show that 18 schools had no relationship, five schools had weak correlations (schools A, G, H, L–elementary, and W–high school), two schools had moderate correlations (schools M and O–elementary), and one school had a strong correlation (school D–elementary). There were only three significant correlations represented in dimension 1, and they were all for elementary schools. For dimension 2, shared values and vision, there were three

significant positive correlations and one significant negative correlation. Also in this dimension the data show that 12 schools had no relationship, 10 schools had weak correlations (school A, B, C, H, J, K, N, P–elementary, and U, W–high school), one school had a moderate correlation (school O–elementary), and three schools had strong correlations (school D, G, and Q–elementary). Dimension 3, collective learning and application, had 14 schools with no relationship, and eight schools with weak correlations (school A, B, C, K, M, N–elementary, S–middle school, and W–high school). One correlation was negative, indicating that as the domain score of the PLCA increases, the CTE score decreases. There were eight significant correlations for domain 4, shared personal practice. Seven of those were positive and one was negative. There were 11 schools with no relationship, eight schools with weak correlations (school A, B, F, L, P–elementary, S, T–middle school, and W–high school), five schools with moderate correlations (school G, H, M, O–elementary, and X–high school), and two schools with strong correlations (school D and N–elementary). Domain 5, supportive conditions, had four significant correlations at the elementary level and one significant correlation at the middle school level. For this domain, there were 14 schools with no relationship, six schools had weak correlations (school J, K, M, Q–elementary, S–middle school, and W–high school). Out of the 23 significant correlations, 19 were at elementary level, two were at middle school level, and two were at the high school level; only two of those were negative.

Table 40 shows the correlations between the dimensions of the PLCA and CTE by stages of development.

Table 40

Correlation of Each Dimension of the PLCA and CTE by Stages of Development

Stage of Development	D1*CTE	D2*CTE	D3*CTE	D4*CTE	D5*CTE
ND	-0.11	-0.03	-0.23	0.06	0.07
II	0.04	0.41*	0.01	-0.36**	0.24
IM	-0.03	-0.05	-0.08	0.09	0.17
IN	0.11*	0.12**	0.14**	0.14**	0.14**

Note. $* p < 0.05$. $**p < 0.01$.

The data in Table 40 show that at the non-demonstration phase, there is no significant relationship between the PLCA domain score and CTE at any stage of development. For those correlations in the initiation phase, there is a positive relationship between domain 2, shared values and vision, of the PLCA and CTE. There is a negative relationship in the correlation between domain 4, shared personal practice, and CTE. For all relationships between the five dimensions of a PLCA and CTE in the institutionalization stage, there is a positive relationship. This data seems to concur with the positive responses of agreement that were represented earlier in the frequency tables showing four of the five dimensions at the institutionalization stage of development.

Table 41 shows the group competency total mean scores for each school.

Table 41

Total Means and Standard Deviation for CTE Group Competency (GC) by Schools

School	GC M	SD
A	19.13	2.05
B	18.88	2.20
C	19.93	1.94
D	19.90	1.29
E	19.86	2.21
F	19.71	0.99
G	19.14	1.03
H	19.38	3.93
I	19.04	1.93
J	20.47	1.46
K	21.53	2.92
L	18.82	2.50
M	20.00	1.95
N	18.64	1.86
O	19.77	1.48
P	18.85	2.46
Q	19.18	2.32
R	19.88	2.38
S	19.53	2.58
T	18.67	2.61
U	19.21	3.51
V	19.92	2.31
W	19.06	2.05
X	19.06	2.78
Y	19.24	2.02
Z	18.66	1.52

The lowest score reported in Table 41 was 18.64 for school N (elementary school). The highest mean score recorded was 21.53 for school K. "Group-teaching competence consists of judgments about the capabilities that a faculty brings to a given teaching situation. These judgments include inferences about the faculty's teaching methods, skills, training, and expertise" (Goddard, 2002, p. 100).

Table 42 provides the total means and standard deviation for CTE task analysis by schools.

Table 42

Total Means and Standard Deviation for CTE Task Analysis (TA) by Schools

School	TA M	SD
A	15.86	3.06
B	17.11	2.45
C	16.92	4.50
D	15.30	2.67
E	17.64	2.56
F	15.85	2.76
G	16.14	2.66
H	16.92	4.92
I	16.65	3.57
J	16.23	4.00
K	17.94	2.72
L	18.10	1.65
M	17.57	1.87
N	17.27	3.13
O	17.77	2.55
P	17.15	2.96
Q	16.00	3.55
R	16.76	2.70
S	16.64	3.22
T	15.77	2.59
U	18.00	3.72
V	14.92	2.94
W	17.94	3.34
X	17.03	3.06
Y	18.57	2.87
Z	16.31	2.82

The results of the task analysis total mean scores recorded the lowest mean response of 14.92 for school V (middle school) and the highest response of 18.57 for school Y (high school). Task analysis is defined by Goddard (2002) as,

Task analysis refers to perceptions of the constraints and opportunities inherent in the task at hand. In addition, to the abilities and motivations of students, TA includes teachers' beliefs about the level of support provided by the students' home and the community. (p. 100)

Table 43 shows the correlation between group competency (GC) and task analysis

(TA) for the stages of development of the PLCA. Pearson's Bivariate Correlation was used to identify the relationships.

Table 43

Correlation Between Group Competency (GC) and Task Analysis (TA) by Stages of Development of a PLCA

Stage of Development	Pearson's Correlation	Sig
Non-Demonstration	0.017	0.934
Initiation	0.413	0.007
Implementation	0.172	0.055
Institutionalized	0.217	<0.001
Total	0.219	<0.001

In Table 43, the values are the correlations between group competency and task analysis, disaggregated by each phase of development of the PLC. For each pair of variables, there is only one correlation. From these results, the researcher notes the data show that for schools in the non-demonstration or implementation stage of a PLC, there is no significant correlation between GC and TA. However, at the initiation and institutionalization stages of the PLC, there is a significant, positive correlation.

