## Abstract

Title of dissertation: TEACHERS' AND PRINCIPALS' PERCEPTIONS OF SCHOOL PRACTICES RELATED TO A PROFESSIONAL LEARNING COMMUNITY

Karen Y. Palmer, Doctor of Education, 2014

Dissertation directed by: Professor Dennis Kivlighan
Department of Counseling, Higher Education, and Special Education

With increased expectations for accountability in schools, researchers have suggested that professional learning communities (PLCs) are an effective strategy for school reform that integrates staff development with well-focused school change processes to improve student achievement. The state department of education advocates that school principals utilize the Classroom-Focused Improvement Process (CFIP) as the protocol for a PLC approach to improve student achievement and instructional practices. The purpose of this study was to measure staff perceptions of school practices related to six dimensions of professional learning communities in elementary schools in the Palmero County Public School System (PCPS). This quantitative study involved principals, lead teachers, and classroom teachers from 27 elementary schools and measured their perceptions on six characteristics of a PLC through the lens of the Professional Learning Community Assessment—Revised (PLCA-R) survey instrument developed by researchers at the Southwest Educational Development Laboratory (SEDL). The data was organized in six areas: Shared and supportive leadership, shared values and vision, collective learning and application, shared personal practice, supportive conditions-relationships, and supportive conditions-structures. The research also

determined commonalities and differences that existed among the perceptions of principals, lead teachers, and classroom teachers on the dimensions of the professional learning community model. The findings from this study revealed that shared and supportive leadership, shared values and vision, collective learning and application, and supportive conditions of relationships were perceived to be practiced in the schools, while shared personal practice and supportive condition of structures were less evident.

# Teachers' and Principals' Perceptions of School Practices Related to a Professional Learning Community

by

Karen Y. Palmer

Dissertation submitted to the Faculty of the Graduate School of the
University of Maryland, College Park in partial fulfillment
of the requirements for the degree of
Doctor of Education
2014

Advisory Committee:
Dr. Dennis Kivlighan, Chair
Dr. Donna Wiseman, Dean Representative
Dr. Carol Parham
Dr. Helene Cohen
Dr. Paul Gold

# Dedication

To my mother, Gladys, L. Jones, who inspired me throughout my life to always strive to be the best that I can be.

To my sons, Sean, Christian, and Brendan Palmer, who supported me and cheered me on when I became weary in this great journey.

To my friends and prayer warriors who prayed for my success.

To God, who in all His wisdom, guided me to fulfill the purpose that He has for my life.

## Acknowledgements

I am most appreciative for the guidance provided by many special people who supported me in completing my dissertation:

Dr. Dennis Kivlighan, my advisor, for sharing his expertise in quantitative data analysis and for answering the multitude of questions that I posed throughout the process.

Dr. Helene Kalson Cohen for sharing her passion and enthusiasm.

Dr. Paul Gold, Dr. Donna Wiseman, and Dr. Carol Parham for their participation as members of my dissertation committee and for sharing their wisdom and recommendations.

April Zentmeyer, my friend, for encouraging me to embark upon this journey.

My cohort colleagues for supporting and encouraging me when times were tough.

Table of Contents

List of Tables

List of Figures

# Chapter 1: Introduction

## Background

The reauthorization of the Elementary and Secondary Act, commonly known as the No Child Left Behind Act of 2001 (NCLB), required school systems to demonstrate increased accountability for improved student achievement on systematic state assessments. NCLB endorsed standards-based school reform on the premise that setting high standards and establishing measurable goals would improve individual outcomes in education. The increased pressure on school systems to demonstrate annual yearly progress (AYP) has served as a catalyst for school districts to implement a variety of school reform initiatives. Urged by NCLB, educational leaders are faced with the need to transform a wide range of data sources into action plans designed to increase student learning and improve instruction. The sense of urgency to improve student achievement has become the stimulus for analyzing data. "Ongoing conversations around data are an important way to increase staff capacity to both understand and carry out school improvement work, but it takes effort to make sure these conversations are productive (Boudette, City, & Murnane, 2010). "When teachers regularly and collaboratively review assessment data for the purpose of improving practice to reach measurable achievement goals, something magical happens" (Schmoker, 2001).

DuFour and Marzano (2011) argued that "no single person has all the knowledge, skills, and talent to lead a district, improve schools, or meet all the needs of every child in his or her classroom." They contend that it will take a collaborative effort and shared leadership to meet the challenges confronting school systems today. Their viewpoint is supported by others who maintain that collaborative teams engaged in supporting

common goals is the most effective way to meet the demand for increased accountability. "The combination of three concepts constitutes the foundation for results: meaningful, informed teamwork; clear, measurable goals; and the regular collection and analysis of performance data" (Schmoker, 1999). Researchers Hipp and Huffman (2010) posited that quality teaching is increased or enhanced through continuous professional learning that targets the needs of students and that the most productive context for the continuous learning of professionals is the professional learning community. The purpose of this study was to measure staff perceptions of school practices related to professional learning communities.

## Traditional School Improvement Planning

The prevailing approach to address school improvement has involved the formation of school improvement teams who are given the task of meeting to develop a school improvement plan. Unfortunately, most school improvement plans are designed to focus on whole-school reform and not on specific actions targeted to dramatically improve classroom instruction. During the summer of 2005, a task force composed of administrators, teachers, and representatives from the Palmero County Teachers Association (PCTA) was created to evaluate the current School Improvement Process in Palmero County Public Schools (PCPS). The team's charge was to study existing policies, procedures, and practices, and to recommend measures that would increase effectiveness, operation, and uniformity among PCPS School Improvement Teams (SIT). The consultant that was contracted by PCPS provided five reasons for enhancing the school improvement process:

1. The School Improvement Plan (SIP) results in broad strategies to improve student performance on average.
2. The school-wide plan does not consider wide variation in needs within and between grade-levels and subject areas.
3. The annual planning cycle is too long.
4. Data used in the SIP is out-of-date when used, and the effectiveness of the plan in improving performance is not known until the next state assessment.
5. Teachers must be able to identify and respond to student needs on a real-time basis, daily if necessary.

Through their extensive study, the task force (WCTA/WCPS joint school improvement team study committee report, 2006) agreed that a growing base of "best-practice" knowledge existed indicating that student performance improvement is most effectively planned and carried out by teacher teams working collaboratively at the grade or departmental level. The team's recommendation to focus student achievement through the collaborative work of teacher teams is also supported by Schmoker's (2004) advice to "replace complex, long-term plans with simpler plans that focus on actual teaching lessons and units created in true "learning communities" that promote team-based, short-term thought and action" (p. 427).

## Analyzing Data

In response to the growing accountability demands brought on by NCLB, school leaders have acknowledged the need to more closely analyze data as part of the efforts to improve student achievement and promote high quality instruction. Schmoker maintained that the best plan for improving student achievement is:

> to arrange for teachers to analyze their achievement data, set goals, and then meet at least twice a month – 45 minutes or so. That way they can help one another ensure that they are teaching essential standards and using assessment results to improve the quality of their lessons. (Schmoker, 2006, p. 34)

Schools are encouraged to use data to guide instructional decisions related to identifying standards, refining teaching practices, planning support for intervention and enrichment, and monitoring student progress. The consultant emphasized the need for administrators to engage in a paradigm shift for analyzing data by recognizing that the focus must move from summative state assessments to utilizing formative assessment to guide daily instruction. He suggested a renewed focus on a "new model" for improving performance that enabled departmental teams to use data more effectively for classroom instructional improvement and increased student learning. In the report, *Why Data-based Decision Making is Best Done at the Teacher Team Level* (2012), the state department of education advocated that school improvement based on effective data analysis sessions at the classroom level should include a variety of data sources, use a defined process, occur on a regularly-scheduled basis, lead to interventions and enrichments for students, lead to instructional improvements, and promote the acknowledgement of meaningful work to teachers.

**Professional Learning Community: Definitions and Benefits**

In his book, *The Fifth Discipline,* Senge (1990) promoted a new concept for businesses to utilize teamwork, a shared vision to guide their work, collaborative operations, and output evaluation as a means of creating a competitive advantage. This new corporate structure of the "learning organization" was promptly adopted by school

leaders and educational researchers and became termed "learning communities." The concept of "professional learning communities" (PLC) has generated an increased focus on promoting a workplace in schools that encourages teachers to share ideas and learn educational practices together to support student achievement. Proponents of the movement have suggested that PLCs represent a strategy for increasing student achievement by increasing a school culture of collaboration.

> It starts with a group of teachers who meet regularly as a team to identify essential and valued student learning, develop common formative assessments, analyze current levels of achievement, set achievement goals, share strategies, and then create lessons to improve upon those levels. (DuFour, DuFour, & Eaker, 2005, p. xii)

Schmoker (2006) went so far as to say that "Professional learning communities have emerged as arguably the best, most agreed upon means to continuously improve instruction and student performance" (p. 106).

Effective professional learning communities are driven to improve results by analyzing current data reflecting student learning and developing a strategic plan to boost student achievement. Consequently, educators in PLCs recognize a paradigm shift from a focus on teaching to a focus on learning. DuFour, DuFour, Eaker, and Karhanek (2004, p. 21) emphasized that learning must be designed to address three fundamental questions:

1. What is it we want all students to learn – by grade level, by course, and by unit of instruction?
2. How will we know when each student has acquired the intended knowledge and skills?

3. How will we respond when students experience initial difficulty so that we can improve upon current levels of learning?

The authors stated that members of a PLC share best practices as a means of improving student achievement and to develop collective capacity to improve student learning through their own collective growth.

## Classroom-Focused Improvement Process

"The creation of a PLC does not call for the completion of a series of tasks, but rather for a process of continuous improvement and perpetual renewal" (DuFour et al., 2004, p.140). Underlying the move towards a process of team collaboration is the assumption that teaching remains a largely isolated profession. DuFour and Marzano (2011) cited Richard Elmore as stating that the design of work in schools is fundamentally imcompatible with the process of school improvement with teachers working in isolation of each other in self-contained classrooms.

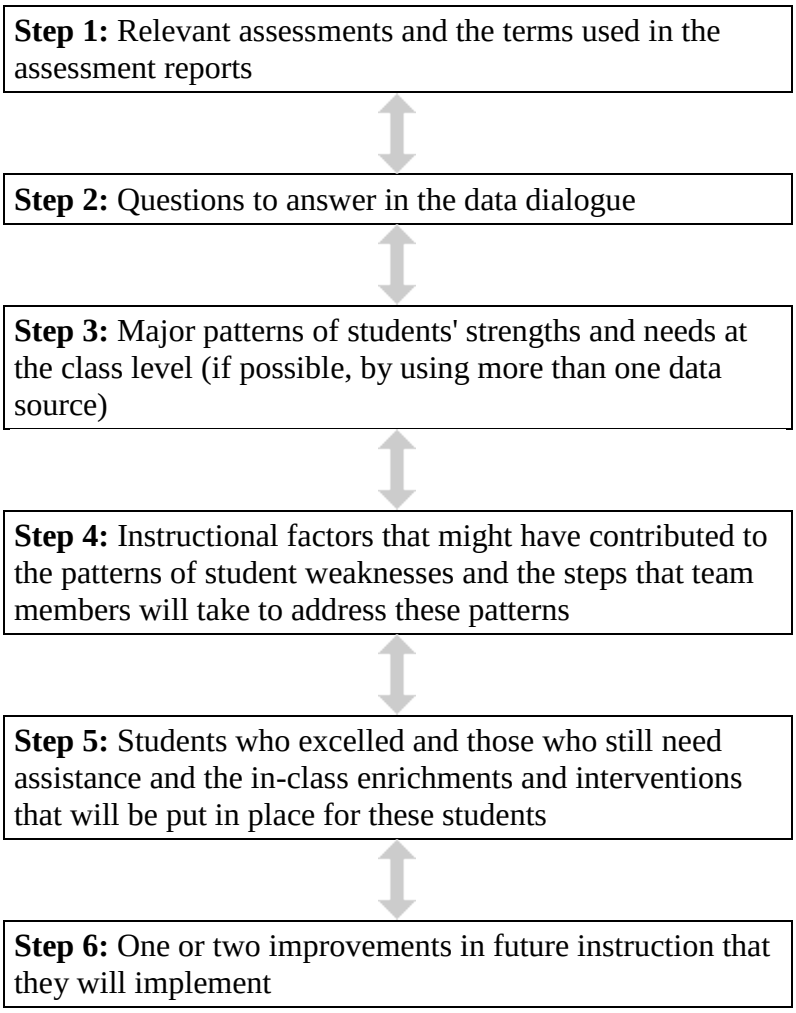
In a section entitled *A Principal's Role in Improving Student Achievement* (n.d.), the state department of education has published on its website a process for school improvement that guides principals through a series of steps. To understand where their school is relative to the state accountability target, how their teachers assess for learning and monitor student progress, and how they use the data to adjust instruction based on student needs, principals are advised to:

- Understand and communicate their student achievement target.
- Engage staff in analyzing state assessment data.

- Evaluate school processes to ensure that teachers understand the target and have aligned their teaching and assessments to those standards they are responsible for teaching.
- Structure time to regularly examine student work to inform instruction.
- Have teachers collect and analyze formative assessment data to monitor student performance on a daily basis.
- Keep their school focused on their student achievement goals as the primary work of staff.

Engaging staff in the process of analyzing data to determine the existence of gaps in state assessments provides strategies that directly impact school improvement goals. Moreover, the more immediate process of providing structured time for teachers to analyze student work to improve daily instruction forms the basis for the process associated with the PLC approach.

According to the state department of education website (Introduction to the Classroom-Focused Improvement Process), the Classroom-Focused Improvement Process (CFIP) is defined as a six-step process for increasing student achievement that is planned and carried out by teachers meeting in grade level, content, or vertical teams as a part of their regular lesson- planning cycle. The flow of the model is intuitive and responds to the overall question, "What do we know from available data about current levels of student performance and how will we respond to these data?" The CFIP model has six steps, each one based on one or more focus questions to direct the team's inquiry. In these steps, team members identify the:




CFIP is a process that does not prescribe a rigid format. Rather, it is a question-based protocol for data dialogue to be carried out by collaborative teams as they focus on planning their next instructional unit. The model, developed in response to concerns that the traditional School Improvement Process was very broad and general in its goals and strategies, was first introduced to the PCPS staff in the summer of 2005. The developers stressed that real improvement does not occur through the traditional approach of focusing primarily on an annual planning cycle culminating in the state assessments linked to No Child Left Behind; it happens when the emphasis becomes classroom-focused improvement carried out by teachers collaborating on a regular basis.

The assistant superintendent of education was inspired to focus on a precise implementation of the CFIP process through council meetings, supervisor meetings, walk-throughs, team visits, and professional learning opportunities with teachers and lead teachers. The main message throughout the implementation was "We are a professional learning community." Today, all elementary schools in PCPS utilize the CFIP process in some capacity to promote a professional learning community approach to school reform.

## Study Questions

A professional learning community has been characterized in endless ways depending on who defines it. Hipp and Huffman (2010) claimed that PLCs are not the norm in the field of education and are often misunderstood, despite having been touted as a significant school improvement strategy for nearly 15 years. While many claim to have established a PLC in their schools, it is questionable as to whether it is a true PLC.

The state department of education advocates that school principals utilize the CFIP model as the protocol for a PLC approach to improve student achievement and instructional practices. The literature clearly exhibits the values of professional learning communities; however, no one has evaluated whether school-based personnel in PCPS perceive that the practices of PLCs are present in their schools. As PCPS continues to implement school reform strategies facilitated by the CFIP model, it becomes necessary to assess how school staff perceives the presence and maturity of PLCs in their schools. This research was intended to measure the extent to which PLC practices are currently practiced in the elementary schools by surveying principals, lead teachers, and classroom teachers who actively participate in CFIP meetings in the elementary schools.

The research also determined commonalities and differences that exist among the perceptions of principals, lead teachers, and classroom teachers on the dimensions of the professional learning community model. The positions of principal, lead teacher, and classroom teacher are intricately linked to support the vision associated with school reform, and each is directly involved in CFIP meetings that routinely occur in the elementary schools. School principals determine the format of CFIP team meetings in their building to address school improvement and monitor the effectiveness of how the staff is working to meet school-wide goals. Lead teachers implement the vision of the school by facilitating regularly scheduled CFIP meetings and coaching staff members to improve teaching practices and student progress. Classroom teachers participate in CFIP meetings as collaborative teams to monitor student achievement and improve instructional practices.

Data from the state department of education indicate that students are falling below the NCLB targets. The need for creating schools as professional learning communities to promote high student achievement and effective instructional practices is being endorsed through the use of the CFIP protocol. This study surveyed the perceptions of principals, lead teachers, and classroom teachers on six characteristics of a PLC through the lens of a survey instrument developed by researchers at the Southwest Educational Development Laboratory (SEDL). The study will attempt to inform district leaders how teachers and principals perceive the presence of PLCs.

**Research Questions**

The study was guided by the question: "How do principals, lead teachers, and classroom teachers perceive the presence of the dimensions of a PLC in elementary schools in Palmero County Public Schools?"

The study addressed these research questions:

1. To what extent do principals, lead teachers, and classroom teachers perceive that *shared and supportive leadership* occurs?
2. To what extent do principals, lead teachers, and classroom teachers perceive that *shared values and vision* occurs?
3. To what extent do principals, lead teachers, and classroom teachers perceive that *collective learning and application* occurs?
4. To what extent do principals, lead teachers, and classroom teachers perceive that *shared personal practice* occurs?
5. To what extent do principals, lead teachers, and classroom teachers perceive that *supportive condition of relationships* occurs?
6. To what extent do principals, lead teachers, and classroom teachers perceive that *supportive condition of structures* occurs?
7. Are there significant differences among the perceptions of principals, lead teachers, and classroom teachers?

This research sought to discover how principals, lead teachers, and classroom teachers perceived that the dimensions of a PLC are present in schools throughout PCPS by organizing the data collection in six areas: Shared and supportive leadership, shared

values and vision, collective learning and application, shared personal practice, supportive conditions-relationships, and supportive conditions-structures.

## Purpose of the Study

The purpose of this quantitative study was to measure staff perceptions of school practices related to six dimensions of professional learning communities and to compare the perceptions of principals, lead teachers, and classroom teachers in elementary schools in the Palmero County Public School System (PCPS). This study surveyed principals, lead teachers, and classroom teachers regarding the six dimensions of a PLC through the lens of a survey instrument developed by researchers at the Southwest Educational Development Laboratory (SEDL) as noted above. The term "professional learning communities" may mean different things to different people, and many schools believe that they have established PLCs in the form of grade-level teams or academic departments. Dufour (2004) stated that:

> People use the term to describe every imaginable combination of individuals with an interest in education – a grade-level teaching team, a school committee, a high-school department, and entire school district, a state department of education, a national professional organization, and so on. In fact, the term has been used so ubiquitously that it is in danger of losing all meaning. (p. 6)

Since the process of establishing a true PLC is complex, it is important to assess the perceptions of school-based personnel regarding the presence of school practices associated with a professional learning community. With the lack of quantitative research regarding the implementation of PLCs in PCPS, this study aimed to provide quantifiable data regarding the perceptions of the strengths and weaknesses of school

practices related to the six dimensions of a PLC. Insight gained from the study may provide opportunities for PCPS leaders to determine the next steps toward utilizing CFIPs as a means to promote PLCs to improve student achievement and embedded professional development for teachers.

## Conceptual Framework

The framework that guided the study is grounded in the research that validates the benefits of the PLC strategy for school improvement. After extensive review of the literature surrounding PLCs and field-based research, Shirley Hord (1997) developed specific dimensions that characterize a PLC. Hipp and Huffman (2010) reaffirmed the common practices of a PLC identified by Hord (1997) and modified them slightly to include: shared and supportive leadership; shared values and visions; collective learning and application; shared personal practice; supportive conditions-relationships; and supportive conditions-structures. Hipp and Huffman (2010) developed their conceptualization of the six dimensions and related attributes of a PLC based on knowledge and data supported by collaborative research teams in the United States, Australia, Canada, and the United Kingdom. The CFIP protocol is endorsed by the state department of education as a strategy for building professional communities in schools. Using the lens of the questionnaire developed by Hipp and Huffman, this study measured staff perceptions of school practices related to the six dimensions of professional learning communities.

## Methodology

The conceptual framework for this study as depicted in the left circle of the Venn diagram is to provide quantitative data to assess the six dimensions of the PLC model as

it is perceived by school administrators and the educators in the classrooms. This study employed the Professional Learning Community Assessment Revised (PLCA-R) questionnaire as a diagnostic tool for identifying school-level practices that support professional learning. The PLCA-R, available through Southwest Educational Development Laboratory (SEDL), measures staff perceptions of school practices related to six dimensions of professional learning communities. SEDL is a private, nonprofit education research, development, and dissemination corporation based in Austin, Texas. Details related to the questionnaire will be discussed in depth in Chapter 3. The PLCA-R was developed by Hipp and Huffman (2010) based on common practices defined by Shirley Hord, renowned author and program director at the R&D Center for Teacher Education at the University of Texas at Austin. The dimensions of a PLC developed by Hord provide a holistic picture of how a PLC operates, as well as actions leaders need to take to create a collaborative culture. Hipp and Huffman provided the methodology and conceptual framework of the PLCA-R reports based on the six dimensions noted in an earlier section of this chapter.

Participants in this study included principals, lead teachers, and classroom teachers in each elementary school in PCPS. Principals, lead teachers, and classroom teachers received an invitation to participate in the online PLCA-R survey, which measured their perception of the presence of six dimensions associated with PLCs. Participation in the survey was voluntary, anonymous, and confidential.

## Definition of Terms

1. **Classroom Teachers**: Full-time teachers with licensure and certification. These teachers include homeroom teachers, intervention teachers, special education

teachers, Gifted and Talented Education (GATE) teachers, music and band teachers, art and physical education teachers, and other teachers who directly support students.

2. **Classroom-Focused Improvement Process (CFIP)**: Endorsed by the state department of education as a means of promoting school improvement, the Classroom-Focused Improvement Process (CFIP) is a six-step process for increasing student achievement that is planned and carried out by teachers meeting in grade level, content, or vertical teams as a part of their regular planning cycle.
3. **Collaboration**: An interactive process that enables teachers with diverse expertise to work together as equals and engage in shared decision making toward mutually defined goals. (retrieved from www.education.com/definition/collaboration)
4. **Lead Teacher:** School-based teacher who works closely with the school principal to facilitate CFIP meetings, coach teachers, and provide embedded professional development to school staff. Lead teachers attend monthly meetings with district supervisors to acquire information to share with school-based staff. Lead teachers do not directly support students.
5. **Principal:** Elementary school-based administrator who has exclusive authority for the school.
6. **Professional Learning Communities (PLCs)**: "Professional educators working collectively and purposefully to create and sustain a culture of learning for all students and adults" (Hipp and Huffman, 2010).

7. **Professional Learning Communities Assessment–Revised (PLCA-R)**: A questionnaire provided by Southwest Educational Development Laboratory (SEDL) to measure staff perceptions of school practices related to six dimensions of a professional learning community.

## Limitations of the Study

This research was a quantitative study of principals, lead teachers, and classroom teachers in elementary schools in Palmero County. The purpose of the study was limited to measuring the perceptions of school-based personnel directly involved in utilizing the state-endorsed CFIP protocol to promote the characteristics of a PLC, and school districts outside of the state utilizing a different method for promoting PLCs may achieve different results from the PLCA-R survey. The researcher does not intend that the representativeness of this population will be generalized to teachers outside of PCPS.

# Chapter 2: Literature Review

## Introduction

This study attempted to measure principals' and teachers' perceptions of school practices related to six dimensions of professional learning communities. The literature review is primarily grounded in the area of professional learning communities and to a lesser degree the literature associated with school reform, professional development, and data analysis. The review begins with the topic of school reform based on federal policies to address improved student achievement and teacher effectiveness and then moves to include literature on the value of professional learning communities and data analysis as a vehicle for reform. The literature is further targeted to address the dimensions of professional learning communities: Shared and supportive leadership, shared values and vision, collective learning and application, shared personal practice, supportive conditions–relationships, and supportive conditions–structures. The literature associated with the development of the Classroom Focused Improvement Process (CFIP) model is reviewed in five categories: data dialogue protocol, norms, work of teacher teams, data sources, and the collaborative school culture. Finally, the review concludes with the literature and research associated with the Professional Learning Communities Assessment–Revised survey instrument developed by researchers at the Southwest Educational Development Laboratory (SEDL).

## A Call for School Reform

Schools have engaged in school improvement strategies for decades. Today **s**chools are being challenged to achieve dramatically higher standards of academic achievement for all students. Heise (1994) noted that when the publication of *A Nation at*

*Risk* reported that the nation's education system was eroding due to a rising tide of mediocrity, many educators and policymakers focused on educational reform efforts. In 1989, President Bush met with the nation's governors at the Education Summit in Virginia to establish a set of national educational goals and to reallocate educational policy responsibilities among the federal, state, and local movements. A flurry of education reforms followed, and in March of 1994, President Clinton signed into law the Goals 2000: Educate America Act, dramatically increasing the federal government's educational policy-making role. The increasing encroachment of the federal legislation on school reform was met with some concern. Elmore (2002) argued that school systems were not designed to respond to the pressure for performance that standards and accountability bring, and the failure to translate the pressure into useful work for students and educators is dangerous to the future of public education. In *Results Now*, Schmoker (2006) emphasized that school leaders at the state, district, and school levels must relentlessly share, examine, and engage in dialogue about the increasing encroachment on its autonomy until their actions begin to erase the inertia of past decades. Heise (1994) argued that Goals 2000 gave an unprecedented amount of control over educational policymaking to the federal government with the unlikely achievement of systemic reforms. On a more positive note, Heise acknowledged that Goals 2000 encouraged states and districts to "recognize the importance of linkages among the different aspects of their educational systems – especially the connections between curriculum and instructional materials, assessment practices, and professional development" (p. 357).

With the authorization of NCLB in 2001, school systems were required to demonstrate increased accountability for improved student achievement on systematic

state assessments. In their publication *Leading Learning Communities*, the National Association of Elementary School Principals (NAESP, Leading Learning Communities: Standards for what principals should know and be able to do, 2001) acknowledged the challenges of reform:

> Educators, policymakers, parents, business leaders and others seem to like the notion of making public our expectations for students and adults, and then holding people accountable to those expectations. The atmosphere of high stakes accountability and testing has created significant political pressure to deliver the standards movement's promise of improved student achievement. (p. 1)

Dufour and Marzano (2011) contended that:

> Contemporary American educators confront the most daunting challenge in the history of public schooling in the United States. They are called upon to tackle academic standards that are so rigorous and include such challenging cognitive demands that they align with the highest international benchmarks. Furthermore, schools are to bring every student to these dramatically higher standards of academic achievement. No generation of educators in the history of the United States has ever been asked to do so much for so many. (p. 5)

Given the challenges of the accountability movement brought on by NCLB, there are those who acknowledged merits associated with the legislation. NCLB required educators to "engage in systematic, continuous improvement in the quality of education experiences of students and to subject themselves to the discipline of measuring their success for the metric of students' academic performance" (Elmore, 2002, p. 3).

McLaughlin and Talbert (2006) upheld the call for all children to learn at high standards and to have access to high-quality instruction. They stated that:

> Two pressures fuel today's urgency about teachers' learning opportunities. First, our society demands schools that produce students with complex intellectual skills that are needed by the "knowledge society," but missing in too many of their graduates. Second, we can no longer accept the unequal student outcomes that have characterized American schools for generations, with advantaged students achieving more academically than students with fewer resources to support their learning. (p. 1)

According to Hord and Sommers (2008), NCLB "compelled educators to examine what they do, how they do it, and the effects it has on students. It has called attention to instructional assessment, to the provision of high-quality professional development, and to other issues" (p.58). In response to these federal policies, they (Hord & Sommers, 2008) suggested that:

> School reform, redesign, restructuring, and many other 're-___s" are moving from one education system or school to another across our globe. This implies that new ideas are being implemented and that there is transformation of people, places, and organization. The simplest word to describe this movement is change. (p. 4)

However, Smith (2008) lamented that "Despite reports that have complained about the United States being a 'nation at risk' or initiatives that feel compelled to remind us that 'no child should be left behind' many American schools just coast along, doing what they have always done" (p.5).

In 2009, President Obama signed into law the American Recovery and Reinvestment Act (ARRA) providing funding for Race to the Top (RTTT), a competitive grant program designed to encourage and reward states for creating educational reform and innovation for achieving significant improvement in student outcomes and closing achievement gaps. President Obama's initiatives included: development of rigorous standards and better assessments; adoption of better data systems to provide schools, teachers, and parents with information about student progress; support for teachers and leaders to become more effective; and increased emphasis and resources for the rigorous interventions needed to turn around the lowest performing schools (Education: Race to the top). RTTT offers bold incentives to states willing to implement systematic reform to improve teaching and learning in America's schools. The state department of education stated in its RTTT application that it aspired to become world class in public education through its initiatives, which included the adoption of more rigorous Common Core State Standards and assessments, a new data system, redesigned teacher and principal evaluations, and a more comprehensive approach to turning around low-achieving schools (Race to the Top Maryland Report 2011-2012, 2013).

In their book, *Whatever it Takes*, authors Dufour, Dufour, Eaker, and Karhanek (2004) argued that "We should promote high levels of learning for every child entrusted to us, not because of legislation or fear of sanctions, but because we have a moral and ethical imperative to do so…" (p. 27).

> Many school reformers have argued that what a principal does is not enough; the adoption of innovative teaching practices is not enough; an alignment of curriculum, instruction, assessment, and standards is not enough. Without a

> doubt, these are important elements for a school committed to significant school change, but there is another essential element. A new collaborative and collegial culture, one committed to the growth of both the students and the adults, needs to be created. Among the names given to schools that possess this culture are *learning-enriched schools, teachers' teaching communities, a more professional culture, learning organizations,* and *centers of inquiry*. (Smith, 2008, p. 39)

**A Shift in School Culture to Professional Learning Communities**

Much has been written about the potential for professional learning communities to increase teacher professional knowledge and enhance student learning. Although research is just starting to emerge, an abundance of literature exist that supports the professional learning community (PLC) model as an effective means of promoting school reform. "In the context of school improvement, PLCs shift the focus of school reform from restructuring to re-culturing" (Professional learning communities, 2009, "What is a PLC?" para 1). Dufour, Dufour, Eaker, and Karhanek (2004) claimed that:

> Public school educators in the United States are now required to do something they have never before been asked to accomplish: ensure high levels of learning for all students. This mandate is not only unprecedented; it is at odds with the original goal of schools. The notion of all students learning at high levels would have been inconceivable to the pioneers of public education. If contemporary educators are to make significant progress in meeting this new challenge, they must first recognize that the institutions in which they work are not designed to accomplish the lack of learning for all. They must then acknowledge the need to

> make fundamental changes in both the practices of their schools and the assumptions that drive these practices. (pp. 2-3)

The authors contend that the current legislation is depriving students of hope by continuing to raise the bar higher and higher for teachers whose schools struggle to meet the tougher standards, and they are convinced that the PLC concept offers the best strategy for connecting educators to the moral imperative to fulfill the hopes of our children and colleagues. Newmann and Wehlage (1997) maintained that "If schools want to enhance their organizational capacity to boost student learning, they should work on building a professional community that is characterized by shared purpose, collaborative activity, and collective responsibility among staff" (p. 37). Darling-Hammond and McLaughlin (1995) wrote that "The vision of practice that underlies the nation's reform agenda requires most teachers to rethink their own practice, to construct new classroom roles and expectations about student outcomes, and to teach in ways they have never taught before" (para. 1). They suggested that one model of professional development that has evolved to support this paradigm shift is the professional learning community. DuFour (1991) stressed that principals who wish to make an enormous difference in their schools must function as staff developers who recognize that school improvement means people improvement and commit to creating conditions to promote the professional growth of their teacher. Schmoker (2004) claimed that educators must reach a "tipping point," a moment when actions and attitudes change dramatically and change spreads like a continuum. He claimed, "Such a tipping point – from reform to true collaboration – could represent the most productive shift in the history of educational practice" (p. 431).

Professional learning communities have emerged as the most agreed upon means to continuously improve instruction and student performance (Schmoker, 2006). In his book, *Failure Is Not an Option*, Blankstein (2004) credited multiple sources as advocating that "For more than a decade, a growing confluence of research and practice has indicated that our best hope for success in schools is through the creation of professional learning communities (Bryk, et al. 1994; Darling-Hammond, 1996; Fullan, 1993; Louis, Kruse, & Marks, 1996; McLaughlin, 1993; Newman and Wehlage, 1995)." Schmoker (2005) suggested that the use of PLCs is the "best, least expensive, most profoundly rewarding way to improve schools" (p. 137). From the book *On Common Ground,* Schmoker joined other proponents of PLCs and claimed that:

> The place to begin is with a set of simple structures and practices that constitute what are now called "learning communities." …this is not a fad. On the contrary, it may represent the richest, most unprecedented culmination of the best we know about authentic school improvement. (p. 136)

Hord agreed that "Communities of professional learners are arguably our best approach to improve the quality of teaching in our schools and the effectiveness of our schools' professionals in ensuring all students are successful learners" (cited in Hipp &Huffman, 2010, p. xiii). NAESP (2001) also embraced the practice of learning communities as a means for school leaders to impact student achievement and stated that:

> In their focus on improving achievement, effective school leaders use multiple sources of information to assess performance, diagnose specific areas for improvement, design effective classroom lessons, make decisions about the

school's goals, and professional development opportunities and adapt best practices from other successful schools and teachers. (p. 55)

## Evolution of Professional Learning Communities

Professional learning communities have evolved as a method for supporting the paradigm shift towards teachers as learners. In traditional schools, teaching is done in isolation with teachers' roles as autonomous, independent contractors. Most teachers have little input into the school's mission and principals make decisions with minimal collaboration. Tracy Kidder (1989) observed, "Decades of research and reform have not altered the fundamental facts of teaching. The task of universal, public education is still being conducted by a woman or man alone in a little room, presiding over a youthful distillate of a town or city" (cited in DuFour, DuFour, & Eaker, 2005, p. 17). Learning organizations, advocated by Peter Senge (1990) in his book *The Fifth Dimension*, changed the way educators viewed school reform. Senge emphasized five disciplines: personal mastery, mental models, shared vision, team learning, and systems thinking. Senge promoted the idea of a work environment where employees engaged as teams, developed a shared vision to guide their work, collaborated to improve quality control, and evaluated their output. While all five disciplines are important in creating an environment that promotes collaborative learning, it is the discipline of shared vision and team learning that becomes most critical in professional learning communities. Senge (1990) described learning organizations as "organizations 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 to see the whole together" (p. 3). Senge's book inspired

educators to focus on team building as they began efforts of school reform. As educators explored Senge's idea and wrote educational journals about the paradigm shift, the new label became *professional communities.* In conjunction with Senge's advocacy of collaborative teams in the private sector, Rosenholtz (1991) conducted research and found that teachers who taught in schools that encouraged collaboration, sharing of ideas and solutions to problems, and shared learning about educational practices produced increased student achievement. In Rosenholtz's published results describing teaching environments of collaboration, she argued that teacher isolation was probably the greatest impediment to improving teaching skills because teachers were forced to rely on their own school experiences or the method of trial and error. Acknowledging the difficulties associated with the tradition of teacher isolation and the structures that support it, Schmoker (1996) argued that schools would perform better if teachers worked in focused, supportive teams. In her book, *Communities of Practice,* Wenger (1998) systematically explained the social theory that associated the dimensions of the relationship between practice and community as mutual engagement, a joint enterprise, and shared repertoire. Wenger (1998) defined practice as an ongoing, social process in which members interact, do things together, negotiate new meanings, and learn from each other. Wenger posited that while her examples were drawn mostly from the workplace, the relevance of the concepts extend to schools, playgrounds, and the home. Louis and Kruse (1995) defined a school-based professional community as "one where teachers engage in reflective dialogue, where there is de-privatization of practice, collective focus on student learning, collaboration, and shared norms and values" (p. 28).

These ideas led the Research and Development team at Southwest Educational Development Laboratory (SEDL) to focus on this collection of work that promoted staff collegiality and increased student learning known as "communities of inquiry." SEDL invested staff and resources on studying schools in their efforts to improve so that students might become more successful learners. This process led SEDL to discover a school in which staff collectively searched for ways to become more effective teachers and who valued changing their own practices to accomplish improvement. The available literature about professional communities coupled with their studies led SEDL researchers on a mission to find and study additional schools to learn how they had become communities of learners. As the result of spending a decade studying the improvement efforts of a school whose staff had operated as a professional learning community, Hord claimed that the results of the study revealed a new model of school culture and organization that actively supported educational changes and improvement. In 1997, Hord coined the term "PLC" and her research led her to describe PLCs as having specific characteristics: supportive and shared leadership; shared values and vision; collective learning and application; shared personal practice; and supportive conditions. DuFour (2009), regarded as a leading authority on bringing the PLC concepts to life in the real world of schools, stated that:

> A "systems approach" to school improvement represents the antithesis of a culture based on individual isolation and independence. Systems thinking concentrates on *interdependent* relationships, connections, and interactions of the component parts of a larger system. The focus is on creating powerful systems that promote the continuous improvement of the entire organization…The

> Professional Learning Community at Work (PLC) model offers a systems approach to school improvement. (p. 2)

## Definition and Benefits of a Professional Learning Community

Hipp and Huffman (2010) defined a PLC as "professional educators working collectively and purposefully to create and sustain a culture of learning for all students and adults" (p. 12). DuFour et al. (2004) claimed that the big idea, or guiding principle, of schools that operate as PLCs is simple: "The fundamental purpose of the school is to ensure high levels of learning for all students" (p. 135). DuFour and Marzano (2011) provided three big ideas that they believe drive the PLC process:

- Big Idea One: The fundamental purpose of schools is to ensure that all students learn at high levels.
- Big Idea Two: If educators are to help all students learn, it will require working collaboratively in a collective effort to meet the needs of each student.
- Big Idea Three: Educators must create a results orientation.

Louis and Marks (1998) found that when a school is organized into a PLC, teachers set higher expectations for student achievement; students can count on the help of their teachers and peers in achieving ambitious learning goals; the quality of classroom pedagogy is consistently higher; and achievement levels are significantly higher. DuFour et al. (2005) emphasized that:

> The PLC concept is specifically designed to develop the collective capacity of a staff to work together to achieve the fundamental purpose of the school: high levels of learning for all students. Leaders of the process purposefully set out to create the conditions that enable teachers to learn from one another as part of their

> routine work practices. Continuous learning becomes school-based and job-embedded. (p. 18)

DuFour (2004) advised that the PLC model "flows from the assumption that the core mission of formal education is not simply to ensure that students are taught but to ensure that they learn. This simple shift – from a focus on teaching to a focus on learning – has profound implications for schools. DuFour et al. (2004) asserts that PLCs differ from traditional schools by having shared mission, vision, values, and goals; collaborative teams; collective inquiry; action orientation and experimentation; continuous improvement; and results orientation. In their book *Whatever It Takes,* DuFour et al. (2004) told the stories of four schools which embarked upon the implementation of PLCs. While the schools represented different grade levels, different sizes, different geographical areas, different communities, and students from very different backgrounds, the authors contend that their similarities included clarity of purpose; collaborative culture; collective inquiry into best practices; action orientation; commitment to continuous improvement; focus on results; strong principals who empowered teachers; and the commitment to face adversity, conflict, and anxiety. Through their study of four schools, the authors found that building shared knowledge was a critical step. DuFour et al. (2004) reported that:

> Teachers were more likely to acknowledge the need for improvement when they jointly shared evidence of strengths and weaknesses of their schools. They were more likely to arrive at consensus on the most essential knowledge and skills students should acquire when together they analyzed and discussed state and national standards, district curriculum guides, and student achievement data. They

> were more likely to agree on the most effective instructional strategies when they worked together on examining results from their common assessments. (p. 137)

## Literature Review of Professional Learning Communities

Although the research about PLCs is just starting to emerge, much has been written about PLCs. McLaughlin and Talbert (2006) reported that:

> A considerable body of theoretical and empirical literature exists about the design principles associated with communities of practice…we know much less about the process - how teacher learning communities get started, how they develop, and how requirements for their development and markers of maturity change. (p. 129)

"A search of the literature on PLCs reveals a broad range of publications from guidelines for organizing PLCs to research on their implementation. However, rigorous research and evaluation studies of PLCs are limited in number" (Feger & Arruda, 2008, p.1). The Educational Alliance at Brown University worked in partnership with Hezel Associates to produce a literature review on professional learning communities in which they included 60 studies, reports, and documents dealing with some aspect of PLCs. They concluded that "collectively, the literature on PLCs is a rich and promising body of work that offers valuable opportunities for further exploration" (Feger & Arruda, 2008, p. 1).