Summary

This chapter has analyzed the results of this study in regards to the scoring of the PLCA (Huffman & Hipp, 2003) and the CTE (Goddard et al., 2000). The PLCA data were presented globally and by school levels for the district across all dimensions. The stages of development were also identified for each dimension of the PLCA. The CTE data provided the overall collective teacher efficacy scores for all schools individually and provided CTE totals for group competency and task analysis for each school as well.

General trends in the data suggest that globally, for four of the five dimensions of the PLCA, all schools are functioning at the institutionalization stage of development. However, closer analysis gives evidence that elementary schools have higher percentages of agreement in more question items of the survey for all dimensions than that of the middle school and high school levels. The data suggest that true levels of institutionalization may not exist for the district as a whole.

Chapter 5: Conclusions, Recommendations, and Discussion

Overview

Reform is at the forefront of education just as it has been for the past several decades. Efforts dating as far back as the launching of Sputnik have placed great demands on the educational system of the United States. In this study, two constructs of educational reform, professional learning communities and collective teacher efficacy, were examined to determine if a relationship exists.

This educational phenomenon known as professional learning communities is currently making significant progress in the area of school reform. Since the implementation of this reform, widespread enthusiasm has been generated among educators in school systems across the nation (Eaker et al., 2002). It is evident that schools with professional learning community characteristics offer high-quality learning environments for teachers, which provide greater learning opportunities for students (Roberts & Pruitt, 2003). The implementation of a PLC is unique to each school and school district, and there is no formal process for schools to follow as a guideline.

Teacher efficacy and collective teacher efficacy both play a role in the effectiveness of a school as an organization of learning. Personal teacher efficacy has been documented over the last 2 decades, but research regarding collective teacher efficacy is relatively new. Within an organization, perceived collective efficacy represents the shared perceptions of group members regarding "the performance capability of a social system as a whole" (Bandura, 1997, p. 469).

Similar to most school districts across the nation that are seeking new ways to reform their current educational practices, this district sought to implement professional learning communities throughout the county at all grade levels. The implementation

process of these PLCs started at various times in the 26 schools at the elementary, middle, and high school levels. As limited research exists on the relationship between professional learning communities and collective efficacy, this study sought to establish the stage of development for each school level across the district as well as to determine what relationship, if any, existed between the stage of development and collective teacher efficacy.

Purpose

This study was designed to examine the relationship between the five dimensions (shared and supportive leadership, shared values and vision, collective learning and application, shared personal practice, and supportive conditions) of a professional learning community and collective teacher efficacy of a rural school district in the southern piedmont region of North Carolina. The study was based on the conceptual framework of the PLCO created by Huffman and Hipp (2003). The instruments used to measure the data, PLCA and CTE, were described in Chapter 3 in detail. The following questions guided this study:

1. What is the relationship between the five dimensions of a professional learning community, as measured by the PLCA, and collective teacher efficacy, as measured by the CTE, at the elementary, middle, and high school levels?

2. How do the relationships between the degree of implementation and collective teacher efficacy differ among the elementary, middle, and high school levels?

This study incorporated a nonexperimental approach which was designed to examine the development of PLCs within a rural school district at a single point in time. Using correlations, the study sought to determine what relationships, if any, existed between teachers' perceptions of the degree of implementation of a PLC to the

perceptions of teachers in a school that the faculty as a whole can implement the courses of action necessary to have positive effects on students and their achievement (Goddard, 2001). The researcher analyzed the data to examine the differences globally and by school levels for PLCA by dimensions and total collective efficacy, group competency and task analysis by individual schools. Goddard's (2002) scoring key for CTE scores was used to determine the average school scores and Pearson's Bivariate Correlation tables were developed to show the relationships between the PLCA and CTE.

Summary

This study sought to identify the relationships between the five dimensions of a PLC and CTE using surveys collected from certified teachers in one rural school district in the southern piedmont region of North Carolina. Two questions were formulated to guide the direction of the study, and those questions are the focus of this section.

Question 1. What is the relationship between the five dimensions of a professional learning community, as measured by the PLCA, and collective teacher efficacy, as measured by the CTE, at the elementary, middle, and high school levels? In order to answer this question, data were analyzed by each item of the PLCA for each domain as a whole (global view) and by school levels to see patterns for a relationship. Tables 10-29 represent these data. Elementary schools reported high percentages of agreement at or above 85% in four of the five dimensions of the PLCA. Middle schools and high schools reported various percentages of agreement for the same three dimensions that were below 85%: shared and supportive leadership, shared personal practice, and supportive conditions. All school levels recorded percentage agreement below 85% for the same dimension of the PLCA, shared personal practice.

The results of the correlations determined that 21 of the 23 significant correlations

were positive, indicating that as scores on the PLCA domains increased, CTE also

increased on average. The majority of correlations (108 out of 130) across all school

levels were weak and only four were significant. As with the percentage agreement for

elementary schools across the five dimensions, the same was true for the correlations

between the PLCA and CTE for this school level. The elementary schools had the

majority (19) of positive significant correlations among all school levels. Middle schools

and high schools each had two positive significant correlations.

   Question 2. How do the relationships between the degree of implementation

and collective teacher efficacy differ among the elementary, middle, and high school

levels? Tables 32-36 were generated in order to address this question. These tables

represent the breakdown of teachers by school level at each stage of development (ND =

non-demonstration, II = initiation, IM = implementation, IN = institutionalization) and

within each dimension of the PLCA. The data illustrated that there were far more

teachers in agreement that they were functioning at the institutionalization level than any

other level. This coincides with Tables 30-31 which identify stages of development for

all schools and by school levels for the district.