## Research and Studies Related to Professional Learning Communities

The existing collection of studies is mainly qualitative with data collected primarily through interviews, field notes, and observations in the form of case studies (Vescio, Ross, & Adams, 2008). The literature is abundant with numerous case descriptions of PLCs as evidenced in the stories offered on the website *All Things PLC*

where schools are invited to share their results in terms of teacher benefits and student achievement gains. While these descriptions are not offered as research-based evidence, the cases contribute to an emerging knowledge base that documents the growing use and acceptance of PLCs at the school level.

**Vescio, Ross, and Adams**

In a review of ten national studies and an English study on the impact of PLCs on teaching practices and student learning, Vescio, Ross, and Adams (2008) found that all of the studies cited empirical data that suggested that establishing a PLC contributed to a cultural shift in the habits of mind that teachers brought to their daily work in the classroom. The changes in teaching cultures were organized into four characteristics: collaboration, a focus on student learning, teacher authority, and continuous teacher learning. The authors noted that these characteristics are not discreet categories, but rather a multifaceted interweaving of factors that change teaching cultures. Of the eleven studies reviewed in their analysis, eight (Berry, et al., 2005; Balam et al., 2005; Hollins et al., 2004; Louis & Marks, 1998; Phillips, 2003; Strahan, 2003; Supovitz, 2002; Supovitz & Christman, 2003) attempted to connect PLCs and improved student achievement, and all eight reported that student learning improved when teachers participated in PLCs. Vescio et al. (2008) concluded that:

> Although few in number, the collective results of these studies offer an unequivocal answer to the question about whether the literature supports the assumption that student learning increases when teachers participate in PLCs. The answer is a resounding and encouraging yes. (p. 87)

Vescio et al. (2008) summarized their findings from their literature review as: (1) participation in learning communities impacts teaching practice as teachers become more student centered and (2) when teachers participate in a learning community, students benefit as well – as indicated by improved achievement scores over time.

**Louis and Kruse**

Authors Louis and Kruse (1995) reported the results from case studies of five urban schools that attempted restructuring efforts. Focusing on the structural, social, and human conditions, they collected data on five dimensions associated with establishing a school-based professional community: reflective dialogues, de-privatization of practice, collective focus on student learning, collaboration, and shared norms and values. The authors found that the data from the case studies suggested that the issues facing schools in the process of transformation were complex and varied. Their analysis suggested that of the five dimensions, a shared normative and value base paired with reflective dialogue provided the most foundational support for a professional community. Their analysis also suggested that four structural and human conditions – time, teacher empowerment, cognitive skill bases, and supportive leadership – are necessary for the creation of strong professional communities.

**Newmann and Wehlage**

In their landmark study of school reform and restructuring, Newmann and Wehlage (1997) found that there were four circles of support that determined successful achievement: a focus on student learning; authentic pedagogy; school organizational capacity, including PLCs; and external support. Synthesizing five years of research by the Center on Organization and Restructuring of Schools (CORS), their report presented

evidence that "the most successful schools were those that used restructuring tools to help them function as professional communities" (Newmann & Wehlage, 1997, p. 3). The CORS researchers concluded that schools with strong professional communities were better able to offer authentic pedagogy and were more effective in promoting student achievement. Those schools supported continuous reflection aimed at individual and organizational growth. CORS researchers maintained that as a result of strong professional community, students learn that they are expected to work hard to master challenging academic material; staff believes that students will be successful if they work hard on academic tasks; and staff will help one another to establish classroom norms where learning is taken seriously. Their report cited three general features of PLCs that contributed to successful restructuring of the most successful school:

1. Teachers pursue a clear, shared purpose for all students' learning.
2. Teachers engage in collaborative activity to achieve their goals.
3. Teachers assume collective responsibility for student learning.

**WestED Study**

The US Department of Education contracted with WestEd to examine eight schools that had won the National Awards Program for Model Professional Development to identify the factors that led to their success. The study revealed that the award–winning schools shared the discernible characteristic that teacher learning contributed to improved academic gains. As teacher learning changed the professional culture, "the very nature of staff development shifted from isolated learning and the occasional workshop to focused, ongoing organization learning built on collaborative reflection and joint action" (WestEd, 2000, p. 11). The WestEd study provided evidence that a culture

of learning was a crucial factor for school reform. The six lessons that clearly aligned to the characteristics of a PLC were:

1. Use clear, agreed upon student achievement goals to focus and shape teacher learning.
2. Provide an expanded array of professional development opportunities.
3. Embed ongoing, informal learning into the school culture.
4. Build a highly collaborative school environment where working together to solve problems and to learn from each other become cultural norms.
5. Find and use the time to allow teacher learning to happen.
6. Keep checking a broad range of student performance data.

**MetLife Survey of the American Teacher**

The MetLife survey, conducted by Harris Interactive, sampled 1,003 public school teachers of grades K through 12 in the fall of 2009 to determine to what extent teachers, principals, and students work and learn together to increase their success. The major findings included:

- Public school teachers and principals share a belief in the relationship between student success and collaborative school environments that emphasize a sense of responsibility for teachers, the principal, and students themselves.
- While the concept of collaboration among education professionals within a school has strong support, its practice varies widely across schools, with elementary schools reported to be more collaborative than secondary schools.
- Schools with higher degrees of collaboration are associated with shared leadership and higher levels of trust and job satisfaction.

- The most frequent type of collaborative activities are teachers meeting in teams to learn what is necessary to help their students achieve at high levels; school leaders sharing responsibility with teachers to achieve school goals; and beginning teachers working with more experienced teachers.
- The least frequent type of collaborative activity is teachers observing each other in the classroom and providing feedback.

The MetLife Survey of 2009 concluded that collaboration is valued in public schools as a concept but is practiced in varying degrees. "Results of the survey provide evidence that some schools, principals, teachers, and students who have a greater commitment to working together move effectively to improve the quality of teaching, learning, and leadership school-wide" (MetLife, 2009, p. 18).

**Consortium on Chicago School Research**

In an effort to improve educational opportunities for high school students in Chicago, the Chicago High School Redesign Initiative (CHSRI) undertook a series of qualitative and quantitative studies of the implementation and impact of opening smaller high schools. The research of Stevens and Kahne (2006) in examining the instruction improvement practices of teacher professional communities in CHSRI schools revealed that PLC activities were primarily oriented toward supportive practices rather than developmental practices. The authors defined supportive practices as interactions that help the individual teacher address specific tasks, problems, or concerns; and developmental practices were defined as interactions and activities through which teachers' professional communities attempt to improve the collective instructional capacity of their members and change core instructional practices. Their findings

suggested the need for teacher teams to make instructional discussions a regular and formal part of their team meetings and create procedures that ensure systematic attention to instructional practices. The authors concluded that efforts to collectively improve instructional practices were unlikely to happen spontaneously and were best facilitated when explicit efforts were directed by the principal.

**Graham: Case Study of PLC in New Middle School**

In his case study, *Improving Teacher Effectiveness through Structured Collaboration,* regarding the implementation of a PLC in a first year middle school, Graham (2007) found that leadership emerged as one of the most important factors underlying the achievement of improvement in teacher effectiveness. Graham concluded the effectiveness of the PLC implementation was dependent on leadership and organizational practices, substantive details of team meetings, the nature of conversation in team meetings, and the development of community among PLC teams.

**Goddard, Goddard, and Tschannen-Moran**

In their empirical investigation of collaboration and school improvement in 47 elementary schools in a large Midwestern school district, the researchers found that fourth grade students had higher achievement in mathematics and reading when they attended schools characterized by higher levels of teacher collaboration for school improvement (Goddard, Goddard, & Tschannen-Moran, 2007)**.** Goddard et al. (2007) suggested that the results provided preliminary support for efforts to improve student achievement by providing teachers with opportunities to collaborate on issues related to curriculum, instruction, and professional development. The study results are important since most prior research on teacher collaboration considered results for the teachers involved, rather than student-related outcomes.

## Professional Development

Elmore (2002) maintained that professional development is at the center of the practice of improvement. Elmore advocated that performance-based accountability requires a strategy for investing in the knowledge and skills of educators by rebuilding the organization of schooling around effective professional development connected to content and pedagogy that impacts student achievement and effective teaching practice. Drawing from standards adopted by the National Staff Development Council, Elmore argued that professional development should embody a clear model of adult learning that develops that capacity of teachers to work collectively on problems of practice. Elmore stressed that learning is a social process achieved through collaborative, rather than individual, activity and that educators learn more powerfully in concert with others who are struggling with the same problem. Elmore advocated a consensus view with a strong focus on school-wide performance goals, heavy emphasis on teachers' content knowledge and pedagogical skills that go with effective instruction, explicit theories of adult learning, use of group settings, and moving learning closer to the point of practice. He maintained that:

> Professional development that results in significant changes in practice will focus explicitly on domains of knowledge, engage teachers in analysis of their own practice, and provide opportunities for teachers to observe peers and to be observed by and to receive feedback from experts. (p. 17)

Little (2006) emphasized that continuous learning must be a school-wide norm that is embedded in the professional community, and she cautioned that schools that fail to create an environment conducive to professional learning have high costs associated with

inadequate instruction and high teacher turnover. In contrast, she posited that schools that are well organized for professional learning stand to reap benefits in student gains and teacher commitment. Little (2006) advocated that:

> Professional development is more effective in changing teachers' classroom practices when it has collective participation of teachers from the same school, department or grade; active learning opportunities, such as reviewing student work or obtaining feedback on teaching; and coherence, for example, linking to other activities or building on teachers' previous knowledge. (p. 102)

Based on a review of collaborative assessment research and other quasi-experimental studies of professional development, Little (2006) reported that:

> These studies…provide evidence that groups whose members systematically examined student work and student thinking were more associated with higher student learning gains, more self-reported and observed change in teaching practice, and more growth in teacher knowledge than comparison groups where looking at student work was not a central activity. (pp. 104-105)

Contrary to the research that promotes collective learning in professional learning communities, Schmoker (2007) reported that teachers rarely work in team-based professional learning communities to build and improve lessons, units, and assessments on the basis of assessment data because the education profession has never established a true culture of accountability. In his analogy to the medical profession, Schmoker (2007) stated that:

> Educators, in their own way, are also in the life-saving business; their actions and behavior make or break the lives and potential of tens of millions of students each

> year. But alas, most teachers and leaders are not truly, professionally accountable for their behavior. They are still surprisingly free to engage in practices manifestly at odds with the most widely known elements of effective teaching and supervision. (p. 7)

Schmoker (2007) claimed that educators should focus staff development efforts on ensuring that teacher teams learn to design highly effective lessons and improve them based on assessment results. He maintained that "such results-oriented team meetings contribute the very highest form of professional development" and "from such efforts, we will realize swift, stunning gains in achievement – and a new professionalism will emerge" (p. 9).

In their empirical study of how schools used professional development to address school capacity, Newmann, King, and Youngs (2001) concluded that the use of professional development over time was strongly related to the school's initial capacity and to principal leadership. Based on their study of urban elementary schools across the United States, the authors identified factors that explained how professional development at seven schools studied over two years addressed multiple aspects of capacity, where capacity was defined as "the collective power of the full staff to improve student achievement school-wide" (p. 3). Newmann et al. (2001) maintained that to improve student achievement of all students from one academic year to another, teachers must exercise individual knowledge, skills, and dispositions in an integrated way to advance the collective work of the school.

Fullan, Cuttress, and Kilcher (2005) claimed that a key drive for creating effective and lasting change involves developing a culture for learning which embraces a set of

strategies designed for people to learn from each other and become collectively committed to improvements. The authors maintained that successful change involves learning from peers, especially those who are further along in implementing new ideas. Dennis Sparks, Executive Director of the National Staff Development Council, supported the premise that the most powerful forms of professional learning occur in "daily interactions among teachers in which they work together to improve lessons, deepen one another's understanding of content, analyze student work, examine various data sources on student performance, and solve the myriad of problems they face each day" (Sparks, 2005, p. xiii).

## A Principal's Role in School Reform

NAESP (2001) claimed that principals must be leaders in improving instruction and student achievement by being the force that creates collaboration and cohesion around school learning goals and the commitment to achieve these goals. Recognizing that this task may be difficult for some, McLaughlin and Talbert (2006) acknowledged that "School and district leaders sometimes perceive a trade-off between pursuing the goal of building a teacher learning community and responding to accountability pressures from external policy systems" (p. 27). They cautioned that schools may be distracted from the slowly developing practice of establishing norms for collective responsibility and collaboration as they succumb to the pressure of high stakes accountability systems. Schmoker (2005) claimed that DuFour's landmark article "The Learning Principal" published in *Educational Leadership* was a turning point in education that shifted the role of the principal from "instructional leader" to "learning leader." This required a radical shift in the principal's job to monitor, discuss, and support teachers' progress in having

students demonstrate higher levels of learning on short-term and annual assessments. DuFour and Marzano (2009) maintained that a principal is far more likely to improve student achievement by promoting teacher learning in collaborative teams than by focusing on formal teacher evaluation. In his book, *What Works in Schools,* Marzano (2003) identified leadership as a crucial role for effective reform. Marzano maintained that there is a relationship between leadership and the extent to which a school has a clear mission and goals; the overall climate of the school and individual classrooms; the attitude of teachers; the organization of curriculum and instruction; and students' opportunity to learn.

## Engaging Staff in Analyzing Data

Rosenholtz (1991) found that when combined with collaboration, goals and data create conditions that "enable, if not compel, individual teachers to request and offer advice in helping their colleagues" (p. 6). Rick Stiggins (2005), a respected authority on assessments and school improvement, asserted that if educators are to achieve "learning for all" they must use assessment "FOR" learning in a manner to inform teacher practice, help students manage their own growth toward relevant standards, and promote learning. Stiggins (2005) stressed that the PLC provides a team-based learning experience in which teachers can collaborate in the development and use of assessments FOR learning by deconstructing standards, transforming them into high-quality classroom assessments, and interpreting results to help students grow as learners. "When schools and school systems increase their collective capacity to engage in ongoing assessments for learning, they achieve major improvements" (Fullan, Cuttress, & Kilcher, 2005, p. 56). Fullan et al. (2005) suggested that a culture of evaluation must be coupled with a culture of

learning for schools to achieve high yield strategies for educational change. Their term "assessment for learning" incorporates accessing data on student learning, disaggregating data for detailed understanding, developing action plans to make improvements, and being able to discuss performance with stakeholders.

Lachat and Smith (2004) reported on a four-year case study investigating the effect of high school restructuring in five low-performing, urban high schools that implemented three elements of systemic reform: (1) establishing smaller, more personalized learning environments; (2) shifting to standards-based instruction; and (3) using data to support continuous improvement. Their case study was designed to be aligned with the accountability mandates of NCLB that emphasized the use of disaggregated data to monitor school progress. Lachat and Smith found that as school accountability for improving student achievement became a more critical issue in high schools, teachers wanted more specific information about skill areas in which students needed assistance so that they could target their instruction more effectively. The study provided evidence that the use of disaggregated data improved student learning and achievement in urban low-performing schools.

Through the research in five schools associated with America's Choice, Supovitz and Klein (2003) developed a theory of systematic school data use to support school improvement. Supovitz and Klein posited that through more sophisticated data systems, school leaders can promote an inquiry-oriented approach that sustains investigations into the kind of teaching that produces more powerful student learning. Their framework integrated three sources of data – external, school-wide, and individual teacher – to chart a course for school improvement. They maintained that through the triangulation of

multiple forms of data, school leaders are able to develop a school data system that sustains a culture of inquiry and provides more frequent evidence with which teachers and administrators can react. Their study concluded that "using student performance data as the portal to improving teaching and learning is particularly promising because it focuses the conversation around the student learning outcomes of the organization and connects to so many of the critical activities that influence the learning outcomes " (Supovitz & Klein, 2003, p. 42).

Halverson, Grigg, Prichett, and Thomas (2003) described a study of how leaders created a data-driven system to re-culture schools for accountability using a six-step cycle consisting of: (1) data acquisition, (2) data reflection, (3) program alignment and integration, (4) instructional design, (5) formative feedback, and (6) test preparation. The data- driven instructional system helped translate results of summative testing into formative information that teachers used to improve instruction. DuFour, DuFour, Eaker, and Karhanek (2004) also stressed the need for teachers to shift focus from summative to frequently-administered, formative assessments and to ask, "Are the students learning and what step must be taken to address the needs of those who have not learned?" (p. 24). DuFour et al. (2004) suggested that formative assessments are used to monitor individual student learning and to guide instructional practice, while summative assessments are often used to assign a designation and/or punitive consequences for students who fail to meet a standard. Black, Harrison, Lee, Marshall, and William (2004) studied six secondary schools in southern England to determine how enhanced formative assessments would produce gains in student achievement. Their findings revealed that improvement in classroom learning required careful forethought related to planning

classroom activities that give students opportunities to express their thinking; formative feedback that guides learning; activities that demand collaboration to challenge thinking; training of the students to engage in respectful dialogue; and opportunities for students to be active participants by expressing their own understanding. Black et al. (2004) recommended a sequence of steps to incorporate formative assessments into classroom practice:

Step 1: Reflect on what you are doing through discussion with colleagues and peer observations.

Step 2: Try out changes and take on strategies that lead to further progress.

Step 3: Develop an action plan comprising a range of strategies to be used.

## Dimensions of a Professional Learning Community

Hipp and Huffman (2010) believed that re-culturing schools as PLCs involves a whole school focus, efforts based on six PLC dimensions, and the participation by all professional staff in the school. The six areas include: shared and supportive leadership, shared values and vision, collective learning and application, shared personal practice, supportive conditions-relationships, and supportive conditions-structures. The Center for Comprehensive School Reform and Improvement maintained that "An understanding of these characteristics provides educators with a shared lens through which to examine their own PLCs. They also can provide an infrastructure for shaping practices and assessing progress" (Professional learning communities, 2009, p. 3).

### Shared and Supportive Leadership

DuFour, DuFour, and Eaker (2005) stressed that principals in a PLC are called upon to regard themselves as leaders of leaders. "One of the defining characteristics of

PLCs is that power, authority, and decision making are shared and encouraged" (Hord & Sommers, 2008, p. 10). DuFour et al. (2005) proposed that the PLC concept operates from the premise that leadership should be widely dispersed throughout a school to develop leadership potential for all staff members. Smith (2008) identified the characteristics of principals who lead schools in achieving the National School Change Award as strategic, learners, rational, communicators, courageous, and empowering. DuFour (1991) recommended that principals should regard every staff member as a resource of creative input and empower each to use core values and curricular outcomes to provide a clear structure to work in creative and autonomous ways. DuFour (2007) proffered that school improvement efforts are driven by a "loose-tight leadership" style which "fosters autonomy and creativity (loose) within a systematic framework that stipulates clear, non-discretionary priorities and parameters (tight)" (p. 39). DuFour claimed that district leaders can integrate the practices of a PLC into their schools most effectively through loose-tight leadership that provides training specifically designed to create a common vocabulary and shared knowledge about the PLC concept. Fullan, Cuttress, and Kilcher (2005) stressed that leadership must spread throughout the organization in a manner that fosters leadership skills in others. "We need to produce a critical mass of leaders who have change knowledge. Such leaders produce and feed on other leadership through the system. There is no other driver as essential as leadership for sustainable reform" (Fullan et al., 2005, p. 58). Edward Tobia (2007), a project director with SEDL's Improving School Performance Program, emphasized the need for leadership – not only the leadership of the principal and district personnel -- but also that of teacher leaders with responsibility for creating conditions in which a PLC can be

successful. Hord (2007) observed that PLCs lead to shared collegial leadership in the schools where all staff members grow professionally as they work for the same goal, but she also acknowledged that this is a difficult challenge for some principals who are seen as a position of power and authority. DuFour, DuFour, Eaker, and Karhanek (2004) advised that:

> Unless teachers feel that they have a voice in the improvement process, they will view change as something that is done to them rather than by them. Most teachers will be unwilling to accept responsibility for the success or failure of the initiative unless they have had some authority in making key decisions and some discretion in implementing these decisions. (p. 145)

Dufour and Marzano (2011) stressed that the key to leadership is developing capacity as a collective endeavor and they suggested that:

> To be the best leader you can be, don't hoard power; give it away. Don't view yourself as the heroic individual who will single-handedly improve your district, school, or classroom; view yourself as a hero-maker who develops the leadership potential of those who serve. You will know you have been successful when you realized that you could leave and the organization will continue to improve because of the many leaders that remain. (p. 207)

Halverson (2006) drew from three research studies on distributed leadership in urban, suburban, and rural school districts to describe how principals used a range of artifacts to shape professional communities to engage in school wide reform. Halverson described how school leaders created artifacts (programs, procedures, or policies) that leaders used to design and influence relational trust and social interaction around issues

vital to instructional improvement. Through the studies, Halverson found that even though none of the principals began with the intention of developing PLCs, communities resulted from their efforts to improve instruction in their schools. Leaders required different kinds of artifacts to create and maintain professional community. Halverson maintained that among the activities that led to distributed leadership were artifacts used to spark conversations, discussion groups, and trust-building exercises. Halverson, Grigg, Prichett, and Thomas (2003) asserted that the demand for accountability required new instructional leadership:

> Leaders working in schools traditionally characterized by loose coupling of administrative and teaching practice, teacher autonomy, individualized professional development and unmonitored instructional quality are now faced with policy expectations that push for tightened coupling of teaching and leadership, teacher collaboration, professional learning on instructional goals and closely monitored instructional outcomes. (p. 6)

**Shared Values and Vision**

Hord (2007) defined a shared vision as "a mental image of what is important to the staff and school community; that image is kept in mind while planning with colleagues and delivering instruction in the classroom" (p. 3). Hord advised that staff should use the vision as a guidepost in decision making about teaching and learning in the school. Senge (1990) believed that a shared vision was the first step in promoting an employee's relationship with a company by creating a common identity. "It is no longer 'their company;' it becomes 'our company'" (p. 194). Supporting Senge's belief, NAESP (2001) emphasized that:

> Defined by a core set of beliefs, learning goals, and sentiments, the school community comes together. Through this sense of common purpose and values, members of the learning community move from an individual sense of 'I' to a collective sense of 'we' in efforts to improve student performance. (p. 25)

According to DuFour and Eaker (1998), a vision will have little impact until it is widely shared and connected to the personal visions of those within the school. They caution that it is an ongoing challenge confronting those who hope to transform their school into a PLC. Blankstein (2004) claimed that a mission statement should address the crucial questions posed by DuFour:

1. If we expect all students to learn, what is it we expect them to learn?
2. How will we know if they are learning it?
3. What will we do when they don't?

Blankenstein (2004) added that a fourth question should be addressed: "How will we engage students in their own learning?" (p. 67). He cautioned that mission statements that do not address these four questions lack resonance for staff members and will be written off as meaningless. Once the mission statement is crafted, Blankenstein (2004) suggested that the vision statement be expressed as manageable, measurable steps of goals that establish accountability for all stakeholders. Schmoker (1996) contended that it is not enough to just have goals. He maintained that goal-orientation plus dialogues that address instruction brings teams closer to these goals. The vision should focus staff members on how they spend their time, what topics they discuss, and how resources may be distributed. Schmoker further claimed that the combination of measurable goals,

meaningful clear teamwork, and the judicious use of data constitutes the foundation for school improvement.

> In schools where there is a culture of continuous improvement and where staff are examining their work, setting goals for student learning, and deciding what they need to learn in order for students to become more successful learners, the goal or focus is kept squarely in front of everyone. (Hord & Sommers, 2008, p. 49)

**Collective Learning and Application**

In professional learning communities, teachers are moving from a culture of isolation to a culture of adult learning and collegiality. The basic structure of the PLC is composed of collaborative teams, whose members work together to achieve the vision and common goals. Hord (2007) cautioned that "the PLC is not just about teachers collaborating; it involves collaborating to *learn together* about a topic the community deems important. As they collaborate, staff members build shared knowledge bases, which contribute to enhanced possibilities for the community's vision" (p. 4). Senge (1995) suggested that it is necessary to destroy the illusion that the world is created of separate, unrelated forces and build "learning organizations" where people continually expand their capacity to create results learning how to learn together. The National Commission on Teaching proclaimed that:

> Quality teaching requires strong professional learning communities. Collegial interchange, not isolation, must become the norm for teachers. Communities of learning can no longer be considered utopia; they must become the building blocks that establish a new foundation for America's schools. (cited in DuFour, DuFour, Eaker, & Karhanek, 2004, p. 17).

Hargreaves advocated that "PLCs offer an optimistic alternative to educators who hang on to loftier learning goals, and to those who believe that professional reflection and collaboration rather than prescription and compliance are still the best ways to achieve them" (cited in Hord & Sommers, 2008, p. ix). When participating in a PLC, professional staff engages in collegial inquiry that includes reflection and discussion focused on instruction and student learning. Members of a PLC give up individual autonomy in exchange for enhanced collective empowerment. DuFour and Marzano (2011) argued that no single person has all the knowledge, skills, and talent to lead a district, improve a school, or meet all the needs of every child in his classroom. "People who engage in collaborative team learning are able to learn from one another and thus create momentum to fuel continued improvement" (Dufour, Dufour, Eaker, & Karhanek, 2004, p. 3). Hord and Sommers (2008) asserted that professional learning is the heart and soul of the PLCs that occurs in many venues: teachers working on instructional plans for students; grade-level teams working to create high intellectual learning tasks; and the whole staff reflecting on teaching, identifying areas for improvement, and determining what they need to learn for their students to become successful learners.

Hipp and Huffman (2010) and their research team, who studied two schools longitudinally for several years, concluded that through collaboration there is hope for educators as they struggle to create cultures of reform. "A sense of hope emerged as we listened to the voices of administrators and teachers who collaborated to understand the PLC concept and to design programs and strategies that develop leadership capacity and provide meaningful results" (p. 135). Through studies of teachers' workplace settings in several schools participating in the Bay Area School Reform Collaborative (BASRC),

McLaughlin and Talbert (2006) found a significant increase in student achievement resulting from collegial inquiry where teachers examined student achievement data together and collaborated to develop and assess interventions. In an in-depth study of eight *National School Change Award* winning schools across the nation, Smith (2008) found that the schools shifted dramatically from conventional to collaborative with conversations focused on students, teaching and learning, the school's vision, and progress. Smith noted that both administrators and teachers "developed a sense of trust, focused attention on what mattered, stimulated new thinking, and promoted honest and candid exchanges" (Smith, 2008, p. 196). In their study of 29 teachers in grades 7 and 8 from four school districts, Hargreaves, Earl, Moore, and Manning (2001) found that teachers possessed more excitement and exuberance when they developed collaborative relationships. Hargreaves et al. (2001) noted that:

> Without time to engage in serious thinking, without the staff development to know what to think about, and without colleagues who are willing to discuss and clarify ideas, the sheer conceptual and intellectual challenge of deciphering the clutter of policy demands can be overwhelming. (p. 134)

**Shared Personal Practice**

Hord (2007) explained that *shared personal practice* is best described as "peers-helping-peers" and can be characterized when teachers visit one another to observe, script notes, and discuss observations with one another. Hord advocated that the review of teachers' practice and instructional behavior by colleagues should be the norm as a part of peers-helping-peers. Visiting colleagues' classrooms to observe and provide feedback supports an environment of peer coaching. "The process is based on the desire for

individual and community improvement and is enabled by the mutual respect and trustworthiness of staff members" (Hord, 2007, p. 23). Louis and Kruse (1995) agreed that the willingness to accept feedback and work toward improvement is not an evaluation practice but is part of the "peers helping peers" process – a process enabled by the mutual respect and trustworthiness of staff members. Senge (1995) stated, "A great teacher is someone around whom others learn. Great teachers create space for learning and invite people into that space. By contrast, less-masterful teachers focus on what they are teaching and how they are doing it" (p. 329). According to NAESP (2001), "The school operates as a learning community that uses its own experiences and knowledge, and that of others, to improve the performance of students and teachers alike" (p. 5). "The review of a teacher's practice and instructional behaviors by colleagues should be the norm… In this way teachers facilitate the work of changing practice with each other" (Hord and Sommers, 2008, p. 15). Hord and Sommers cautioned that visiting, observing, and giving feedback are learned skills and will require professional development to teach these skills.

Based on quantitative and qualitative research on the social and organizational conditions of schools, Rosenholtz (1991) identified schools in which teachers had a common purpose and worked openly and collaboratively. The central lesson of Rosenholtz's study is that the social organization of schools gives meaning to the nature of teaching. She reported that in high consensus schools, "students' mastery of basic skills was the common factor that united them, the force that welded all the separate autonomous teachers into one common voice" (p. xi). These teachers were open to comments about their teaching, viewed peers as a resource, and had a sense of

community to seek continuous improvement. Based on data collected from schools studied by the Center on Organization and Restructuring of Schools, Kruse, Louis, and Bryk (1994) concluded that the critical elements associated with strong PLCs are reflective dialogue in which members of the community can use discussion to critique themselves and de-privatization of practices in which teachers share practice "in public" so that they learn new ways to talk about what they do and foster stronger relationships.

**Supportive Conditions--Relationships**

Hord and Sommers (2008) described two types of supportive conditions that must exist in PLCs: (1) structural conditions, such as the logistics and physical factors that reflect *when*, *where*, and *how* the staff comes together to conduct their reflection, inquiry and learning, problem solving and decision making and (2) relationships developed among staff members so that they may work well and productively together. A PLC requires not just congenial relationships among adults in a school but collegial relationships and trust. Through their research, Kruse and Bryk (1994) suggested that human resources – such as openness to improvement, trust and support, teachers having knowledge and skills, supportive leadership and socialization – are more critical to the development of PLCs than structural conditions. "… If a school lacks the social and human resources to make use of the structural conditions, it's unlikely that a strong professional community can develop" (Kruse & Bryk, 1994, p. 6). Hord and Sommers (2008) stated that "Trust provides the basis for giving and accepting feedback in order to work toward improvement. Building trust is a goal requiring substantial time and activities provided to individuals that enable them to experience the trustworthiness of colleagues" (p. 14). Drawing on the research of Louis and Kruse (1995), Hord (1997)

suggested that people capacities can be optimized through the characteristics of respect and trust among colleagues, possession of an appropriate cognitive and skill base that enable effective teaching and learning, supportive leadership from administrators, and relatively intensive socialization processes. Principals can contribute to collegial attitudes by providing social activities and creating a caring environment. Sergiovanni (1992) translated Senge's idea of team learning to an educational context by stating that "the idea of school as a learning community suggests a kind of connectedness among members that resembles what is found in a family, a neighborhood, or some other closely knit group" (cited in Blankstein, 2004, p 53).

> The PLC model is designed to touch the heart. Psychologists tell us that we share certain fundamental needs – the need to feel successful in our work, the need to feel a sense of belonging, and the need to live a life of significance by making a difference. (DuFour, DuFour, Eaker, & Karhanek, 2004, p. 6)

Hargreaves, Earl, Moore, and Manning (2001) claimed that the success of school reform measures depends greatly on the support and commitment of the teachers involved. Their study of 29 seventh and eighth grade teachers from four school districts who were implementing a new standards-based curriculum policy examined what conditions, supports, and processes were necessary for a successful change. Their data suggested that collaborative planning has intellectual and emotional benefits for teachers who are implementing change. The authors recommended that effective collaborative planning be supported by new forms of school organization and professional development where teachers can learn new skills that help them plan and work in teams effectively. Integration was less successful where the team approach was missing. Their

evidence suggested that when teachers worked in shared communities of practice, they were motivated to expend themselves professionally and empower their students. Hargreaves et al. (2001) claimed that:

> Our study shows that in a world of sophisticated learning standards, scheduled preparation or planning is not an expendable luxury that teachers can make up in their own time but a vital prerequisite of being able to work effectively with colleagues to create high-quality teaching and programming together. (p.48)

**Supportive Conditions--Structures**

Hord (1997) cited Louis and Kruse as identifying several physical factors that support learning communities, including time to meet and talk, small size of the school and physical proximity, teacher roles that are interdependent, communication structure, school autonomy, and teacher empowerment. Hord (1997) cited her colleague Victoria Boyd with having a similar list of physical factors conducive to school improvement that included the availability of resources; schedules and structures that reduce isolation; and policies that provide greater autonomy, foster collaboration, provide effective communication, and provide for staff development. Establishing time to meet is considered to be a critical factor in creating a PLC.

> Isolation is the antithesis to a learning community. Educators in an effective learning community recognize that they must work together to achieve their shared vision of learning for all. They create collaborative structures to support them as they share ideas, materials, lesson plans, and strategies. (NAESP, 2008, p. 18)

Schmoker (2006) stated that:

> Our best plan is to arrange for teachers to analyze their achievement data, set goals, and then meet at least twice a month – for 45 minutes. That way they can help one another ensure that they are teaching essential standards and using assessment results to improve the quality of their lessons. (p. 34)

In order for a PLC to develop and grow, Kruse, Louis, and Bryk (1994) held that structural conditions must be in place, including:

- Time to meet and talk with regularly scheduled blocks of time built into the school's schedule in a way that gives teachers opportunities to consider issues in a reflective manner.
- Physical proximity that permits classrooms to be close together and the support for "open door" policies to prevent teacher isolation.
- Interdependent teaching roles in which teams work together to create integrated lesson designs based on shared goals.
- Communication structures that encourage an exchange of ideas and provides a network for communication.
- Teacher empowerment and school autonomy in which teachers have discretion to make decisions regarding their work.

In a similar context, DuFour and Eaker (1998) recommended that school leaders address four prerequisites to create structural conditions:

1. Time for collaboration must be built into the school day and year.
2. The purpose of collaboration must be made explicit.
3. School personnel needs training and support to be effective collaborators.

4. Educators must accept their responsibility to work together as true professional colleagues.

## The Classroom-Focused Improvement Plan (CFIP)

The state department of education has endorsed the Classroom-Focused Improvement Process (CFIP) as a strategy for building professional communities in schools to improve teaching and increase student learning. The developers claimed that the Classroom-Focused Improvement Process is the work that professional learning communities do. CFIP, based on research and best practices, is a question-based protocol for data dialogue to be carried out by collaborative teams as they focus on planning their next instructional unit. The theory behind the CFIP process is that real improvement happens when the goal becomes classroom-focused improvement carried out by teachers collaborating on a regular basis. In his article "Tipping Point," Schmoker (2004) quoted Judith Warren Little as saying, "School improvement is most surely and thoroughly achieved when teachers engage in frequent, continuous and increasingly concrete and precise talk about teaching practice … adequate to the complexities of teaching, capable of distinguishing one practice and its virtue from another."

The CFIP design was based on three fundamental concepts of collaborative learning communities identified by Schmoker (2006):

1. Teachers establish a common, concise set of essential curricular standards and teach to them on a roughly common schedule.
2. Teachers meet regularly as a team for purposes of talking in "concrete and precise terms" about instruction with a concentration on "thoughtful, explicit examination of practices and their consequences."

3. Teachers make frequent use of common assessments.

The CFIP model was based on both research and best practices and reflects strategies and insights that educators have advocated for years. The design of the CFIP process was manifested in the research in the areas of data dialogue protocol, norms, work of teacher teams, data sources, and the collaborative school culture.

**Data Dialogue Protocol**

CFIP is a data dialogue protocol in which the term data was defined by Davis and Botkin (1994) as "observations, facts or numbers that, when collected and organized become information and, when used productively in context becomes knowledge" (cited in Introduction to the Classroom-Focused Improvement Process). The data dialogue component of the CFIP process was based on the literature of Senge; Sparks; and McDonald, Mohr, Dichter, and McDonald. Senge (1995) noted that "in dialogue, a group accesses a larger pool of common meaning which cannot be accessed individually…" (p. 223). Senge (2006) maintained that the discipline of team learning starts with dialogue – the capacity of members of a team to suspend assumptions and enter into a genuine "thinking together." Sparks (2007) identified the characteristics of true dialogue as sharing responsibility and leadership, inquiring into and examining the assumptions of others, remaining open to the perspectives of others, and being willing to be influenced to change one's thoughts and actions. McDonald, Mohr, Dichter, and McDonald (2007) endorsed the use of protocols – agreed upon guidelines for dialogue – to promote participation, ensure equity, and build trust. McDonald et al. (2007) stated that "Educators, in particular, may need the focused conversation of protocols… Protocols force transparency by segmenting elements of a conversation whose boundaries

otherwise blur: talking and listening, describing and judging, proposing and giving feedback" (pp. 5, 7).

**Suggested Norms for Collaborative Data Analysis**

To ensure productive CFIP team meetings, the state department of education recommends that teams establish norms. Suggested topics for establishing norms include: time management; the preparation of an agenda; being prepared for meetings; scoring and analyzing assessments; supporting colleagues without criticism; and approaching as a learner (Key understandings for CFIP, 2013).

**Work of Teacher Teams**

The critical work of teacher teams is to analyze data routinely embedded in regular, ongoing instructional planning meetings. In a research study by the Bay Area School Reform Collaborative (BASRC), Oberman and Symonds (2005) found that schools that use diagnostic data as part of a continuous improvement process – reflecting, analyzing, and altering strategies – had more success at closing the achievement gap and that a focus on low-performing groups can benefit all students. Unfortunately, collaboration is not always a feature of school reform efforts, as evidenced in the findings of Supovitz and Klein (2003) in their study of five America's Choice Schools. Supovitz and Klein found that the use of school wide data to inform instruction and school improvement was "enormously underutilized" by school leaders and grade-level teams (Supovitz & Klein, 2003, p. 39).

The state department of education claims that the CFIP process is closely aligned to the carefully tested blueprint for collaborative data conversations presented in the book *Data Wise: A Step-by-Step Guide to Using Assessment Results to Improve Teaching and*

*Learning*. A group of Harvard faculty, graduate students, and school leaders from the Boston Public Schools designed an eight-step *Data Wise* cycle as a means to help school leaders organize the work of school improvement around a process that has specific, manageable steps. In their book *Data Wise*, Boudett, City, and Murnane (2010) defined a good school as a collection of teams of skilled educators working together to implement a coherent instructional plan to identify the learning needs of every student and to meet those needs. Boudett et al. (2010) advocated that structuring school improvement is best accomplished through following a process that has specific, manageable steps represented in this schematic:


*Figure 1.* The Data Wise Improvement Process. Reprinted from *Data wise: A step-by-step guide to using assessment results to improve teaching and learning*. (p. 5), by Boudett, City, & Murnane, 2010, Cambridge, MA: Harvard Education Press.

The authors reported that one theme that cut across all the schools they studied using the Data Wise improvement process is that all the schools used data collaboratively. They concluded that the collaborative approach to data analysis yielded at least three major benefits:

- Organizational learning -- developing the organization's skill at creating, acquiring, and transferring knowledge and modifying its behavior to reflect new knowledge and insights
- Internal accountability -- increasing staff members' shared sense of responsibility to one another
- Providing a safety net for professional growth – increasing staff's willingness to take risks and improve their craft

When teachers are involved in analyzing and interpreting data collaboratively, they are more involved in school improvement efforts. Building strong teams and creating a schedule for regular collaborative work provides the support needed for effective data discussions (Boudett et al., 2010). The research of Boudett et al (2010) affirms that a defined process in which teams collaboratively analyze real-time data positively impacts school improvement efforts.

**Data Sources**

The CFIP protocol emphasizes the need for administrators to engage in a paradigm shift for analyzing data by recognizing that the focus must move from summative state assessments to utilizing formative assessment to guide daily instruction. Supovitz and Klein (2003) described how school leaders and teachers can use three types of performance data to guide instruction and decisions that give schools a focal point for

reform: external assessment data, course-wide benchmark assessment data, and classroom assessment data. The triangulation of data, drawing on multiple types of assessment including state assessments, benchmarks, and classroom assessments, is recommended to allow teams to look for patterns and/or inconsistencies across student assessments. CFIP is based on the premise that the classroom assessments of student work should be at the foremost of improving student achievement as represented in this hierarchy:

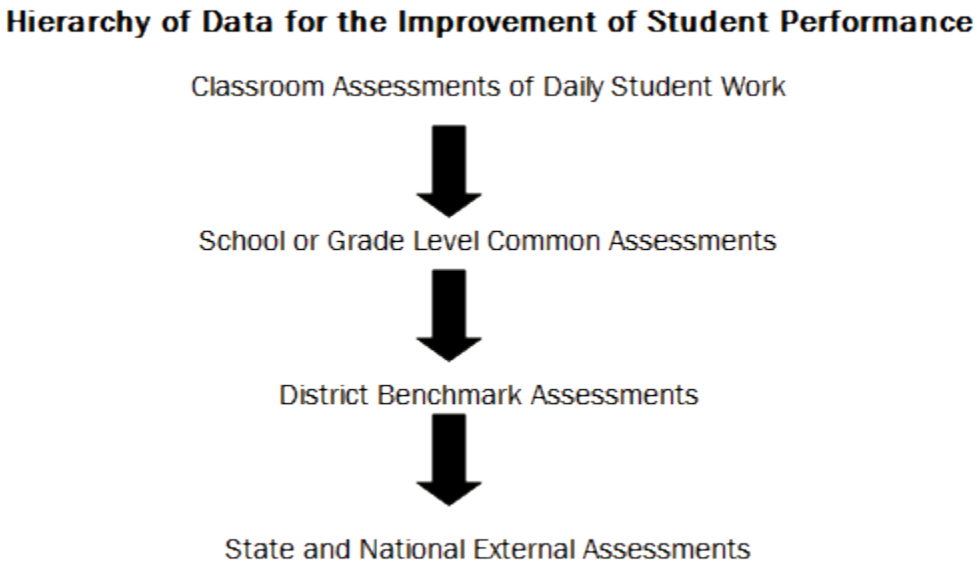



*Figure 2*. Heirarchy of Data for the Improvement of Student Performance. Reprinted from *Re-Thinking How Schools Improve: A team dialogue model for data-based instructional decision making* by Hickey, M. & Thomas, R. CCSSO Education Leaders Conference, September 12, 2007.