   The data illustrated that there were no correlations between CTE and the stages of

development at the non-demonstration and implementation stages. There was a

significant positive correlation at the initiation level between domain 2, shared values and

vision, and CTE. There was also a significant negative correlation between domain 4,

shared personal practice, and CTE. The correlations at the institutionalization level were

weak, but positive and significant. Based on evidences presented throughout the study,

teachers within this school district perceived their schools as functioning at the

institutionalization degree of development for most dimensions of the PLCA. This was

apparent in both categories represented: global view and school levels.

Group competency and task analysis factors were also analyzed in this study although not directly related to the research questions of the study. The findings tell that for schools functioning at the non-demonstration or implementation stage of a PLC, there was no significant correlation between GC and TA. However, at the initiation and institutionalization stages of the PLC, there was a significant, positive correlation. This suggests that as GC increase, TA will increase as well at the initiation and institutionalization stages of development.

Based on the definition of group competency and task analysis as defined by Goddard (2002), connections can be made to the five dimensions of the PLCA. Group competency, by definition, aligns with collective learning and application and shared personal practice which are more skill-oriented categories. In the same manner, task analysis is based on teachers' perceptions of constraints or opportunities inherent in the task at hand which aligns more directly with shared and supportive leadership, shared values and vision, and supportive conditions.

The teachers' percentages of agreement were below 85% for several question items: opportunities to observe peers, staff provide feedback, staff review student work together to improve practice, and opportunities for coaching and mentoring in the shared personal practice dimension. Also, several question items in the shared and supportive leadership, shared values and vision, and supportive conditions dimensions regarding stakeholders (assume shared responsibility and create high expectations for student learning) and principals (shared power and authority and opportunities for staff to initiate change) recorded low percentages of agreement among respondents. Since all of these items affect teachers' perceptions regarding group competency and task analysis, the

district may want to research these constructs further.

Conclusions

When examining the frequencies and percentages of positive responses by dimensions for all schools across the five dimensions, the results demonstrate that four of the five dimensions of the PLCA were identified at the institutionalization phase of development. This information was determined as a result of the PLCA surveys that were distributed by principals at faculty meetings throughout the district for all 26 schools. According to Huffman and Hipp (2003), "The *institutionalization phase* is where the change initiative becomes embedded into the culture of the school" (p. 24).

As evidenced earlier in this study, most respondents perceived their schools as functioning at the institutionalization phase of development while the majority of respondents (423) reported 10 or less hours of training on professional learning communities. Also, the majority of respondents (459) perceived their schools functioning as PLCs for 0-3 years. Huffman and Hipp (2003) stated that "building professional learning communities is a journey as reflected by time and energy exerted to move schools from one phase to the next" (p. 148). The results of the data seem to be controversial in regards to the stage of development for the dimensions of a PLC, the number of years functioning as a PLC, and the amount of training hours received.

Shared and supportive leadership. The results of the data for dimension one of the PLCA indicated that the majority of survey items had a positive percentage agreement. Further investigation into the perceptions of teachers regarding the survey items—opportunities for staff to initiate change, principal shares power and authority, and stakeholders assume shared responsibility—would be worthwhile since the percentage of agreement for these items was lower than 85% across all school levels.

Hord (2004) stated, "Supportive and shared leadership requires the collegial and facilitative participation of the principal who shares leadership—and thus, power and authority—by inviting staff input and action in decision-making" (p. 7). The new trend based on current reform efforts requires that administrators, along with teachers, must be learners, questioning, investigating, and seeking solutions for school improvement and increased student achievement (Hord, 2004). In order to create an organization that seeks to delve into learning through continuous improvement, it is imperative that schools develop a high sense of collective capacity in a culture that fosters meaningful participation and leadership across the school community (Oliver & Hipp, 2006).

Shared values and vision. According to the data for this dimension of the PLCA, two areas of interest for further research for practice were goals focus on student learning and stakeholders create high expectations for student learning since these items were consistently below 85% agreement for all school levels. Stakeholders are defined as parents and community members. DuFour and Eaker (1998) stated,

> The lack of a compelling vision for public schools continues to be a major
>
> obstacle in any effort to improve schools. Those who hope to develop a school's
>
> capacity to function as a learning community cannot overlook the importance of
>
> this critical building block in achieving that goal (p. 64).

Strategies should be put into place that engage parents, community members, business representatives, and students in the process of developing a vision statement (DuFour & Eaker, 1998). As schools work toward creating a collective vision, they are not only building the foundation for the PLC but they are also investing in building collective efficacy. Goddard et al. (2000) theorized, "that the consequences of high collective teacher efficacy will be the acceptance of challenging goals, strong organizational effort,

and a persistence that leads to better performance" (p. 486).

Collective learning and application. Dimension three had one question item on the survey that recorded low percentages of agreement, staff and stakeholders learn together. "An outcome of collective learning within a professional learning community is the emergence of teacher leadership" (Huffman & Hipp, 2003, p. 10). District leaders need to provide opportunities for teachers to develop leadership roles. These teachers who are leaders lead within and beyond the classroom, contribute to a community of leaders, and influence others toward improving educational practices (Huffman & Hipp, 2003, p. 11). "The agency that schools exercise and the choices that teachers make are influenced by beliefs about collective capability" (Goddard, 2001, p. 12). Teachers with strong perceptions of efficacy put more effort into planning lessons, are more open to new ideas, and persevere in the face of new challenges (Jerald, 2007).