The analysis of classroom assessments and daily student work provides real-time opportunities for grade level teams to adjust instructional strategies and design immediate instructional enrichments and interventions.

**Collaborative School Culture**

The CFIP process is based on a school culture that fosters collective reflection, development of standards and expectations, and the formulation of action plans to support and motivate teachers as they work to overcome obstacles for improving student learning. The state department of education claims that the approach is grounded in the research of Kruse, Louis, and Bryk (1994) and five critical elements that they posit are prevalent in strong PLCs:

1. Reflective Dialogue: Members of the community use discussions to critiques themselves, focusing on subject matter, presentation skills, teaching strategies, student learning, and issues of equity and justice.
2. De-Privatization of Practice: Through peer observation and coaching, teachers learn new ways to talk about what they do and kindle new relationships between colleagues.
3. Collective Focus on Student Learning: Based on their common belief that all students can learn at reasonably high levels, teachers feel a mutual obligation to overcome obstacles to help them.
4. Collaboration: Teachers are encouraged to work together to develop shared understandings of students, curriculum and instructional policy; to produce materials and activities for improved instruction; and to produce new approaches to staff development for the teachers themselves.
5. Shared Norms and Values: Teachers affirm common values concerning critical educational issues and student learning to prioritize their use of time and space within the school setting, and the roles of parents, teachers and administrators.

## Professional Learning Community Assessment – Revised

After extensive review of the literature surrounding PLCs and field-based research, Shirley Hord (1997) developed five dimensions that characterize a PLC. The attributes associated with Hord's dimensions have been further researched by Hipp and Huffman (2010) and modified to the six dimensions that comprise the Professional Learning Community Assessment – Revised (PLCA-R): shared and supportive leadership, shared values and vision, collective learning and application, shared personal practice, supportive conditions-relationships, and supportive conditions-structures. Hipp and Huffman (2010) developed their conceptualization of the six dimensions and related attributes of a PLC based on knowledge and data supported by collaborative research teams in the United States, Australia, Canada, and the United Kingdom.

Hipp and Huffman (2010) reaffirmed the common practices of a PLC identified by Hord (1997) and adopted them to serve as the foundation for their work. The research that undergirds their findings is comprised of three phases that derived from a five-year study from 1995 to 2000 of the development of PLCs (Hipp & Huffman, 2003). See Figure 3 below.

| | |
|---|---|
| **1995-1996 – Phase 1** | • Review of the literature |
| **1996-1997** | • Search for PLC schools |
| **1997-1998 – Phase 2** | • Training of Co-Developers<br>• Selection of study sites<br>• *School Professional Staff as Learning Community Questionnaire* |
| **1998-1999** | • Continuous training of Co-Developers<br>• Initial phone interviews with school principals and teacher representatives<br>• *School Professional Staff as Learning Community Questionnaire* |
| **1999-2000– Phase 3** | • Continuous training of Co-Developers<br>• Follow-up interviews with school principals and teacher representatives<br>• Onsite interviews with teaching staffin study schools conducted by SEDL and Co-Developer<br>• *School Professional Staff as Learning Community Questionnaire* |

*Figure 3.* Five-year PLC project. Reprinted from *Reculturing schools as professional learning communities* (p. 16), by K. K. Hipp & J. B. Huffman, 2010, Lanham, MD: Scarecrow Education. Copyright 2003 K. K. Hipp and J. B. Huffman.

As a result of Phase 1, Hord conceptualized five dimensions that reflected the essence of a PLC: shared and supportive leadership, shared values and vision, collective learning and application, shared personal practice, supportive conditions (relationships and structures). During 1996-1997, the SEDL team searched for schools that demonstrated these characteristics and found them to be rare. In Phase 2, 30 educators from around the nation participated in the federally-funded venture to create new PLCs. These co-developers conducted interviews and analyzed data from Hord's PLC questionnaire *School Professional Staff as Learning Community* constructed around the five dimensions. By Phase 3, the study produced six schools that exhibited characteristics of many of the dimensions of a PLC. Using qualitative analysis methods, Hipp and Huffman analyzed data from 64 interviews from the six schools to identify

themes from initiation to implementation that served as the critical attributes of each dimension. From their analysis, Hipp and Huffman conceptualized the six dimensions as a fluid process that emphasizes continuous improvement, as shown in their Professional Learning Community Organizer (PLCO) in Figure 4 below.

| | | SCHOOL PHASES OF DEVELOPMENT | | | |
|---|---|---|---|---|---|
| | **DIMENSIONS** | **Initiating** | **Implementing** | **Sustaining** | **Results** |
| **AMINISTRATOR AND TEACHER ACTIONS** | **Shared and Supportive Leadership** | -Nurturing leadership among staff<br>-Sharing Information | -Sharing power, authority, and responsibility | -Broad based decision making for commitment and accountability | **STUDENT LEARNING & SCHOOL IMPROVEMENT** |
| | **Shared Values and Vision** | -Espoused values and norms | -Focus on students<br>-High expectations | -Shared vision guides teaching and learning | |
| | **Collective Learning and Application** | -Sharing student data<br>-Dialogue | -Collaboration using data related to student needs<br>-Planning<br>-Problem solving | -Application of knowledge, skills, and strategies based on data | |
| | **Shared Personal Practice** | -Observation and encouragement | -Sharing outcomes of practice<br>-Offering feedback<br>-Mentoring and coaching | -Analysis of student work and related practices | |
| | **Supportive Conditions Structures** | -Assessment and identification of the need for systems and resources | -Appropriate use of systems and resources | -Maximum utilization of systems and resources | |
| | **Supportive Conditions Relationships** | -Caring relationships | -Trust and respect<br>-Recognition and celebration | -Risk-taking<br>-Unified effort to embed change | |

*Figure 4.* Professional learning community organizer (PLCO). Reprinted from *Demystifying Professional Learning Communities* (p. 26), by K. K. Hipp & J. B. Huffman, 2010, Lanham, MD: Rowman and Littlefield Education. Copyright 2010 K. K. Hipp and J. B. Huffman.

Hipp and Huffman (2010) reported that the PLCO served as the framework for the development of the PLCA-R instrument that is being utilized in this study. Hipp and Huffman realized that their reconceptualization of Hord's PLC dimensions created a need for a new measure, resulting in a newly designed tool – the Professional Learning

Community Assessment (PLCA). An Expert Panel composed of 76 educators rated the importance of each practice in the survey, and 247 school staff members field tested the PLCA to provide evidence of construct reliability. The Cronbach's Alpha instrument yielded satisfactory internal consistency coefficients ranging from .83 to .93.

The PLCA was initially created to assess every-day classroom and school-level practices in relation to PLC dimensions (Hipp &Huffman, 2010). However, the developers determined that the important aspect related to the collection, interpretation, and the use of data was missing from the statements in the PLCA survey. The newly revised survey, Professional Learning Community Assessment – Revised was developed by Oliver, Hipp, and Huffman with specific items related to data now integrated within each of the PLC dimensions (Hipp & Huffman, 2010). To verify the relevance of the seven new statements directly addressing a school's utilization of data, an Expert Opinion Questionnaire was distributed to a panel of experts who had knowledge of the original PLCA, resulting in the inclusion of all seven new items in the revision.

## Conceptual Framework for the Study

This study is intended to build on the current literature and provide evidence that the CFIP implementation in PCPS is aligned to achieve the benefits of school reform associated with PLCs. The framework for examining the presence of the characteristics of a PLC is grounded in the research that validates the benefits of the PLC strategy for school improvement. The literature on professional learning communities repeatedly gives attention to six common attributes identified by Shirley Hord, researcher at SEDL (as annotated in the left circle). Hipp and Huffman (2010) reaffirmed the common practices of a PLC identified by Hord (1997) and modified them slightly to include:

shared and supportive leadership; shared values and visions; collective learning and application; shared personal practice; supportive conditions - relationships; and supportive conditions - structures. Based on the abundant research citing PLCs as an effective means of promoting school reform, the state department of education has endorsed the CFIP protocol as a strategy for building professional communities in schools.

In the study, the PLCA-R served as the diagnostic tool to collect the data regarding school-level practices reflective of the dimensions of PLCs. Using the lens of the questionnaire developed by Hipp and Huffman, this study measured the perceptions of principals, lead teachers, and classroom teachers regarding the presence of PLCs in their schools.

# Chapter 3: Methodology

This chapter describes the purpose of the study, research design, methods, and procedures used to investigate research questions within the conceptual framework. Additionally, the sample population, instrumentation, data collection, and data analysis procedures are presented.

## Purpose of the Study

The purpose of this study was to measure staff perceptions of school practices related to six dimensions of professional learning communities in elementary schools in the Palmero County Public School System (PCPS). This study surveyed principals, lead teachers, and classroom teachers regarding the presence of the characteristics of a PLC through the lens of a survey instrument developed by researchers at the Southwest Educational Development Laboratory (SEDL). With increased expectations for accountability in schools, researchers have suggested that professional learning communities (PLCs) are an effective strategy for school reform that integrates staff development with well-focused school change processes to improve student achievement. The state department of education advocates that school principals utilize the Classroom-Focused Improvement Process (CFIP) as the protocol for a PLC approach to improve student achievement and instructional practices. As stated in the PCPS Master Plan:

> The Classroom-Focused Improvement Process is a process for data dialogue that is carried out by collaborative teams of teachers as they focus on planning instruction. CFIP is a continuous improvement process during which collaborative teams of teachers assess student learning, examine the results of their assessments, implement needed enrichments and interventions for students,

> consider the implications of assessment results for their future teaching, and adjust their practice accordingly. It is a practice used system-wide in PCPS… (Washington County Public Schools 2010-2016 bridge to excellence master plan: Program overview and progress report, 2011).

All 27 elementary schools in PCPS utilize the CFIP model for regularly scheduled grade-level team meetings to analyze data, design lessons, and monitor student achievement. The literature clearly exhibits the values of professional learning communities; however, no one has evaluated whether school-based personnel perceive that PLCs are present in their schools. This study will attempt to inform district leaders how teachers and principals perceive the presence of the six characteristics associated with PLCs. The information gained from the study is intended to be used to support and enhance the continued development of the CFIP model as a catalyst for implementing a PLC, and thereby contribute to continuous school improvement.

Hipp and Huffman (2010) maintained that it is more useful to assess progress along a continuum by analyzing specific school and classroom practices rather than to simply attempt to determine if schools are functioning as PLCs or not. For this study, I adopted Hipp and Huffman's (2010) research design and survey instrument, the Professional Learning Community Assessment-Revised (PLCA-R), to examine school personnel perceptions of the critical attributes of a PLC promoted through the schools' implementation of the CFIP protocol. The items in the instrument have been designed to address specific school and classroom practices common in schools implementing the PLC concept. By using the PLCA-R as a formal tool to assess the presence of the six dimensions in the elementary schools, I was able to obtain important data regarding the

perceptions of the school staff. This knowledge can be used to generate conversations about the next steps for enhancing the CFIP protocol to promote the benefits of a PLC to more strategically guide teaching and improve learning.

The research was based on the reviewed literature related to professional learning communities and the practice of the Classroom-Focused Improvement Process (CFIP) in PCPS. A number of leading researchers posit that PLCs hold the best hope for school reform (Senge, 1990; DuFour, DuFour, & Eaker, 2005; Schmoker, 2006; Hipp & Huffman, 2003; Horde, 1997; Kruse, Louis, & Bryk, 1994; Sparks, 2005; Wenger, 1998). As such, leaders in PCPS must determine how school-based staff perceives the operation of a PLC in their schools. In this study, I explored to what extent principals, lead teachers, and classroom teachers in PCPS elementary schools perceived the presence of the six dimensions of a professional learning community: shared and supportive leadership; shared values and vision; collective learning and application; shared personal practice; supportive conditions – relationships; and supportive conditions – structures.

Administering the PLCA-R to the 27 elementary schools in PCPS allowed me to gather quantitative data about the six dimensions from teachers and principals experiencing the implementation of a PLC through the CFIP protocol. The PLCA-R data provided insight into teachers' and principals' perceptions of the extent to which PLC practices were found in elementary schools.

Based on Rosenholtz's (1989) claim that teachers who feel supported in their own ongoing learning and classroom practice are more committed and effective than those who do not, I maintain that teacher perception is a significant factor in analyzing the successful implementation of a PLC. Teacher perception is also a factor in maintaining

ongoing momentum and long-term success in the change process. "The success of schools functioning as PLCs that impact student and adult learning is dependent on how well staff members can sustain their efforts and embed effective practices into the culture of their schools" (Hipp & Huffman, 2010, p. 25). The lead teacher implements the vision of the principal by facilitating CFIP meetings and coaching staff members to improve teaching practices and student progress. NAESP (2001) claimed that principals must be leaders in improving instruction and student achievement by being the force that creates collaboration and cohesion around school learning goals and the commitment to achieve these goals. Therefore, I maintain that the perceptions of teachers, lead teachers, and principals are critical variables in the assessment of the presence of PLC characteristics within the PCPS school system.

## Research Questions

The study addresses the following research questions:

1. To what extent do principals, lead teachers, and classroom teachers perceive that *shared and supportive leadership* occurs?
2. To what extent do principals, lead teachers, and classroom teachers perceive that *shared values and vision* occurs?
3. To what extent do principals, lead teachers, and classroom teachers perceive that *collective learning and application* occurs?
4. To what extent do principals, lead teachers, and classroom teachers perceive that *shared personal practice* occurs?
5. To what extent do principals, lead teachers, and classroom teachers perceive that *supportive condition of relationships* occurs?

6. To what extent do principals, lead teachers, and classroom teachers perceive that *supportive condition of structures* occurs?
7. Are there significant differences among the perceptions of principals, lead teachers, and classroom teachers?

## Research Design

This study, based on a non-experimental quantitative research design, utilized a Web-based survey developed to collect data from classroom teachers, lead teachers, and principals in all elementary schools in the Palmero County Public School System. According to Creswell (2003), a quantitative approach is one in which the researcher uses claims to develop knowledge, employs strategies of inquiry through experiments or surveys, and collects data to yield statistical data. In this study, I analyzed data collected from classroom teachers, lead teachers, and principals to describe their perceptions of the practices associated with the implementation of a PLC. McMillan (2008) defined the purpose of non-experimental research as investigating the current status of something. Moreover, he cited descriptive studies as a means to describe a phenomenon. The survey was selected as the means to collect numerical data that was analyzed using descriptive statistics. In this study, descriptive statistics, including frequencies, averages, and variability, were analyzed to report the perceptions of the school-based personnel on the six dimensions of a PLC in their school. A survey is a means of "collecting data to test a hypothesis or to answer a question about people's opinions on some topic or issue" (Gay, Mills, & Airasian, 2012, p. 184). Survey research is versatile, efficient, and generalizable and is frequently used to describe the attitudes, perspectives, and beliefs of respondents (McMillan, 2008). The greatest advantages of Internet surveys are the low cost and

speed of data collection (Czaja & Blair, 2005). McMillan claimed that "An important value of survey research is that sampling from a population can be used to result in fairly accurate generalizable conclusion about the larger population" (p. 204). In an effort to maximize accuracy and minimize sampling bias, a survey of all classroom teachers, lead teachers, and principals in the 27 elementary schools was used in this study instead of a randomized sample. I do not suggest that the representativeness of this population will be generalizable to teachers outside of PCPS.

The research was accomplished through the use of a descriptive rating, Likert-scaled survey provided by Southwest Educational Development Laboratory (SEDL). The Professional Learning Community Assessment - Revised (PLCA-R) was used as the instrument to survey the participants. The PLCA-R questionnaire, consisting of statements about practices that can occur in schools, measured staff perceptions of school practices related to the six dimensions of PLCs. The survey scale was balanced with equal numbers of positive and negative positions. Respondents used a four-point scale to indicate the degree to which they agreed or disagreed with each statement, ranging from strongly disagree, disagree, agree, and strongly agree.

Through the lens of the PLCA-R diagnostic tool, this study measured the perceptions of elementary classroom teachers, lead teachers, and principals regarding the occurrence of the six dimensions of a PLC in their schools. The PLCA-R instrument was organized into six sections based on the dimensions, and descriptive statistics were analyzed to determine the strengths and weaknesses of each of the PLC dimensions in schools in PCPS. For each dimension, participants were given 5-11 attributes and directed to use the four-point Likert scale to record their perceptions about practices that

occur in their school. The relationship of the attributes to the dimensions is demonstrated in the following table:

Table 1

*Description of the Professional Learning Community Assessment-Revised and the Dimensions of a Professional Learning Community*

| Dimensions of Professional Learning Communities | PLCA-R Attributes |
|---|---|
| Shared and Supportive Leadership | Items 1-11 |
| Shared Values and Visions | Items 12-20 |
| Collective Learning and Application | Items 21-30 |
| Shared Personal Practice | Items 31-37 |
| Supportive Conditions: Relationships | Items 38-42 |
| Supportive Conditions: Structures | Items 43-52 |

The PLCA-R item statements were combined as a scale to determine a mean score for each dimension. The scores were analyzed for each job group and collectively as a whole. I then compared the responses of each job group to determine if there were statistical differences in their perceptions for each of the six dimensions. McMillan (2008) described comparative studies as comparing two or more groups on one or more variables. The perceptions of principals were compared to the perceptions of the classroom teachers who participated in the grade-level team meetings and with the perceptions of the lead teachers who facilitated the CFIP grade-level meetings. Similarly, the responses of classroom teachers were compared to the responses of the lead teachers. The purpose of these comparisons was to investigate the potential differences among their perceptions regarding the presence of the PLC dimensions in their schools.

## Conceptual Framework

The framework for examining the relationship between the CFIP protocol and the characteristics of a PLC was grounded in the research that validates the benefits of the PLC strategy for school improvement. Hipp and Huffman (2010) developed their conceptualization of the six dimensions and related attributes of a PLC based on knowledge and data supported by collaborative research teams in the United States, Australia, Canada, and the United Kingdom. The CFIP protocol, endorsed by the state department of education as a strategy for building professional communities in schools, was grounded in the literature surrounding the merits of a PLC to promote school reform. Using the lens of the questionnaire developed by Hipp and Huffman, this study measured how classroom teachers, lead teachers, and principals perceived the implementation of the six dimensions of a PLC. Classroom teachers, lead teachers, and principals in the elementary schools where CFIP meetings occur were invited to complete the PLCA-R online questionnaire to measure the degree to which the dimensions of professional learning communities exist.

## Setting

There are 27 elementary schools, representing urban, rural and suburban schools, with 735 classroom teachers in the Palmero County Public School system. The state department of education measures academic progress for elementary students by administering a state school assessment each year. PCPS reported that the 2013 results indicated that 17.3% of elementary test-takers in PCPS did not meet reading proficiency and 16.1% of the elementary test-takers did not meet math proficiency. With an increased focus on accountability, school leaders in PCPS face the task of improving

student achievement to meet targets established by the state department of education. All elementary schools in PCPS utilize the CFIP protocol as a strategy to promote professional learning communities focused on improving student achievement. School administrators and lead teachers facilitate grade-level team meetings in which the CFIP protocol is utilized to analyze assessments, address questions about achievement data, identify patterns of student strengths and weaknesses, target instruction to meet student needs, provide intervention and enrichment opportunities, and implement new instructional techniques.