Shared personal practice. Dimension four of the PLCA was the only domain to be perceived as functioning at the implementation stage of development. "Shared personal practice involves more than simply observing and providing feedback; it often involves sharing outcomes of new practices in both formal and informal settings (Huffman & Hipp, 2003, p. 145). According to the results of this study, a consistent pattern emerged demonstrating that respondents did not record an agreement percentage at or above 85 for the question items regarding opportunities exist for staff to observe peers, staff provide feedback, and staff review student work together to improve practice. A negative relationship was found between domain 4, shared personal practice and overall CTE. Principals can support perceptions of efficacy "if they design interventions that are focused on instructional practices and promote increased sharing of skills and experiences between teachers" (Brinson & Steiner, 2007, p. 4). Principals can also add to

shared practice experiences "by giving teachers the opportunity to observe classroom lessons presented by particularly effective peers or by providing articles about, videotapes of, or chances to visit effective schools" (Jerald, 2007, p. 5). However, examining the global view for the question item staff informally share ideas and suggestions, the respondents' responses netted a total of 95.76% agreement. So the data suggest that the majority of respondents believed they were informally sharing their ideas and suggestions. According to the research, it would be beneficial to the development of the PLC for the question items with low percentages of agreement to be investigated within the district.

Supportive conditions. The data for dimension five indicated three survey items with agreement percentages as low as 52.38, 69.33, and 72.48, respectively, across the school levels: fiscal resources available for professional development, school schedule promotes collective learning and shared practice, and time is provided. In the present leadership structure of schools, principals are responsible for providing the supportive conditions for their staff. "The ability of principals to relinquish power is essential for the support of professional learning communities" (Huffman & Hipp, 2003, p. 14). "Encouragement from teacher colleagues, principals, and district leaders may be insufficient alone, but coupled with the requisite training and experience, it has the potential to strengthen teachers' self- and collective-efficacy beliefs" (Goddard & Skria, 2006, p. 219).

The survey item regarding fiscal resources available for professional development also links to the data presented earlier about the number of training hours provided for PLCs. That data showed that 423 of the 582 respondents' responses stated that less than 10 hours of training was provided. In order for schools to reach and maintain the

institutionalization stage of development, training, time, and scheduling are essential at this dimension of the PLC.

Collective teacher efficacy. The data show that the school average for the minimum and maximum overall CTE scores are within the same range (34.00-37.00) at each school level. Further analysis of the collective teacher efficacy for the group competency and task analysis question items make it clear that the perceptions of teachers vary for this construct. For the six items related to group competency, the ranges of the data are similar at the high school (18.66-19.24) and middle school levels (18.67-19.92), but they are slightly elevated at the elementary level (18.64-21.53). Group competency is based on the capabilities (teaching methods, skills, training, and expertise) that the faculty brings to a given teaching situation. The data for task analysis show that each school level had varied ranges of overall scores for the six survey items: elementary (15.30-18.10), middle school (14.92-18.00), and high school (16.31-18.57). Task analysis refers to the perceptions of constraints or opportunities inherent in the task at hand and the teachers' beliefs of support by parents and the community.

Collective teacher efficacy is a way of conceptualizing the normative environment of a school and its influence on both personal and organizational behavior. The main sources of collective teacher efficacy are mastery experience, vicarious experience, and social persuasion. Carefully supported opportunities to experience mastery, such as role playing and microteaching experiences with specific feedback, are essential during implementation of new strategies (Tschannen-Moran et al., 1998). These opportunities vary within each school level based on their organizational structure. Vicarious experiences are opportunities to observe colleagues and/or other schools that are performing at exceptional levels of achievement. Goddard et al. (2004) stated that

"schools wanting improved educational outcomes may experience gains in perceived collective efficacy by observing successful educational programs offered by higher achieving schools" (p. 5). Social persuasion may entail encouragement or specific performance feedback for a supervisor or colleague, or it may be as casual as discussions in the teacher's lounge, community, or media about the ability of teachers to influence students (Goddard et al., 2004).

Many elements within the school's organization are influential to the amount of collective efficacy among the staff. "Schools can influence teacher efficacy and collective efficacy beliefs by cultivating and providing organizational support through positive collaboration within the teaching staff and administrators via supervision, as well as providing resources and direction for their use" (Ware & Kitsantas, 2007, p. 304). Goddard and Skria (2006) concluded that "the stronger an organization's collective efficacy beliefs, the more likely its members are to put forth the sustained effort and persistence required to attain desired goals" (p. 217). The district may want to consider further research regarding the concept of building collective teacher efficacy within all schools across all school levels.

Limitations

The study was limited in three areas. First of all, this study investigated only certified teachers' perceptions of the school's progress in the development of a professional learning community in relationship to the collective teacher efficacy within their individual schools. Secondly, the study focused on one school district in the southern piedmont region of North Carolina so generalizations do not necessarily apply to other areas of the nation. Also, PLCs are a required element based on the new North Carolina Teacher Evaluation Instrument, so respondents' responses could have skewed

the data. Lastly, by combining the two separate surveys into one large survey, the reliability of the data collected may have been affected. The researcher took steps to limit this risk by using the short form of the CTE rather than the long form, reducing the amount of questions from 21 to 12. Also, when collecting data, the original dissemination of the online survey did not realize an adequate response. Thus, the survey was then distributed by means of paper and pencil. By doing so, principals were asked to distribute the surveys at faculty meetings and although the survey was anonymous, it is possible that some participants may have deliberated over their responses to help protect their identity or to ensure their school was represented well to appease their principals.

Recommendations

It is recommended that the question items in domain 4, shared personal practice, be addressed throughout the district since the degree of implementation was low across all categories for this dimension. According to Huffman and Hipp (2003), "Shared personal practice is the key to changing what occurs in the classroom, and this is at the heart of school improvement" (p. 80). Included practices for this domain should include teachers present student work samples to colleagues to be reviewed as evidence of quality instructional practice, teachers visit their colleagues' classrooms in order to observe, script notes, and discuss their observations (Huffman & Hipp, 2003). "In PLCs, review of a teacher's practice and behavior by colleagues should be the norm" (Hord, 2004, p. 11).