## Participants

The target population in this study included all principals, lead teachers, and classroom teachers in elementary schools in Palmero County Public Schools. All 751 classroom teachers, 31 lead teachers, and 26 principals in the 27 elementary schools were invited to participate in this study. As a principal in the county, I did not participate in the study. The names and email addresses of the participants were identified by accessing the district contact lists for each school that are provided in the district Microsoft Outlook email system. These email addresses are public access data and so personal privacy was not compromised. The contact lists provided the name, position, school, and email address for all district employees. These positions were selected based on their direct involvement in CFIP meetings that routinely occur in each of the elementary schools. School principals are responsible for determining the format and scheduling of CFIP team meetings in their building to address school improvement.

While the implementation of CFIP meetings varies from school to school, each of the elementary building level administrators utilizes the CFIP protocol to promote

collaboration, data analysis, and student achievement. Principals also monitor the effectiveness of how the staff is working to meet school-wide goals and targets established by the state department of education and PCPS. Lead teachers were invited to participate in the study because they implement the vision of the principal by facilitating regularly scheduled CFIP meetings and coaching staff members to improve teaching practices and student progress. In this study, the term *classroom teacher* includes homeroom teachers, intervention teachers, special education teachers, Gifted and Talented Education (GATE) teachers, music and band teachers, art and physical education teachers, and other teachers who directly support students. The positions of principal, lead teacher, and classroom teacher are intricately linked to support the vision associated with school reform.

Participation in the survey was voluntary and anonymous. No external rewards were given to complete the survey. Demographic information was requested to provide the analysis of data for subgroups related to the years of experience as an educator, years of experience in their current school placement, grade levels currently taught, and their participation in CFIP meetings.

## Generalizability

The ability to generalize the information from the survey is dependent on the ability to overcome four potential sources of error (Dillman, Tortora, & Bowker, 1998): coverage error; sampling error; measurement error; and nonresponse error.

- Coverage error results when some units in the population have no chance of selection; some units may have multiple chances; and some units may not qualify in the survey.

- Sampling error results when only a portion of the population is sampled rather than all of its members.
- Measurement error results if inaccurate answers to questions stem from poor wording, poor interviewing, or the answering behavior of the respondent.
- Nonresponse error results when some people in the survey do not respond so that a different distribution of answers is produced due to their lack of response.

"When designing sample surveys with the aim of generalizing sample results to a defined population, all four sources of error must be kept low" (Dillman, Tortora, & Bowker, 1998, p. 2).

**Coverage Error**

In this study, coverage errors were minimized through the use of the school-based email invitations and password access to the web-based survey. Procedures included: extending an email invitation with the embedded link for the Web-based survey; establishing common directions and an established timeframe; explaining the potential value of the study; providing two reminders; and keeping the instrument short (5-10 minutes).

**Sampling Error**

I anticipated that inviting all elementary principals, lead teachers, and classroom teachers would minimize sampling error.

**Measurement Error**

Measurement error due to the answering behavior of the respondent was largely unknown, but I anticipated that the professionlism of the respondents would have a positive impact on the serious nature of their responses.

### Nonresponse Error

According to Czaja and Blair (2005), nonresponse error is greatly reduced if surveys are limited to special populations, such as employees in a workplace. Additionally, response rates were monitored and two reminders were sent to optimize participation. "Data that are missing at either the unit or item level can pose potential problems for the quality of our survey estimates" (Czaja & Blair, 2005, p. 197). However, Czaja and Blair also claimed that if the amount of missing data is not too large, results should not be greatly affected.

## Data Collection Procedures

The data contained within this study were collected using the PLCA-R survey. Information regarding teacher and principal perceptions on the existence of a PLC focused on collecting data for six dimensions, including: supportive and shared leadership; shared values and visions; collective learning and application; shared personal practice; supportive conditions - relationships; and supportive conditions - structures. Following the approval from the supervisor for testing and accountability for Palmero County Public Schools, I licensed the survey (found in Appendix A) through Southwest Educational Development Laboratory (SEDL). I customized the survey to add demographic information that was used to provide a profile of the respondents.

I collaborated with the PCPS technology staff and sent the email through the school Microsoft Outlook electronic mail software application to the appropriate personnel. The principals, lead teachers, and teachers in the 27 elementary schools received the email invitation which included a personal message explaining the purpose of my study and highlighting the importance of their input. My email address and phone

number was provided for respondents who wished to ask questions about the survey. The invitation also informed the participants that the survey instrument assured their anonymity and would take approximately 10 minutes to complete. Participants were informed of the completion date for the survey which provided a two-week window from the receipt of the initial email. The invitation included the embedded URL directing them to the website to complete the online PLCA-R survey and the password to ensure that responses were anonymous and confidential. The consent form (see Appendix E) was attached as a document for their reference. The initial screen of the survey included the directions, key terms, and the Likert scale response selections. Subsequent reminder emails were sent one week later and two weeks later with the embedded URL for their convenience. The invitation and follow-up emails can be found in Appendix D.

Data were transferred from Microsoft Outlook to Excel and then to IBM SPSS Statistics Version 21.0 for analysis.

## Response Rates

Before sending the email invitations, I contacted the central office to obtain the number of principals, lead teachers, and classroom teachers who were employed full time in the 27 elementary schools. This information was used to determine an accurate account of the participants for each subgroup to calculate the response rate of the survey participants. Czajo and Blair (2005) stated that maximizing response rates and encouraging slow respondents will require the researcher to send reminder messages. I sent two follow-up email reminders to all subjects at five days and ten days, respectively, to maximize participation. "Multiple reminder contacts to sampled individuals who do not log on to the survey Web site or submit completed questionnaires within specified

periods of time, delivered via e-mail, if possible, are essential for increasing response rates" (Czaja & Blair, 2005, p. 40). However, the authors asserted that "usually surveys of special populations are done because the topic particularly applies to them…" (Czaja & Blair, 2005, p. 229). Detailed statistics for the return rate are provided in Chapter 4.

## Instrumentation

The PLCA-R measures staff perceptions of school practices related to six dimensions of professional learning communities (cited in Hipp & Huffman, 2010). This assessment tool, comprised of 52 statements (attributes), has been administered across numerous school districts throughout the United States as a measuring tool to assess perceptions based on the dimensions of a PLC. The PLCA-R utilizes a four-point Likert-scale questionnaire that ranges from 1=Strongly Disagree to 4= Strongly Agree. Each of the six dimensions is represented by several statements about practices that may occur in some schools. The analysis of the values associated with the individual statements provided a detailed look at the strengths and weaknesses of each practice that contributed to the overall score of the broader dimension. The PLCA-R instrument was used intact for the 52 statements and was customized to include four additional prompts to provide demographic information that was utilized to aid the statistical analysis of the data and to develop a description of the participants. The demographic data provided information that characterized the participants, including the grade level taught, years of teaching experience, number of years in the same school, and participation in CFIP meetings. Details of the demographic information will be discussed in more detail in Chapter 4. The examination of demographic information was important to the study because it identified some factors that may have contributed to the subgroup responses.

## Reliability and Validity

The development of the instrument and the analysis of the reliability and validity of PLCA-R were conducted by SEDL. According to Hipp and Huffman (2010), the PLCA-R has gone through construct validity (Expert Study and factor analysis) and has yielded satisfactory internal consistency for reliability. "Responses from experts were overwhelmingly positive and indicated the feasibility of utilizing the PLCA-R to assess data-related practices within the PLC dimensions" (Hipp & Huffman, 2020, p.31). Internal consistency, the most widely used estimate of reliability, indicates the degree to which the participants' responses to questions measuring the same trait are consistent (McMillan, 2008). The internal consistency of the variables in the PLCA-R instrument was analyzed using Cronbach's alpha, a commonly used statistic for measuring internal consistency of scores for a questionnaire. Cronbach's alpha reliability coefficients normally range between 0 and 1. According to McMillan, the closer the coefficient is to 1.0, the greater is the internal consistency of the items (variables) in the scale. In the analysis of 1,209 completed instruments, the reliability coefficients for factored subscales are presented in Table 2 below.

Table 2

*Subscale Reliability*

| PLCA-R Subscales | Cronbach's Alpha Reliability Coefficient *d* |
|---|---|
| Shared and Supportive Leadership | .94 |
| Shared Values and Vision | .92 |
| Collective Learning and Application | .91 |
| Shared Personal Practice | .87 |
| Supportive Conditions-Relationships | .82 |
| Supportive Conditions-Structures | .88 |

Based on these data, the survey instrument is considered reliable. Upon the completion of my study, I used the Analyze Scale feature of the IBM SPSS Statistical Package V21.0 to conduct a reliability analysis of the PLCA-R instrument comparing the 52 items based on the study responses of principals, lead teachers, and classroom teachers.

In order to test the internal structure of the instrument, I performed a correlational analysis to measure the relationship between the six dimensions. I analyzed the data to determine the degree to which the scores of each dimension were related to the other five dimensions and how different the dimensions were from each other. The IBM SPSS Statistical Package V21.0 was used to perform inter-scale correlations to determine if any two dimensions were linearly related to each other. Pearson's r was used to measure the linear correlation between each of the 6 dimensions. According to McMillan (2008), correlations between .10 and .30 are referred to as low positive relationships, .40 - .60 as moderate positive relationships, and .70 and above as high positive relationships.

## Data Analysis

This study focused on the six dimensions of professional learning communities that were measured based on the perceptions of classroom teachers, lead teachers, and principals in 27 elementary schools in Palmero County Public Schools. With this survey, I assessed the school personnel's perceptions about the implementation of the six critical dimensions of a professional learning community. I analyzed the quantitative data from the PLCA-R survey instrument to answer the seven research questions. The survey's basic aim was to describe statistically the attitudes of school-based staff relative to the

occurrence of a PLC approach to school reform endorsed by the state department of education.

"When analyzing PLCA-R results, descriptive statistics are beneficial in determining the strength of the dimensions, as well as reviewing teacher responses for each individual item" (Hipp & Huffman, 2010, p. 35). I used statistical analysis to answer the research questions and provide summary statistics, including the mean and standard deviations for both the dependent and independent variables. I identified the school job subgroups as the independent variables (IV) with three levels: principals, lead teachers, and classroom teachers. I identified the six critical dimensions as the dependent variables (DV).

The PLCA-R survey provided a series of individual questions with 52 Likert-like responses which were combined for each PLC dimension during the data analysis process. The PLCA-R questionnaire produced the data from the 27 elementary schools which was quantified and compared through descriptive statistics. The six dimensions were analyzed to determine the highest and lowest scores, with scores of 3.0 or higher showing general agreement with the attribute.

Likert scale responses can be analyzed as either ordinal or interval data. By definition, ordinal scale observations are ranked in some measure of magnitude and interval scale data uses numbers to indicate order and reflect a meaningful relative distance between points on the scale. According to Boone and Boone (2012), many authors use *Likert scale* to refer to both the *Likert-type item* and *Likert scales* (sums or averages of the results on sets of Likert items). Boone and Boone (2012) maintained that *Likert-types* should be treated as ordinal data and *Likert scale* items, created by

calculating a composite score mean from four or more Likert items, should be analyzed as interval data. During this study analysis, the Likert-type questions were treated as interval data and a composite mean score was calculated for each dimension to answer the first six questions. Descriptive statistics for the interval scale items included the mean for central tendency and standard deviations for variability.

I used ANOVA procedures in SPSS IBM Statistics V21.0 to compare the perceptions of the three subgroups to answer question 7. I performed a one-way ANOVA Omnibus test to examine the mean difference between the three groups with the dependent variables (DV) expressed as a measure of the respondents' attitudes on the survey and the independent variables (IV) expressed as the three job classifications. "In simple ANOVA (also called a one-way ANOVA) a single independent variable is analyzed with a single dependent variable…ANOVA tests the null hypothesis that there is no difference among the means of all three groups" (McMillan, 2008, p. 260). In this study, I compared the responses of the three subgroups for each of the dimensions. For the dimensions that reflected a significant difference, I conducted a post hoc F-test to identify any differences. According to McMillan (2008) the F-test is employed to obtain the level of significance to reject or fail to reject the null hypothesis. When the F value is large enough, the null hypothesis can be rejected with confidence that at least two of the population means are not the same. In this study, the mean difference was significant at the .05 level.

The data analysis for the PLCA-R responses is represented in Table 3 below.

Table 3

*Data Analysis Procedures for PLC Dimensions and Validity*

| PLC Dimensions<br>Interval Data | Measurements |
|---|---|
| Central Tendency | Mean |
| Variability | Standard deviation, Range |
| Reliability | Cronbach's alpha |
| Internal Structure Validity | Pearson Correlation |
| PLC Dimension Difference | One-way ANOVA and post hoc F-test |

The descriptive statistics were utilized to determine the level of implementation of the practices of PLCs within each job group: principals, lead teachers, and classroom teachers. The analysis of demographic data was also disaggregated within each job group.

*Questions 1-6: To what extent do principals, lead teachers, and classroom teachers perceive that each of the dimensions occurs?*

As stated previously, the purpose of this study was to measure staff perceptions of school practices related to six dimensions of professional learning communities and to compare the perceptions of principals, lead teachers, and classroom teachers. To address the first six research questions established for this study, analysis of the PLCA-R data provided a means of determining the extent to which each of the dimensions of PLCs was evident in elementary schools. The data were analyzed for the entire group and for each of the independent variable subgroups.

Hipp and Huffman (2010) claimed that the PLCA-R instrument can assist "educators and researchers in determining the strength of practices" present in schools

that are transforming into PLCs (p. 30). The analysis of data relative to each of the six dimensions will provide leaders diagnostic information to identify successful practices and those practices that need more focused improvement efforts. Focusing on each dimension section, values for each statement in the survey were treated as continuous variables and were combined to produce a composite mean score for each of the six dimensions. In this study, the multiple responses used to create the composite score for each dimension were added together based on the four-point Likert values defined in the survey as: Strongly Disagree=1; Disagree=2; Agree=3, and Strongly Agree=4. The composite mean score equal to or greater than 3 indicated an overall agreement of strength of that practice and a mean score that fell below three indicated that individuals were responding with disagreement to the presence of the practice. The composite score values ranging from values of 1 to 4 were compared to determine the least to greatest.

*Question 7: Are there significant differences among the perceptions of principals, lead teachers, and classroom teachers?*

Analysis of variance (ANOVA) was conducted to determine if differences existed among the responses of the subgroups for each of the six dimensions, and the ANOVA was subsequently conducted to distinguish the differences between the responses of the principals, lead teachers, and classroom teachers. The one-way analysis of variance (ANOVA) was used to determine whether there were any significant differences between the means of two or more independent groups. A one-way ANOVA was used to examine the mean difference between the three groups with the dependent variable (DV) expressed as a measure of the respondents' attitudes on the survey and the independent variables expressed as the three job classifications. The results of the F-test were

examined to determine whether group means were significantly different. A one-way ANOVA was conducted for each of the six dimensions to determine whether the perceptions of the 3 job groups were statistically different for each. "Conducting multiple ANOVAs can be justified when investigating the effects of one or more independent variables (IVs) on more than one conceptually unique dependent variables (DVs) or DVs from different domains, and you are interested in how the IVs affect each DV" (Fausset, Rogers, & Fisk, 2009, p. 5).

## Summary

The perceptions of principals, lead teachers, and classroom teachers regarding the occurrence of the six dimensions of a PLC studied in this research provided the context for describing the current status of the PLC as a strategy for school reform. The collection of data from surveys completed by principals, lead teachers, and classroom teachers on the six PLC dimensions and related attributes was analyzed to understand the degree to which these practices were perceived to be prevalent in the elementary schools in PCPS.

# Chapter 4: Data Analysis and Research Findings

## Introduction

Chapter 4 presents the data analysis and research findings of this study. This descriptive and comparative study investigated staff perceptions of school practices related to six dimensions of professional learning communities and compared the perceptions of principals, lead teachers, and classroom teachers in 27 elementary schools in the Palmero County Public School System (PCPS). This chapter describes the quantitative data produced by the administration of the Professional Learning Community Assessment – Revised (PLCA-R) questionnaire and presents a detailed analysis of the findings as related to each of the seven research questions:

1. To what extent do principals, lead teachers, and classroom teachers perceive that *shared and supportive leadership* occurs?
2. To what extent do principals, lead teachers, and classroom teachers perceive that *shared values and vision* occurs?
3. To what extent do principals, lead teachers, and classroom teachers perceive that *collective learning and application* occurs?
4. To what extent do principals, lead teachers, and classroom teachers perceive that *shared personal practice* occurs?
5. To what extent do principals, lead teachers, and classroom teachers perceive that *supportive condition of relationships* occurs?
6. To what extent do principals, lead teachers, and classroom teachers perceive that *supportive condition of structures* occurs?

7. Are there significant differences among the perceptions of principals, lead teachers, and classroom teachers?

The findings of this study imply that four dimensions associated with PLCs were perceived to be practiced in the schools, while two dimensions were less frequently practiced. Respondents indicated that shared and supportive leadership, shared values and vision, collective learning and application, and supportive condition of relationships were practiced, while shared personal practice and supportive condition of structures were less evident.

The PLCA- R questionnaire produced data which was quantified and compared through descriptive statistics, including frequencies, averages, and variability, to report the perceptions of the school-based personnel on the six dimensions of a PLC in their schools. The survey data was collected at SEDL and transferred electronically as a tab-delimited data file in a Microsoft Excel spreadsheet. The Excel electronic spreadsheet was used to organize the data, and the statistical software by IBM SPSS Statistics V21.0 was used to analyze the data. I used the Analyze Scale feature of IBM SPSS to conduct a reliability analysis of the PLCA-R instrument comparing the 52 items based on the study responses of principals, lead teachers, and classroom teachers. The PLCA-R questionnaire is provided in Appendix A. For this study analysis, the Likert-type questions were treated as interval data and a composite mean score was calculated for each dimension. Descriptive statistics for the interval scale items included the mean for central tendency and standard deviations for variability.

## Return Rate

Web-based access to the PLCA-R questionnaire was given to the 26 principals, 31 lead teachers, and 751 classroom teachers. The completion rates for the survey are reported in Table 4.

Table 4

*PLCA-R Completion Rate*

| Professional Subgroup | Completed PLCA-R | Number of Staff | Completion Rate |
|---|---|---|---|
| Principal | 22 | 26 | 85% |
| Lead Teachers | 21 | 31 | 68% |
| Classroom Teachers | 219 | 751 | 29% |
| Total | 262 | 808 | 33% |

The completion rate of principals was highest at 85% and the completion rate of classroom teachers was lowest at 29%.

## Analysis of Demographic Data

Demographic data were analyzed for the three job groups which represented the independent variables. The information included counts and frequency for categories of years in education, years in their current school placement, grade level currently taught, and participation in CFIP meetings.

### Experience

Table 5 provides these data for years of experience in education and in their current school placement.

Table 5

*Demographic Data for Independent Variables Relative to Experience*

| Job | n | Years in Education | | | | | Years in School | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1-3 | 4-9 | 10-14 | 15-24 | 25+ | 1-3 | 4-9 | 10-14 | 15-24 | 25+ |
| Principals | 22 | 0<br>0% | 1<br>5% | 1<br>5% | 15<br>68% | 5<br>23% | 12<br>55% | 8<br>36% | 2<br>9% | 0<br>0% | 0<br>0% |
| Lead Teachers | 21 | 0<br>0% | 3<br>14% | 8<br>38% | 6<br>29% | 4<br>19% | 14<br>67% | 5<br>24% | 1<br>5% | 0<br>0% | 1<br>5% |
| Teachers | 219 | 20<br>9% | 70<br>32% | 44<br>20% | 53<br>24% | 32<br>15% | 75<br>34% | 96<br>44% | 22<br>10% | 21<br>10% | 5<br>2% |

The demographic data indicated that 68% of the principals have between 15 and 24 years of educational experience, and 55% have been assigned to their current school for less than 3 years. The data indicated that 86% of the lead teachers have 10 or more years of experience in education, and 67% of the lead teachers have been assigned to their current school placement for less than 3 years. Classroom Teachers have a wide range of educational experience and 78% have been teaching in their current school for less than 9 years.

**Participation in CFIP Meetings**

Demographic data were also collected by asking the respondents if they participated in CFIP meetings. Table 6 includes the data responses organized by subgroup.