It is recommended that training be provided to help with the low response items identified relating to stakeholders (parents and community). This was an area of weakness in the following dimensions: shared and supportive leadership and shared values and vision. These relationships are essential to the future development of the PLC

and school improvement. According to Eaker et al. (2002), "A school cannot function as a PLC until its staff has grappled with the questions that provide direction both for the school as an organization and the individuals within it" (p. 3). When the staff finally comes to consensus regarding their shared mission, vision, values, and goals, they have created the foundation of a PLC. "These essential building blocks then become the basis for all of the decisions that drive the school" (Eaker et al., 2002, p. 3).

It is recommended that further research into the stages of development of PLCs at the elementary schools be addressed across the dimensions of the PLCA in relation to CTE. The research suggests that elementary schools had significant correlations in all domains of the PLCA and CTE, and these schools also had positive responses from respondents at or above 85% for three of the four domains of the PLC. This research may also consider the number of years functioning as a PLC and hours of training as constructs for this study.

It is also recommended that further research for this district in the form of a case study at each individual school level would be in order to ensure the productivity level of the PLC. Focus groups and interviews would aid in verifying the teachers' perceptions from this single point in time. Most respondents perceive their schools as functioning at the institutionalization phase of development while the majority of respondents (N = 423) reported 10 or less hours of training on professional learning communities. Also, the majority of respondents (N = 459) perceived their schools functioning as PLCs for 0-3 years. Huffman and Hipp (2003) stated that "building professional learning communities is a journey as reflected by time and energy exerted to move schools from one phase to the next" (p. 148). The results of the data seem to be contradictory with the research in

regards to the stage of development for the dimensions of a PLC, the number of years schools have been functioning as a PLC, and the amount of training hours received.

It is recommended for anyone considering future research in this area to intertwine the survey questions so that not all of the PLCA questions by dimension are so evident to the respondents. This would help to eliminate possible bias by respondents due to the requirements placed on all schools to create productive PLCs according to the new North Carolina Teacher Evaluation Instrument.

Educators are seeking to improve student learning by means of internal reform, namely a professional learning community. According to the results of this study, the five dimensions of the PLC have been shown to have some positive, significant relationships with CTE especially at the elementary level. The educators within this district should seek to continue developing their PLCs at every level to build collective teacher efficacy and to sustain a culture conducive to continued reform.

References

Argyris, C. (1992). *On organizational learning.* Cambridge, MA: Blackwell Publishers.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191-215.

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

Bandura, A. (1997). *Self-efficacy: The exercise of control.* US: W. H. Freeman and Company.

Barth, R. S. (2006). Improving relationships within the schoolhouse. *Educational Leadership, 63*(6), 9-13.

Brinson, D., & Steiner, L. (2007). *Buidling collective efficacy: How leaders inspire teachers to achieve. Issue brief.* (ERIC Document Reproduction Service No. ED499254).

Bullough, R. V., Jr. (2007). Professional learning communities and the eight-year study. *Educational horizons, 85,* 168-180. (ERIC Document Reproduction Service No. EJ762729).

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3d ed.). Thousand Oaks, CA: Sage.

DuFour, R., & Eaker, R. (1998). *Professional learning communities at work: Best practices for enhancing student achievement.* Bloomington, IN: Solution Tree.

Eaker, R., DuFour, R., & DuFour, R. (2002). *Getting started: Reculturing schools to become professional learning communities.* Bloomington, IN: Solution Tree.

Fullan, M. (1993). *Change forces: Probing the depths of educational reform.* London: Falmer Press.

Fullan, M. (2006). Leading professional learning [Abstract]. *School Administrator, 63*(10), 10-14.

Fullan, M. (2007). *The new meaning of educational change* (4th ed.). New York, NY: Teachers College Press.

Glickman, C. D. (2002). *Leadership for learning: How to help teachers succeed.* Alexandria, VA: Association for Supervision and Curriculum Development.

Goddard, R. D. (2001). Collective efficacy: A neglected construct in the study of schools and student achievement. *Journal of Educational Psychology, 93*(3), 467-476. doi: 10.1037/0022-0663.93.3.467.

Goddard, R. (2002). A theoretical and empirical analysis of the measurement of collective efficacy: The development of a short form. *Educational and Psychological Measurement, 62*(1), 97-110. Retrieved November 21, 2010, from http://www.sagepublications.com

Goddard, R. D., Hoy, W. K., & Woolfolk Hoy, A. (2000). Collective teacher efficacy: Its meaning, measure, and effect on student achievement. *American Educational Research Journal, 37*(2), 479-507. Retrieved July 12, 2010, from http://www.sagepublications.com

Goddard, R. D., Hoy, W. K., & Woolfolk Hoy, A. (2004). Collective efficacy beliefs: Theoretical developments, empirical, evidence, and future directions. *Educational Researcher, 33*(3), 3-13. Retrieved July 12, 2010, from http://edr.sagepub.com/content/33/3/3

Goddard, R. D., & Skria, L. (2006). The influence of school social composition on teachers' collective efficacy beliefs. *Educational Administration Quarterly, 42*(2). Retrieved July 12, 2010, from http://www.sagepublications.com

Hill, C. L. (2008). *Case study: Initiating, implementing, and institutionalizing a professional learning community in and elementary school* (Doctoral dissertation). Gardner-Webb University, Boiling Springs, NC.

Hord, S. M. (1997). *Professional learning communities: Communities of continuous inquiry and improvement.* Austin, TX: Southwest Educational Development Laboratory.

Hord, S. M. (2004). *Learning together, leading together: Changing schools through Professional learning communities.* New York, NY: Teachers College Press.

Huffman, J. B., & Hipp, K. K. (2003). *Reculturing schools as professional learning communities.* Lanham, MD: Scarecrow Education.

Jerald, C. (2007). *Believing and achieving. Issue Brief.* (ERIC Document Reproduction Service No. ED495708).

King, M. B., & Newmann, F. M. (2000). Will teacher learning advance school goals? *Phi Delta Kappan, 81*(8), 576-580.

Leithwood, K., Louis, K., Anderson, S., & Wahlstom, K. (2004). *How leadership influences student learning.* University of Minnesota: Center For Applied Research and Educational Improvement and Ontario Institute for Studies in Education. Retrieved September 26, 2010, from http://wallacefoundation.org/SiteCollectionDocuments/WF/Knowledge%20Cent r/Attachments/PDF/ReviewofReserach-LearningFromLeadership.pdf

Leo, T., & Cowan, D. (2000). *Launching professional communities: Beginning actions.* Austin, TX: Southwest Educational Development Lab. (ERIC Document Reproduction Service No. ED443150).

Lieberman, A., & Miller, L. (2008). *Teachers in professional communities: Improving Teaching and learning.* New York, NY: Teachers College Press.

Louis, K. S., & Kruse, S. (1995). Getting there: Promoting professional community in urban schools. In K. Louis & S. Kruse (Eds.), *Professionalism and community: Perspectives on reforming urban schools.* Thousand Oaks, CA: Corwin Press, Inc.

Mason, S. A. (2003). *Learning from data: The role of professional learning communities.* Chicago, IL: Joyce Foundation. (ERIC Document Reproduction Service No. ED476852).

Murphy, C. U., & Lick, D. W. (2001). *Whole-faculty study groups: Creating student based professional development* (2d ed.). Thousand Oaks, CA: Corwin Press.

National Commission on Excellence in Education. (1983). *A nation at risk.* Washington, DC: U.S. Government Printing Office.

Newmann, F. M., & Wehlage, G. G. (1995). *Successful school restructuring: A report to the public and educators.* Madison, WI: Center on Organization and Restructuring Schools. (ERIC Document Reproduction Service No. ED387925).

No Child Left Behind (NCLB) Act of 2001, Pub. L. No. 107-110, §115, Stat. 1425 (2002).

North Carolina Teacher Working Condition Survey. (2010). Retrieved September 27, 2010, from www.ncteachingconditions.org/reports/

Oliver, D. F., & Hipp, K. K., (2006). Leadership capacity and collective efficacy: Interacting to sustain student learning in a professional learning community. *Journal of School Leadership, 16*(5), 505-519.

Roberts, S., & Pruitt, E. (2003). *Schools as professional learning communities: Collaborative activities and strategies for professional development.* Thousand Oaks, CA: Corwin Press, Inc.

Senge, P. (1990). *The fifth discipline: The art and practice of the learning organization.* New York, NY: Doubleday Currency.

Senge, P. (2000). *Schools that learn: A fifth discipline filedbook for educators, parents, and everyone who cares about education.* New York, NY: Doubleday.

Sergiovanni, T. J. (1990). *Value-added leadership: How to get extraordinary performance in schools.* New York, NY: Harcourt Brace Jovanovich Publishers.

Sergiovanni, T. J. (1994). *Building community in schools.* San Francisco, CA: Jossey Bass.

Stajkovic, A. D., Lee, D., & Nyberg, A. (2009). Collective efficacy, group potency, and group performance: Meta-analyses of their relationships and test of a mediation model. *Journal of Applied Psychology, 94*(3), 814-828.

Thompson, S. C., Gregg, L., & Niska, J. M. (2004). Professional learning communities, leadership and student learning. *Research in Middle Level Education, 28*(1), 1-15. Retrieved September 26, 2010, from http://www.nmsa.org/Publications/RMLEOnline/tabid/101/Default.aspx

Tschannen-Moran, M., & Barr, M. (2004). Fostering student learning: The relationship of collective teacher efficacy and student achievement. *Leadership and policy in schools, 3*(3), 189-209.

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

Tyack, D., & Cuban, L. (1995). *Tinkering toward utopia.* Cambridge, MA: Harvard University Press.

Ware, H., & Kitsantas, A. (2007). Teacher and collective efficacy beliefs as predictors of professional commitment. *The Journal of Educational Research, 100*(5), 303-310.

Appendix A

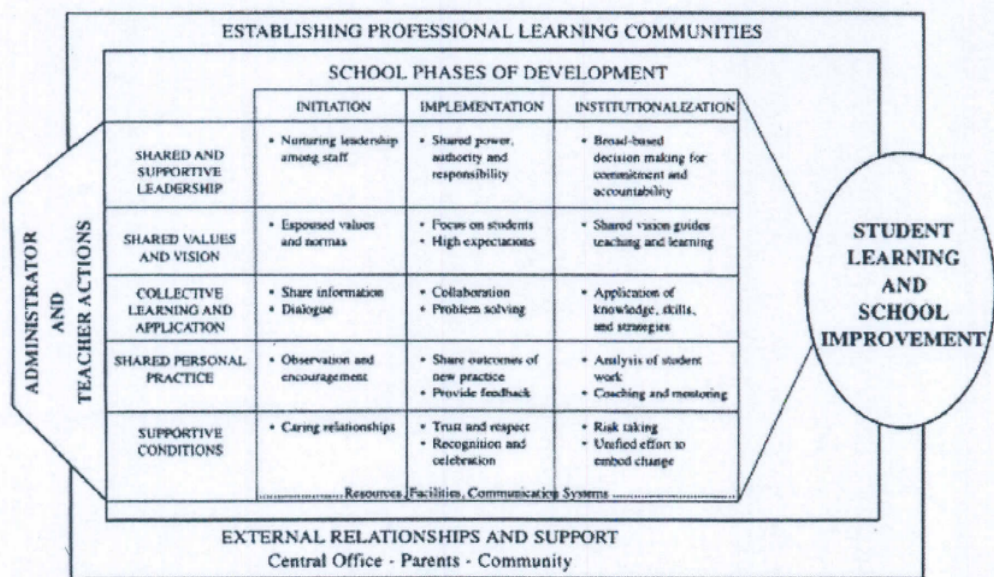Professional Learning Community Organizer (PLCO)

Figure 2.4. Professional Learning Community Organizer.