Table 6

*Demographic Data for Independent Variables Relative to Participation in CFIP Meetings*

| Job | n | Participation in CFIP Meetings | |
|---|---|---|---|
| | | Yes | No |
| Principals | 22 | 22<br>100% | 0<br>0% |
| Lead Teachers | 21 | 21<br>100% | 0<br>0% |
| Teachers | 219 | 205<br>94% | 14<br>6% |

The data revealed that 100% of principals and lead teachers participate in the CFIP team meetings in their schools, and 94% of teachers participate in CFIP meetings.

**Current Grade(s) Taught**

Teachers were asked to report the grade or grades that they are currently teaching. Elementary teachers who were not assigned to a grade level classroom may teach multiple grade levels. These multi-grade positions may include intervention teachers, GATE (Gifted and Talented Education) teachers, special education teachers, English Language Learner teachers, and teachers of music, art, language, physical education, band, and media. Principals and lead teachers were not included in this analysis since their job descriptions do not include teaching students.

Table 7

*Demographic Data for Independent Variables Relative to Current Grades Taught*

| | Grade or Grades Currently Teaching | | | | | | |
|---|---|---|---|---|---|---|---|
| | Pre-K | K | Grade 1 | Grade 2 | Grade 3 | Grade 4 | Grade 5 |
| Teachers | 10<br>1% | 64<br>14% | 75<br>16% | 71<br>15% | 82<br>18% | 79<br>17% | 85<br>18% |

## Reliability and Validity

In this section, I discuss two measurements used in this study to evaluate the extent that the questionnaire measured what was intended: internal consistency and construct validity.

### Internal Consistency

"Internal consistency, the most widely used estimate of reliability, indicates the degree to which subjects' answers to items measuring the same trait are consistent" (McMillan, 2008, p. 152). McMillan stated that the Cronbach's alpha method is used with instruments that contain a range of possible answers for each item, such as agree-disagree, that constitute a scale rather than right or wrong answers. I used Cronbach's alpha to measure the reliability of the responses for the PLCA-R questionnaire that was administered in this study. Table 8 below shows the Cronbach's alpha reliability coefficients (*d*) for factored subscales for the 262 completed surveys.

Table 8

*Subscale Reliability for Study Data*

| PLCA-R Subscales | Cronbach's Alpha Reliability Coefficient *d* |
|---|---|
| Shared and Supportive Leadership | .93 |
| Shared Values and Vision | .92 |
| Collective Learning and Application | .92 |
| Shared Personal Practice | .90 |
| Supportive Conditions-Relationships | .85 |
| Supportive Conditions-Structures | .86 |

The closer the coefficient is to 1.0, the greater is the internal consistency of the items (variables) in the scale (McMillan, 2008). Based on these data, the reliability coefficients indicate that the individual items within each dimension measured a similar construct for this sample population, where the construct represents the attributes of a PLC.

**Construct Validity**

The construct validity of the study data was examined by performing an inter-scale correlations analysis to determine if the items separated into six distinct constructs, or areas of focus. This would be expected if the items well-characterized the dimensions and if there were indeed six independent dimensions. A correlational analysis was performed to measure the relationship or association between the six dimensions. I analyzed the data to determine the degree to which the scores of each dimension were related to the other five dimensions. IBM SPSS Statistics V21.0 was used to perform inter-scale correlations in order to determine if any two dimensions were linearly related to each other. According to McMillan (2008), "the strength, or magnitude, of the relationship is the degree to which the variables are related" (pg. 142). Table 9 below

gives the values of the specified correlation tests, in this case, Pearson's r. Each row of the table corresponds to one of the dimensions, and each column also corresponds to one of the dimensions. The correlation between the like dimension in the row and column will have a coefficient of 1. The closer the coefficient is to 1.0, the greater is the relationship of the dimensions. McMillan (2008) stated that correlations between .10 and .30 are generally referred to as low positive relationships, .40 to.60 as moderate positive relationships, and .70 and above as high positive relationships.

Table 9

*Pearson's r Correlation Among Dimensions*

| | Shared and Supportive Leadership | Shared Values and Vision | Collective Learning and Application | Shared Personal Practice | Supportive Conditions-Relationships | Supportive Conditions-Structures |
|---|---|---|---|---|---|---|
| Shared and Supportive Leadership | 1 | .806 | .690 | .582 | .633 | .672 |
| Shared Values and Vision | .806 | 1 | .743 | .564 | .663 | .574 |
| Collective Learning and Application | .690 | .743 | 1 | .682 | .717 | .583 |
| Shared Personal Practice | .582 | .564 | .682 | 1 | .572 | .550 |
| Supportive Conditions-Relationships | .633 | .663 | .717 | .572 | 1 | .621 |
| Supportive Conditions-Structures | .672 | .574 | .583 | .550 | .621 | 1 |

In this study analysis, Pearson coefficients ranged from a low of .550 to a high of .806, indicating that the relationships between the dimensions demonstrated moderate positive relationships, with the exception of three pairs. The high coefficient of .717 for

the Collective Learning and Application dimension and the Supportive Conditions - Relationships dimension shows a strong, positive relationship. The high coefficient of .806 for the Shared and Supportive Leadership and Shared Values and Vision dimensions shows a strong, positive relationship. The high coefficient of .743 for Collective Learning and Application and Shared Values and Vision dimensions shows a strong, positive relationship.

**Reported Findings and Statistical Analysis of the Research Questions**

I used statistical analysis to analyze the first six research questions interpreting statistical data, including the means and standard deviations, for both the dependent and independent variables. I used ANOVA to test the seventh question to determine differences of perceptions among the three subgroups. The remainder of this chapter is organized by the six dimensions of a professional learning community and the alignment of each dimension to its respective research question.

The first six questions of the study provided the framework for reporting and analyzing the data from the PLCA-R survey collected from the principals, lead teachers, and classroom teachers. The analysis of the data determines the extent of practices within each dimension. Values for each statement in the survey were treated as continuous variables and combined to produce a composite mean score for each of the six dimensions. In this study, the multiple responses used to create the composite score for each dimension were added together based on the four-point Likert values defined in the survey as: Strongly Disagree=1; Disagree=2; Agree=3, and Strongly Agree=4. The composite mean score equal to or greater than 3 indicates an overall agreement of strength of that practice and a mean score that falls below 3 indicates that individuals are

responding with disagreement to the presence of the practice. The composite score values ranging from values of 1 to 4 were compared to determine the least to greatest. The seventh question provides data for determining statistical differences in responses from the three subgroups.

**Dimension 1: Shared and Supportive Leadership**

The dimension of Shared and Supportive Leadership measures how leadership is dispersed throughout a school to develop leadership potential for all staff members. Sample statements from the survey include: "*The principal incorporates advice from staff members to make decisions"* and *"Leadership is promoted and nurtured among staff members."*

**Question 1: To what extent do principals, lead teachers, and classroom teachers perceive that *shared and supportive leadership* occurs?**

Research Question 1 provides the framework for reporting and analyzing the PLCA-R responses for statements 1-11 associated with Dimension 1: Shared and Supportive Leadership. I created a Shared and Supportive Leadership scale by averaging responses 1-11, and Table 10 reflects the descriptive statistics from the combined responses of principals, lead teachers, and classroom teachers.

Table 10

*Dimension 1: Shared and Supportive Leadership*

| Dimension | Mean | SD | Min | Max |
|---|---|---|---|---|
| Shared and Supportive Leadership | 3.0312 | .55771 | 1.00 | 4.00 |

The mean score of 3.03 indicates that the group on the average perceived this as a strong practice in their schools. The range of responses is represented by the numerical

difference with a high score of 4.00 and a low score of 1.00. The standard deviation of .55771 indicates that 68% of the scores fell between 2.47 and 3.59. Overall, the survey ratings for this dimension were positive and indicated that the respondents viewed that Shared and Supportive Leadership was present in the elementary schools.

**Dimension 2: Shared Values and Vision**

The dimension of Shared Values and Vision measures how well a school identifies with a common purpose and value system to guide their planning and instruction. Sample statements from the survey include: "*Decisions are made in alignment with the school's values and vision"* and "*Data are used to prioritize actions to reach a shared vision."*

**Question 2: To what extent do principals, lead teachers, and classroom teachers perceive that s*hared values and vision* occurs?**

Research Question 2 provides the framework for reporting and analyzing the PLCA-R responses for statements 12-20 associated with Dimension 2: Shared Values and Vision. I created a Shared Values and Vision scale by averaging responses 12-20. Table 11 reflects the descriptive statistics for the group from the combined responses of principals, lead teachers, and classroom teachers.

Table 11

*Dimension 2: Shared Values and Vision*

| Dimension | Mean | SD | Min | Max |
|---|---|---|---|---|
| Shared Values and Vision | 3.0628 | .49530 | 1.00 | 4.00 |

The mean score of 3.06 indicates that the group on the average perceived this as a strong practice in their schools. The range of responses is represented by the numerical

difference with a high score of 4.00 and a low score of 1.00. The standard deviation of .49530 indicates that 68% of the scores fell between 2.57 and 3.56. Overall, the survey ratings for this dimension were positive and indicated that the respondents viewed that practices associated with Shared Values and Vision was present in the elementary schools.

**Dimension 3: Collective Learning and Application**

The dimension of Collective Learning and Application measures how well a school has embraced a culture of adult learning and collegiality to support student learning. Sample statements from the survey include: "*School staff members and stakeholders learn together and apply new knowledge to solve problems"* and "*Staff members collaboratively analyze student work to improve teaching and learning."*

**Question 3: To what extent do principals, lead teachers, and classroom teachers perceive that *collective learning and application* occurs?**

Research Question 3 provides the framework for reporting and analyzing the PLCA-R responses for statements 21-30 associated with Dimension 3: Collective Learning and Application. I created a Collective Learning and Application scale by averaging responses 21-30, and Table 12 reflects the descriptive statistics for the group from the combined responses of principals, lead teachers, and classroom teachers.

Table 12

*Dimension 3: Collective Learning and Application*

| Dimension | Mean | SD | Min | Max |
|---|---|---|---|---|
| Collective Learning and Application | 3.1092 | .48057 | 1.00 | 4.00 |

The mean score of 3.11 indicates that the group on the average perceived this as a strong practice in their schools. The range of responses is represented by the numerical difference with a high score of 4.00 and a low score of 1.00. The standard deviation of .48057 indicates that 68% of the scores fell between 2.63 and 3.59. Overall, the survey ratings for this dimension were positive and indicated that the respondents viewed that Collective Learning and Application was occurring in the elementary schools.

**Dimension 4: Shared Personal Practice**

The dimension of Shared Personal Practice measures how well teachers are engaging in the practice of sharing instructional strategies and pedagogy as a part of peers-helping-peers. Sample statements from the survey include: "*Opportunities exist for staff members to observe peers and offer encouragement"* and "*Opportunities exist for coaching and mentoring."*

**Question 4: To what extent do principals, lead teachers, and classroom teachers perceive that *shared personal practice* occurs?**

Research Question 4 provides the framework for reporting and analyzing the PLCA-R responses for statements 31- 37 associated with Dimension 4: Shared Personal Practice. I created a Shared Personal Practice scale by averaging responses 31-37, and Table 13 reflects the descriptive statistics for the group from the combined responses of principals, lead teachers, and classroom teachers.

Table 13

*Dimension 4: Shared Personal Practice*

| Dimension | Mean | SD | Min | Max |
|---|---|---|---|---|
| Shared Personal Practice | 2.8790 | .55785 | 1.00 | 4.00 |

The mean score of 2.88 indicates that the group on the average perceived this as a weak practice in their schools. The range of responses is represented by the numerical difference with a high score of 4.00 and a low score of 1.00. The standard deviation of .55785 indicates that 68% of the scores fell between 2.32 and 3.44. Overall, the survey ratings for this dimension were less than positive and indicated that the respondents disagreed that Shared Personal Practice was present in the elementary schools. This dimension reflects the lowest scores from the respondents.

**Dimension 5: Supportive Conditions – Relationships**

The dimension of Supportive Condition of Relationships measures how well relationships are developed among staff members so that they may work well and productively together. Sample statements from the survey include: "*Relationships among staff members support honest and respectful examination of data to enhance teaching and learning"* and "*A culture of trust and respect exists for taking risks."*

**Question 5: To what extent do principals, lead teachers, and classroom teachers perceive that *supportive conditions of relationships* occur?**

Research Question 5 provides the framework for reporting and analyzing the PLCA-R responses for statements 38-42 associated with Dimension 5: Supportive Conditions of Relationships. I created a Supportive Conditions of Relationships scale by averaging responses 38-42, and Table 14 reflects the descriptive statistics for the group from the combined responses of principals, lead teachers, and classroom teachers.

Table 14

*Dimension 5: Supportive Conditions: Relationships*

| Dimension | Mean | SD | Min | Max |
|---|---|---|---|---|
| Supportive Conditions: Relationships | 3.1878 | .51298 | 1.20 | 4.00 |

The mean score of 3.19 indicates that the group on the average perceived this as a strong practice in their schools. The range of responses is represented by the numerical difference with a high score of 4.00 and a low score of 1.20. The standard deviation of .51298 indicates that 68% of the scores fell between 2.67 and 3.70. Overall, the survey ratings for this dimension were positive and indicated that the respondents viewed that Supportive Conditions for Relationships was prevalent in the elementary schools. This dimension reflects the highest scores from the respondents.

**Dimension 6: Supportive Conditions – Structures**

The dimension of Supportive Conditions of Structures measures how well structural conditions are in place, including the availability of resources, schedules and structures that reduce isolation, and policies that promote effective communication and provide for staff development. Sample statements from the survey include: "*The proximity of grade level and department personnel allows for ease in collaborating with colleagues"* and "*Communication systems promote a flow of information among staff members."*

**Question 6: To what extent do principals, lead teachers, and classroom teachers perceive that *supportive conditions of structures* occur?**

Research Question 6 provides the framework for reporting and analyzing the PLCA-R responses for statements 43-52 associated with Dimension 6: Supportive

Conditions of Structures. I created a Supportive Conditions of Structures scale by averaging responses 43-52, and Table 15 reflects the descriptive statistics for the group from the combined responses of principals, lead teachers, and classroom teachers.

Table 15

*Dimension 6: Supportive Conditions: Structures*

| Dimension | Mean | SD | Min | Max |
|---|---|---|---|---|
| Supportive Conditions: Structures | 2.9347 | .46574 | 1.10 | 4.00 |

The mean score of 2.94 indicates that the group on the average perceived this as a weak practice in their schools. The range of responses is represented by the numerical difference with a high score of 4.00 and a low score of 1.10. The standard deviation of .46574 indicates that 68% of the scores fell between 2.47 and 3.40. Overall, the survey ratings for this dimension were less than positive and indicated that the respondents disagreed that the dimension of Supportive Conditions for Structures was present in the elementary schools.

Table 16 provides a summary of the findings for questions 1- 6.

*Table 16*

*Summary of Composite Mean Scores*

| | Question 1 Shared and Supportive Leadership | Question 2 Shared Values and Vision | Question 3 Collective Learning and Application | Question 4 Shared Personal Practice | Question 5 Supportive Conditions: Relationship | Question 6 Supportive Conditions: Structures |
|---|---|---|---|---|---|---|
| Agree | 3.03 | 3.06 | 3.11 | | 3.19 | |
| Disagree | | | | 2.88 | | 2.93 |

## Comparative Analysis of Participant Perceptions

In the elementary schools, the CFIP protocol served as a catalyst for promoting PLCs focused on improving student achievement and teacher skills. For this study, it was important to examine the perceptions of the three groups who had different roles in the CFIP meetings to determine if there were statistical differences in their responses.

Table 17 provides the descriptive statistics for each of the six dimensions and for each professional subgroup. The combined responses from each of the three professional groups - principals, lead teachers, and classroom teachers – represented data for the group. Descriptive statistics, including the mean and standard deviation, were used to describe the status of the six dimensions of the PLC model.

Table 17

*Descriptive Statistics from PLCA-R Data*

| Dimensions of a PLC | Group | | Principals | | Lead Teachers | | Classroom Teachers | |
|---|---|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | Mean | SD | Mean | SD |
| Shared and Supportive Leadership | 3.0312 | .55771 | 3.4339 | .36030 | 3.2468 | .30982 | 2.9701 | .57140 |
| Shared Values and Vision | 3.0628 | .49530 | 3.3990 | .34911 | 3.1164 | .39981 | 3.0238 | .50408 |
| Collective Learning and Application | 3.1092 | .48057 | 3.3364 | .39587 | 3.1095 | .40361 | 3.0863 | .49064 |
| Shared Personal Practice | 2.8790 | .55785 | 3.1039 | .48331 | 2.9932 | .44830 | 2.8454 | .56934 |
| Supportive Conditions-Relationships | 3.1878 | .51298 | 3.4455 | .42731 | 3.2190 | .41907 | 3.1589 | .52318 |
| Supportive Conditions-Structures | 2.9347 | .46574 | 3.1682 | .48735 | 3.1333 | .31675 | 2.8922 | .46529 |

From the analysis of the data for all 262 participants in the PLCA-R survey, I concluded that the sample as a whole reported that high levels of PLC practices were in place in the district for four of the dimensions and less prevalent for two dimensions. Comparative analysis was performed to determine whether gaps existed among the responses for the three subgroups to address question 7.

*Question 7: Are there significant differences among the perceptions of principals, lead teachers, and classroom teachers?*

Analysis of variance (ANOVA) was conducted to distinguish differences between the responses of the principals, lead teachers, and classroom teachers. The one-way analysis of variance (ANOVA) is a tool used to determine whether there are any significant differences between the means of two or more independent groups. A one-way ANOVA Omnibus test was first performed to examine the mean difference between the three groups with the dependent variables (DV) expressed as a measure of the respondents' attitudes on the survey and the independent variables (IV) expressed as the three job classifications. A 2-tailed test was used to determine if one mean was different from the mean of each of the other two subgroups, and the .05 level of significance was used. The results of the ANOVA F-test were examined to determine if there was an overall difference between the job groups, indicated by a level of significance less than .05.

Table 18

*Results of ANOVA Omnibus Test Comparing Job Groups*

| Dimension | *F* | *Sig.* |
|---|---|---|
| Shared and Supportive Leadership | 9.155 | .000 |
| Shared Values and Vision | 6.097 | .003 |
| Collective Learning and Application | 2.743 | .066 |
| Shared Personal Practice | 2.658 | .072 |
| Supportive Conditions-Relationships | 3.215 | .042 |
| Supportive Conditions-Structures | 5.790 | .003 |

The analysis of these data indicated that the responses of the three job groups were not statistically different for the dimensions of: Collective Learning and Application and Shared Personal Practice. The analysis of these data indicates that there were significant differences among the groups for Shared and Supportive Leadership, Shared Values and Vision, Supportive Conditions of Relationships, and Supportive Conditions of Structures. Once the dimensions were identified as having significant differences, the next step in the analysis was to determine which subgroups represented statistical differences in their responses. In order to determine for which subgroups the perceptions were significantly different, the ANOVA post hoc procedure was conducted for each of the six dimensions.

**Dimension 1: Shared and Supportive Leadership**

The descriptive statistics for the job groups are provided in Table 19 below.

Table 19

*Dimension 1: Descriptive Statistics for Job Groups*

| Shared and Supportive Leadership | n | M | SD |
|---|---|---|---|
| Principals | 22 | 3.4339 | .36030 |
| Lead Teachers | 21 | 3.2468 | .30982 |
| Classroom Teachers | 219 | 2.9701 | .57140 |

According to the results of the ANOVA F-test, there was a significant difference between the responses of the job groups for the dimension of Shared and Supportive Leadership, so the ANOVA post hoc procedures were employed to determine which groups were statistically different in their responses.

Table 20

*Dimension 1: One-way ANOVA comparing Job Groups*

| | Principals | | Lead Teachers | |
|---|---|---|---|---|
| | Mean Difference | Significance | Mean Difference | Significance |
| Principals | | | .18713 | .208 |
| Classroom Teachers | -.46377 | .000 | -.27664 | .003 |

The results of the ANOVA test indicated that there was a significant difference between the responses of the classroom teachers and principals and the responses of classroom teachers and lead teachers, but there was no significant difference between the

responses of the principals and lead teachers. The responses from classroom teachers were .28 lower than lead teachers' responses and .46 lower than principals' responses.

**Dimension 2: Shared Values and Vision**

The descriptive statistics for the job groups are provided in Table 21 below.