Appendix B

Demographic Information

Directions: Please answer the following demographic questions by circling the appropriate answer choice for each question. This information will only be used to show the diversity of the staff within the school district as it applies to the study.

1. Identify you gender :   male   female

2. Identify your position: teacher

3. Identify your school using the school code list provided below:
     (list was provided on respondents' surveys)

4. As of last year, indicate your age range category:

    1 = 20-25   2 = 26-30   3 = 31-40   4 = 41-50   5 = 51-60   6 =60+

5. As of last year, indicate your number of years teaching experience:

    1 = 0-5   2 = 6 -10   3 = 11-15   4 = 16-20   5 = 20+

6. As of last year, indicate your highest degree held:

    1 = bachelor level   2 = master level   3 = six-year and above

7. As of last year, indicate the amount of training, in hours, you received on professional learning communities:

    1 = 1-5   2 = 6-10   3 = 10+   4 = none

8. As of last year, indicate the number of years your school has been functioning as a professional learning community:

    1 = 0-1   2 = 2-3   3 = 3-4   4 = 4 -5   5 = 6+

Appendix C

Professional Learning Community Assessment (PLCA)

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

Key Terms:
Principal = Principal, not Associate or Assistant Principal
Staff = All adult staff directly associated with curriculum, instruction, and assessment of students
Stakeholders = Parents and community members

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

Shared and Supportive Leadership

9.   The staff are consistently involved in discussing and making decisions about most school issues.
    1 ○   2 ○   3 ○   4 ○

10. The principal incorporates advices from staff to make decisions.
    1 ○   2 ○   3 ○   4 ○

11. The staff have accessibility to key information.
    1 ○   2 ○   3 ○   4 ○

12. The principal is proactive and addresses areas where support is needed.
    1 ○   2 ○   3 ○   4 ○

13. Opportunities are provided for staff to initiate change.
    1 ○   2 ○   3 ○   4 ○

14. The principal shares responsibility and rewards for innovative actions.
    1 ○   2 ○   3 ○   4 ○

15. The principal participates democratically with staff sharing power and authority.
    1 ○   2 ○   3 ○   4 ○

16. Leadership is promoted and nurtured among staff.
    1 ○   2 ○   3 ○   4 ○

17. Decision-making takes place through committees and communication across grade and subject areas.
    1 ○   2 ○   3 ○   4 ○

18. Stakeholders assume shared responsibility and accountability for student learning without evidence of imposed power and authority.
    1 ○   2 ○   3 ○   4 ○

Shared Values and Vision

19. A collaboration process exists for developing a shared sense of values among staff.
    1 ○   2 ○   3 ○   4 ○

20. Shared values support norms of behavior that guide decisions about teaching and learning.
    1 ○   2 ○   3 ○   4 ○

21. The staff share visions for school improvement that have an undeviating focus on student learning.
    1 ○   2 ○   3 ○   4 ○

22. Decisions are made in alignment with the school's values and vision.
    1 ○   2 ○   3 ○   4 ○

23. A collaborative process exists for developing a shared vision among staff.
    1 ○   2 ○   3 ○   4 ○

24. School goals focus on student learning beyond test scores and grades.
    1 ○   2 ○   3 ○   4 ○

25. Policies and programs are aligned to the school's vision.
    1 ○   2 ○   3 ○   4 ○

26. Stakeholders are actively involved in creating high expectations that serve to increase student achievement.
    1 ○   2 ○   3 ○   4 ○

Collective Learning and Application

27. The staff work together to seek knowledge, skills, and strategies and apply this new learning to their work.
    1 ○   2 ○   3 ○   4 ○

28. Collegial relationships exist among staff that reflect commitment to school improvement efforts.
   1 ○   2 ○   3 ○   4 ○

29. The staff plan and work together to search for solutions to address diverse student need.
   1 ○   2 ○   3 ○   4 ○

30. A variety of opportunities and structures exist for collective learning through open dialogue.
   1 ○   2 ○   3 ○   4 ○

31. The staff engage in dialogue that reflects a respect for diverse ideas that lead to continued inquiry.
   1 ○   2 ○   3 ○   4 ○

32. Professional development focuses on teaching and learning.
   1 ○   2 ○   3 ○   4 ○

33. School staff and stakeholders learn together and apply new knowledge to solve problems.
   1 ○   2 ○   3 ○   4 ○

34. School staff is committed to programs that enhance learning.
   1 ○   2 ○   3 ○   4 ○

Shared Personal Practice
35. Opportunities exist for staff to observe peers and offer encouragement.
   1 ○   2 ○   3 ○   4 ○

36. The staff provide feedback to peers related to instructional practices.
   1 ○   2 ○   3 ○   4 ○

37. The staff informally share ideas and suggestions for improving student learning.
   1 ○   2 ○   3 ○   4 ○

38. The staff collaboratively review student work to share and improve instructional practices.
   1 ○   2 ○   3 ○   4 ○

39. Opportunities exist for coaching and mentoring
   1 ○   2 ○   3 ○   4 ○

40. Individuals and teams have the opportunity to apply learning and share the results of their practices.
   1 ○   2 ○   3 ○   4 ○

Supportive Conditions – Relationships

41. Caring relationships exist among staff and students that are built on trust and respect.

    1 ○   2 ○   3 ○   4 ○

42. A culture of trust and respect exists for taking risks.

    1 ○   2 ○   3 ○   4 ○

43. Outstanding achievement is recognized and celebrated regularly in our school.

    1 ○   2 ○   3 ○   4 ○

44. School staff and stakeholders exhibit a sustained and unified effort to embed change into the culture of the school.

    1 ○   2 ○   3 ○   4 ○

Supportive Conditions – Structures

45. Time is provided to facilitate collaborative work.

    1 ○   2 ○   3 ○   4 ○

46. The school schedule promotes collective learning and shared practice.

    1 ○   2 ○   3 ○   4 ○

47. Fiscal resources are available for professional development.

    1 ○   2 ○   3 ○   4 ○

48. Appropriate technology and instructional materials are available to staff.

    1 ○   2 ○   3 ○   4 ○

49. Resource people provide expertise and support for continuous learning.

    1 ○   2 ○   3 ○   4 ○

50. The school facility is clean, attractive, and inviting.

    1 ○   2 ○   3 ○   4 ○

51. The proximity of grade level and department personnel allows for ease in collaborating with colleagues.

    1 ○   2 ○   3 ○   4 ○

52. Communication systems promote a flow of information among staff.

    1 ○   2 ○   3 ○   4 ○

53. Communication systems promote a flow of information across the entire school community including: central office personnel, parents, and community members.

    1 ○   2 ○   3 ○   4 ○

Appendix D

Collective Teacher Efficacy Instrument (CTE)

This survey is designed to gather information regarding the collective efficacy beliefs of teachers – a staff's belief in their abilities to affect student outcomes. There are no correct or incorrect answers.

INSTRUCTIONS: Please indicate the degree to which you agree or disagree with each statement below by circling the appropriate numeral to the right of each statement that most accurately reflects your belief or that most closely matches your feeling about the statement.

KEY: 1= Strongly Disagree   2= Moderately Disagree   3= Disagree Slightly More Than Agree
         4= Agree Slightly More Than Disagree   5= Moderately Agree   6= Strongly Agree

54. Teachers in this school are able to get through to the most difficult students.	1 2 3 4 5 6
55. Teachers here are confident they will be able to motivate their students.	1 2 3 4 5 6
56. If a child doesn't want to learn teachers here give up.	1 2 3 4 5 6
57. Teachers here don't have the skills needed to produce meaningful learning.	1 2 3 4 5 6
58. Teachers in this school believe that every child can learn.	1 2 3 4 5 6
59. These students come to school ready to learn.	1 2 3 4 5 6
60. Home life provides so many advantages that students here are bound to learn.	1 2 3 4 5 6
61. Students here just aren't motivated to learn.	1 2 3 4 5 6
62. Teachers in this school do not have the skills to deal with student disciplinary problems.	1 2 3 4 5 6

63. The opportunities in this community help ensure that these students will learn.	1 2 3 4 5 6
64. Learning is more difficult at this school because students are worried about their safety.	1 2 3 4 5 6
65. Drug and alcohol abuse in the community make learning difficult for students here.	1 2 3 4 5 6

Appendix E

Permission Letter for CTE Instrument

Dear Mrs. Robinson:

You may use the instrument. You may wish to use the 12 item short form which contains a subset of just 12 items. Both are available at the web site of Wayne K Hoy.
The relationship you espouse between collective and the strength of PLCs makes some sense. It is partly a matter of how you design the study and specify the hypotheses.
For future reference my email address is rgoddard@tamu.edu as I have moved from Michigan to Texas A&M where I now direct a research center and serve as a professor.

Good luck with your work.

Roger

Quoting Mrs Danielle Shaw Robertson <droberts@gardner-webb.edu>:

> Dr. Goddard,
>
> I am a doctoral candidate enrolled at Gardner-Webb University in North Carolina. For my dissertation, I am working to identify the relationship between collective teacher efficacy and professional learning communities (PLCs). I am specifically looking at the relationship at the different stages of development of a PLC and collective teacher efficacy for elementary and secondary schools.
> As a part of this research, I would like to use the Collective Teacher Efficacy Instrument that was published in your article in 2000 along with Hoy and Woolfolk Hoy. If I may have permission to use this instrument, I would be extremely grateful. Also, I am open to any suggestions or advice you may have regarding my study.
>
> Sincerely,
>
> Mrs. Danielle S. Robertson
> Instructor Elementary Education
> Gardner-Webb University
> (704) 406-4407 droberts@gardner-webb.edu

Appendix F

Cover Letter to Participants

January 3, 2011

Dear Colleagues,

In this email you are being asked to participate in a survey dealing with professional learning communities (PLCs) and collective teacher efficacy (CTE) which deals directly with the perceptions of teachers in a school that the faculty as a whole can implement the courses of action necessary to have positive effects on students and their achievement.

As a doctoral candidate at Gardner-Webb University, I am writing a dissertation on the relationship between professional learning communities and collective teacher efficacy. I would like to ask for your help in this process. By completing the survey, I would be able to apply that data to my study in order to complete my dissertation and supply the county with valuable information regarding the development of PLCs. You are under no obligation at all to participate in this survey, but your input would be a valuable contribution to this study.

You will be no means be identified through this process to administrators or central office personnel. I hope that you will complete this survey honestly and accurately so the information collected will be relevant to your district and future plans regarding staff development that will be aligned to your school system.

Please follow the directions given upon opening your email document. I truly appreciate and value your professional contribution to this study.

Thank you,

Danielle S. Robertson
Doctoral Student
Gardner-Webb University

Appendix G

Cover Letter to Principals

February 8, 2011

Ms. _____,

I want to take this time to thank you in advance for helping with the distribution and collection of these surveys. All of your surveys are in the collection envelope or container for your school, and only certified teachers should participate. The surveys have the directions for each section printed on them. Originally, on the online survey, your school had 4 teachers that participated. This/these teacher(s) do not need to participate in this survey. You can just ask that they write across the top "Already Participated".

I am requesting, if at all possible, that you would distribute and collect these surveys during your faculty meeting within the next two weeks – February 9 through February 23. I will come by each school on February 25th to pick up the collection envelopes or containers.

Again, thank you for your help in this endeavor. I hope to obtain adequate information so that I may complete my dissertation, and more importantly provide your district with valuable information on the progress of PLCs.

Sincerely,

Danielle S. Robertson
GWU Doctoral Student