Table 21

*Dimension 2: Descriptive Statistics for Job Groups*

| Shared Values and Vision | n | M | SD |
|---|---|---|---|
| Principals | 22 | 3.3990 | .34911 |
| Lead Teachers | 21 | 3.1164 | .39981 |
| Classroom Teachers | 219 | 3.0238 | .50408 |

According to the results of the ANOVA F-test, there was a significant difference between the responses of the job groups, so the ANOVA post hoc procedures were employed to determine which groups were statistically different in their responses.

Table 22

*Dimension 2: One-way ANOVA comparing Job Groups*

| | Principals | | Lead Teachers | |
|---|---|---|---|---|
| | Mean Difference | Significance | Mean Difference | Significance |
| Principals | | | .28259 | .054 |
| Classroom Teachers | -.37514 | .000 | -.09256 | .702 |

The results of the ANOVA test indicated that there was a significant difference between the responses of the classroom teachers and principals, but there was no

significant difference between the responses of the principals and lead teachers and there was no significant difference between the responses of the classroom teachers and the lead teachers. The responses from classroom teachers were .38 lower than the principals' responses.

**Dimension 3: Collective Learning and Application**

The results of the ANOVA Omnibus test indicated that the responses of the three job groups were not statistically different for this dimension.

**Dimension 4: Shared Personal Practice**

The results of the ANOVA Omnibus test indicated that the responses of the three job groups were not statistically different for this dimension.

**Dimension 5: Supportive Conditions – Relationships**

The descriptive statistics for the job groups are provided in Table 23 below.

Table 23

*Dimension 5: Descriptive Statistics for Job Groups*

| Supportive Conditions – Relationships | n | M | SD |
|---|---|---|---|
| Principals | 22 | 3.4455 | .42731 |
| Lead Teachers | 21 | 3.2190 | .41907 |
| Classroom Teachers | 219 | 3.1589 | .52318 |

According to the results of the ANOVA F-test, there was a significant difference between the responses of the job groups, so the ANOVA post hoc procedures were employed to determine which groups were statistically different in their responses.

Table 24

*Dimension 5: One-way ANOVA comparing Job Groups*

| | Principals | | Lead Teachers | |
|---|---|---|---|---|
| | Mean Difference | Significance | Mean Difference | Significance |
| Principals | | | .22641 | .239 |
| Classroom Teachers | -.28655 | .020 | -.06014 | .906 |

The results of the ANOVA test indicated that there is a significant difference between the responses of the classroom teachers and principals. The results of the ANOVA test indicated that there was no significant difference between the responses of the principals and lead teachers and there was no significant difference between the responses of classroom teachers and lead teachers. The responses from classroom teachers were .29 lower than principals' responses.

**Dimension 6: Supportive Conditions – Structures**

The descriptive statistics for the job groups are provided in Table 25 below.

Table 25

*Dimension 6: Descriptive Statistics for Job Groups*

| Supportive Conditions – Structures | n | M | SD |
|---|---|---|---|
| Principals | 22 | 3.1682 | .48735 |
| Lead Teachers | 21 | 3.1333 | .31675 |
| Classroom Teachers | 219 | 2.8922 | .46529 |

According to the results of the ANOVA F-test, there was a significant difference between the responses of the job groups, so the ANOVA post hoc procedures were employed to determine which groups were statistically different in their responses.

Table 26

*Dimension 6: One-way ANOVA comparing Job Groups*

| | Principals | | Lead Teachers | |
|---|---|---|---|---|
| | Mean Difference | Significance | Mean Difference | Significance |
| Principals | | | .03485 | .990 |
| Classroom Teachers | -.27594 | .052 | -.24110 | .011 |

The results of the ANOVA test indicated that there was a significant difference between the responses of the classroom teachers and lead teachers. There was no significant difference between the responses of the principals and lead teachers, and there was no significant difference between the responses of the classroom teachers and the principals. The responses from classroom teachers were .24 lower than lead teachers' responses.

Table 27 below provides a summary of the results of the one-way Anova and post hoc F-tests for the six dimensions.

Table 27

*Results of the Comparative Analysis for the Job Groups*

| | *Principals and Lead Teachers* | *Principals and Classroom Teachers* | *Lead Teachers and Classroom Teachers* |
|---|---|---|---|
| Shared and Supportive Leadership | | X | X |
| Shared Values and Vision | | X | |
| Collective Learning and Application | | | |
| Shared Personal Practice | | | |
| Supportive Conditions - Relationships | | X | |
| Supportive Conditions – Structures | | | X |

## Summary

The research findings and data analyses were presented in this chapter within the framework of the seven research questions posed in this study. First, an overview of the administration of the questionnaire and data collection was described. Chapter 4 also reported the return rate, demographic information, and the reliability analysis associated with the response of the three groups. Data analyses and findings were then reported to (1) measure the relationship or association between the six dimensions, (2) describe the perceptions of the three job groups regarding the presence of the six PLC dimensions in the elementary schools, and (3) compare the perceptions of the three job groups in their responses to each of the six dimensions.

Chapter 5 presents the conclusions, implications, and recommendations based on the analysis of the data collected from the administration of the Professional Learning Community Assessment – Revised (PLCA-R).

# Chapter 5: Summary, Findings, Conclusions, and Recommendations

## Summary

This chapter presents the research summary, findings of the study, conclusions, limitations, and recommendations. An analysis of the data is provided in the findings section. Study limitations are discussed in the limitations section. Based on the study findings, recommendations for practice and further research are presented in the final sections.

The following research questions provided the structure for data collection and analysis.

1. To what extent do principals, lead teachers, and classroom teachers perceive that *shared and supportive leadership* occurs?
2. To what extent do principals, lead teachers, and classroom teachers perceive that *shared values and vision* occurs?
3. To what extent do principals, lead teachers, and classroom teachers perceive that *collective learning and application* occurs?
4. To what extent do principals, lead teachers, and classroom teachers perceive that *shared personal practice* occurs?
5. To what extent do principals, lead teachers, and classroom teachers perceive that *supportive condition of relationships* occurs?
6. To what extent do principals, lead teachers, and classroom teachers perceive that *supportive condition of structures* occurs?
7. Are there significant differences among the perceptions of principals, lead teachers, and classroom teachers?

The study used a non-experimental quantitative methodology to obtain information from the survey measuring the perceptions of classroom teachers, lead teachers, and principals regarding the extent to which PLC practices were currently found in their schools. I used descriptive statistics to determine the strengths and weaknesses of each of the six PLC dimensions. I further analyzed the responses of the three subgroups to determine if there were significant differences in their perceptions.

## Summary of Study Findings

The findings of this study imply that four dimensions associated with PLCs were perceived to be practiced in the schools, while two dimensions were less frequently practiced. Respondents indicated that shared and supportive leadership, shared values and vision, collective learning and application, and supportive conditions of relationships were practiced, while shared personal practice and supportive condition of structures were less evident.

**Finding #1.** The return rate was highest for principals with a completion rate of 85% and lowest for classroom teachers with a completion rate of 29%.

**Finding #2.** Demographic data indicates that 55% of the principals, 67% of the lead teachers, and 34% of classroom teachers have been assigned to their current school for fewer than four years.

**Finding #3.** Demographic data indicates that 95% of the principals, 86% of the lead teachers, and 59 % of classroom teachers have ten or more years of experience as educators.

**Finding #4.** Demographic data indicates that 100% of the principals, 100% of the lead teachers, and 94% of the classroom teachers participate in CFIP meetings.

**Finding #5.** Demographic data relevant to the grade level(s) taught indicates that the lowest responses (1%) came from pre-K teachers. The participation numbers in grade-levels K through 5 were more evenly distributed and ranged from 14 - 18%.

**Finding #6.** The PLCA-R survey instrument had a high degree of inter-item reliability based on the computation of the Cronbach's alpha, ranging from .85 to .93.

**Finding #7.** The mean score of 3.03 indicated that respondents perceived that Shared and Supportive Leadership was present in the elementary schools.

**Finding #8.** The mean score of 3.06 indicated that respondents perceived that Shared Values and Vision was present in the elementary schools.

**Finding #9.** The mean score of 3.11 indicated that respondents perceived that Collective Learning and Application was occurring in the elementary schools.

**Finding #10.** The mean score of 2.88 indicated that respondents disagreed that Shared Personal Practice was present in the elementary schools. This dimension reflected the lowest scores from the respondents.

**Finding #11.** The mean score of 3.19 indicated that respondents perceived that Supportive Conditions for Relationships were present in the elementary schools. This dimension reflected the highest scores from the respondents.

**Finding #12.** The mean score of 2.94 indicated that respondents disagreed that the Supportive Conditions for Structures were present in the elementary schools.

**Finding #13.** A correlational analysis of the perceptions of the participants demonstrated moderate positive relationships between the dimensions, with the exception of three pairs. The high coefficient of .806 for the Shared and Supportive Leadership and Shared Values and Vision dimensions showed a strong, positive relationship: the high

coefficient of .717 for Collective Learning and Application and Supportive Conditions – Relationships showed a strong, positive relationship; and the high coefficient of .743 for Collective Learning and Application and Shared Values and Vision dimensions showed a strong, positive relationship.

**Finding #14.** Results of a one-way analysis of variance indicated that the responses of the three job groups were not statistically different for the dimensions of Collective Learning and Application and Shared Personal Practice.

**Finding #15.** For the dimension of Shared and Supportive Leadership, there was a significant difference between the mean values of the classroom teachers and principals and the mean values of classroom teachers and lead teachers. The responses from classroom teachers were .28 lower than lead teachers' responses and .46 lower than principals' responses.

**Finding #16.** For the dimension of Shared Values and Vision, there was a significant difference between the mean values of the classroom teachers and principals. The responses from classroom teachers were .38 lower than the principals' responses.

**Finding #17.** For the dimension of Supportive Conditions of Relationships, there was a significant difference between the mean values of the classroom teachers and principals. The responses from classroom teachers were .29 lower than principals' responses.

**Finding #18.** For the dimension of Supportive Conditions of Structures, there was a significant difference between the mean values of the classroom teachers and lead teachers. The responses from classroom teachers were .24 lower than lead teachers' responses.

## Conclusions Based on Findings

The credibility of the research data was examined to determine the measures of reliability and validity. The pre-tested PLCA-R survey with 52 items was used to collect the research data. The PLCA-R utilized a four-point Likert-scale questionnaire that ranges from 1=Strongly Disagree to 4= Strongly Agree. Invitations were sent via the school-based Microsoft Outlook email system to every principal, lead teacher, and 10-month teacher in each of the 27 elementary schools. The return rate indicated that the classroom teachers were not as highly motivated to take the survey as the lead teachers and principals. The low completion rate of classroom teachers may impact the reliability of the data for that subgroup.

The analysis of the data provided an opportunity to review the descriptive statistics for each of the six dimensions of a PLC. Mean scores for the measure resulted in a high of 3.19 for Supportive Conditions for Relationships and a low of 2.88 for Shared Personal Practice. Respondents indicated that Shared and Supportive Leadership, Shared Values and Vision, Collective Learning and Application, and Supportive Conditions of Relationships were practiced, while Shared Personal Practice and Supportive Condition of Structures were less evident. Ranking the responses of the combined subgroups from highest to lowest, the order was Supportive Conditions for Relationships (mean of 3.19); Collective Learning and Application (mean of 3.11); Shared Values and Vision (mean of 3.06); Shared and Supportive Leadership (mean of 3.03); Supportive Conditions of Structures (mean of 2.93); and Shared Personal Practice (mean of 2.88). Further analysis was conducted comparing responses of the three subgroups for each of the dimensions.

**Dimension 1: Shared and Supportive Leadership**

"In mature PLCs, the role of the principal was significant. Principals adept at building leadership capacity and achieving school goals disperse power, gather input and decisions, and encourage staff to focus on a common vision and mission" (Hipp & Huffman, 2010, p. 14). While overall the respondents agreed that the practices associated with Shared and Supportive Leadership were evident in the schools, there was a significant difference between the responses of classroom teachers and principals and a significant differences between responses of classroom teachers and lead teachers. The mean value for the responses from classroom teachers was .28 lower than lead teachers' responses and .46 lower than principals' responses. Moreover, the mean for the teacher subgroup was 2.97, indicating that they generally disagreed that shared leadership was being practiced in their schools. Dufour, et.al (2004) cautioned:

> Unless teachers feel that they have a voice in the improvement process, they will view change as something that is done to them rather than by them. Most teachers will be unwilling to accept responsibility for the success or failure of the initiative unless they have had some authority in making key decisions and some discretion in implementing these decisions. (p. 145)

Hord and Sommers (2008) claimed that shared decision making among all professions in the schools must be developed over time. Demographic data indicates that 55% of the principals, 67% of the lead teachers, and 34% of classroom teachers have been assigned to their current school for fewer than 4 years. Limited time together in current school assignments may have negatively impacted the degree to which shared leadership has been developed.

**Dimension 2: Shared Values and Vision**

While all subgroups were in agreement that practices associated with Shared Values and Vision were evident in the schools, there was a significant difference between the responses of the classroom teachers and principals. The mean value for responses from classroom teachers was .38 lower than the principals' responses. "The lack of a compelling vision for public schools continues to be a major obstacle in any effort to improve schools" (Dufour & Eaker, 1998, p. 64). The authors maintained that the collaborative development of the mission, vision, values, and goals is a crucial component for a successful PLC. The data suggests that principals were more optimistic than teachers that practices associated with shared values and vision were evident in their schools.

**Dimension 3: Collective Learning and Application**

All respondents agreed that practices associated with this dimension were evident in the schools. Hipp and Huffman (2010) claimed that "when teachers learn together, by engaging in open dialogue, opportunities arise to collaborate and apply new knowledge, skills, and strategies" (p. 17). Demographic data indicates that 100% of the principals, 100% of the lead teachers, and 94% of the classroom teachers participate in CFIP meetings. The CFIP protocol is a process for data dialogue that is carried out by collaborative teams of teachers as they focus on planning instruction. The study data supports the premise that the CFIP protocol promotes the attributes of a PLC associated with collective learning and application.

**Dimension 4: Shared Personal Practice**

With the lowest scores for all three subgroups, lead teachers and classroom teachers disagreed that practices associated with Shared Personal Practice were evident in their schools. Even though this dimension received the principals' lowest score, principals perceived that practices related to shared personal practice were evident in their schools. According to Hipp and Huffman (2010), this essential element in becoming a PLC is least evident in most schools. Louis and Kruse (1995) called this *deprivatization of practice* and maintained that review of a teacher's instructional practice by colleagues should be the norm in the PLC – as a part of the *peers helping peers* process. The practices associated with this dimension in the PLCA-R survey included: *Opportunities exist for staff members to observe peers and offer encouragement; Staff members provide feedback to peers related to instructional practices; Staff members informally share ideas and suggestions for improving student learning; Staff members collaboratively review student work to share and improve instructional practices; Opportunities exist for coaching and mentoring; Individuals and teams have the opportunity to apply learning and share the results of their practices;* and *Staff members regularly share student work to guide overall school improvement.*

Hipp and Hufffman (2010) cited Hord as claiming that "this PLC dimension necessitates peer review and feedback on instructional practice to increase individual and organizational practice" (p. 18). Classroom teachers may find that the practice of observing colleagues is challenging without structures in place to provide coverage of students and time to meet. While the lead teacher's responsibility is to coach non-tenured teachers in PCPS, there is currently no procedure in place to mentor tenured teachers.

Additionally, the practice of sharing student work during CFIP meetings may be practiced differently at each school depending on the agendas established by lead teachers and principals. With limited professional development opportunities provided in the school calendar, CFIP meetings are frequently utilized to share information on new initiatives being implemented by the district and/or the state. Consequently, time to analyze student work may be sacrificed for time to address other agenda items.

**Dimension 5: Supportive Conditions—Relationships**

"These [PLC] cultures are characterized by the understanding that risk-taking and experimenting with new approaches are acceptable and even encouraged. The environment is safe – physically, mentally, and emotionally" (Hipp & Hufman, 2010, p. 21). With the highest score for the combined group, all subgroups perceived that practices associated with Supportive Conditions of Relationships were evident in their schools. However, there was a significant difference between the responses of the classroom teachers and principals. Classroom teachers ranked supportive conditions of relationships lower in the continuum than did principals. On average, teachers scored this variable .29 points lower than principals, indicating that principals were more optimistic that supportive relationships were evident in schools. Hipp & Huffman (2003) cautioned that "Without creating a culture of trust, respect, and inclusiveness with a focus on relationships, even the most innovative means of finding time, resources and developing communication system will have little effect on creating a community of learners" (p. 146).

**Dimension 6: Supportive Conditions—Structures**

With a mean score of 2.94, classroom teachers perceived that supportive

structures were not evident in their schools, while lead teachers and principals perceived that the structures were in place. A significant difference between the responses of the classroom teachers and lead teachers was detected, with the responses from classroom teachers .24 lower than lead teachers' responses. "Supporting the work of learning communities requires leaders to address supportive conditions" (Hipp & Huffman, 2010, p. 19). In practice, structures such as common planning time and proximity must be provided by administrators to allow staff members to come together to work and learn. The data suggests that teachers feel that inadequate structures are made available for them to conduct their work as a PLC, while principals and lead teachers perceive that the structures are adequate. Administrators may be faced with the challenge of finding resources to address these practices associated with structures:

- *Time is provided to facilitate collaborative work.*
- *The school schedule promotes collective learning and shared practice.*
- *Fiscal resources are available for professional development.*
- *Appropriate technology and instructional materials are available to staff.*
- *Resource people provide expertise and support for continuous learning.*
- *The school facility is clean, attractive and inviting.*
- *The proximity of grade level and department personnel allows for ease in collaborating with colleagues.*
- *Communication systems promote a flow of information among staff members.*
- *Communication systems promote a flow of information across the entire school community including central office personnel, parents, and community members.*
- *Data are organized and made available to provide easy access to staff members.*

Data analysis of the descriptive statistics also showed that the variances of classroom teachers' responses were higher as evidenced by the higher standard deviations and range of minimum and maximum values. These data are found in Table 28 below.

Table 28

*IBM SPSS Descriptive Statistics for Six Dimensions by Subgroup*

| | | N | Mean | Std. Deviation | Min | Max |
|---|---|---|---|---|---|---|
| Shared and Supportive Leadership | Classroom Teacher | 219 | 2.9701 | .57140 | 1.00 | 4.00 |
| | Lead Teacher | 21 | 3.2468 | .30982 | 2.82 | 3.91 |
| | Principal | 22 | 3.4339 | .36030 | 2.82 | 3.91 |
| Shared Values and Vision | Classroom Teacher | 219 | 3.0238 | .50408 | 1.00 | 4.00 |
| | Lead Teacher | 21 | 3.1164 | .39981 | 2.22 | 3.78 |
| | Principal | 22 | 3.3990 | .34911 | 2.89 | 3.89 |
| Collective Learning and Application | Classroom Teacher | 219 | 3.0863 | .49064 | 1.00 | 4.00 |
| | Lead Teacher | 21 | 3.1095 | .40361 | 2.40 | 3.90 |
| | Principal | 22 | 3.3364 | .39587 | 2.50 | 4.00 |
| Shared Personal Practice | Classroom Teacher | 219 | 2.8454 | .56934 | 1.00 | 4.00 |
| | Lead Teacher | 21 | 2.9932 | .44830 | 2.43 | 3.71 |
| | Principal | 22 | 3.1039 | .48331 | 2.29 | 3.86 |
| Supportive Conditions - Relationships | Classroom Teacher | 219 | 3.1589 | .52318 | 1.20 | 4.00 |
| | Lead Teacher | 21 | 3.2190 | .41907 | 2.40 | 4.00 |
| | Principal | 22 | 3.4455 | .42731 | 2.80 | 4.00 |
| Supportive Conditions - Structures | Classroom Teacher | 219 | 2.8922 | .46529 | 1.10 | 4.00 |
| | Lead Teacher | 21 | 3.1333 | .31675 | 2.60 | 3.80 |
| | Principal | 22 | 3.1682 | .48735 | 2.00 | 3.80 |

The higher variance for classroom teachers' responses shows that there is much wider range in their perceptions. This leads one to question why teacher perceptions are

so varied. I suggest that additional analysis of data at the attribute level be performed to provide more specific information. Additional disaggregated analysis would also provide a more detailed understanding of the variance relative to the demographic makeup of the respondents. The ability to provide comments in the PLCA-R survey provides a means to perform a mixed method study to provide a more complete picture of the respondents' perceptions.

**Comparison of Perceptions of Job Groups**

For each of the six dimensions, although principals' perceptions were more optimistic than lead teachers' perceptions for each of the six dimension, their composite mean scores were not significantly different. The composite mean scores are shown in the graph below.

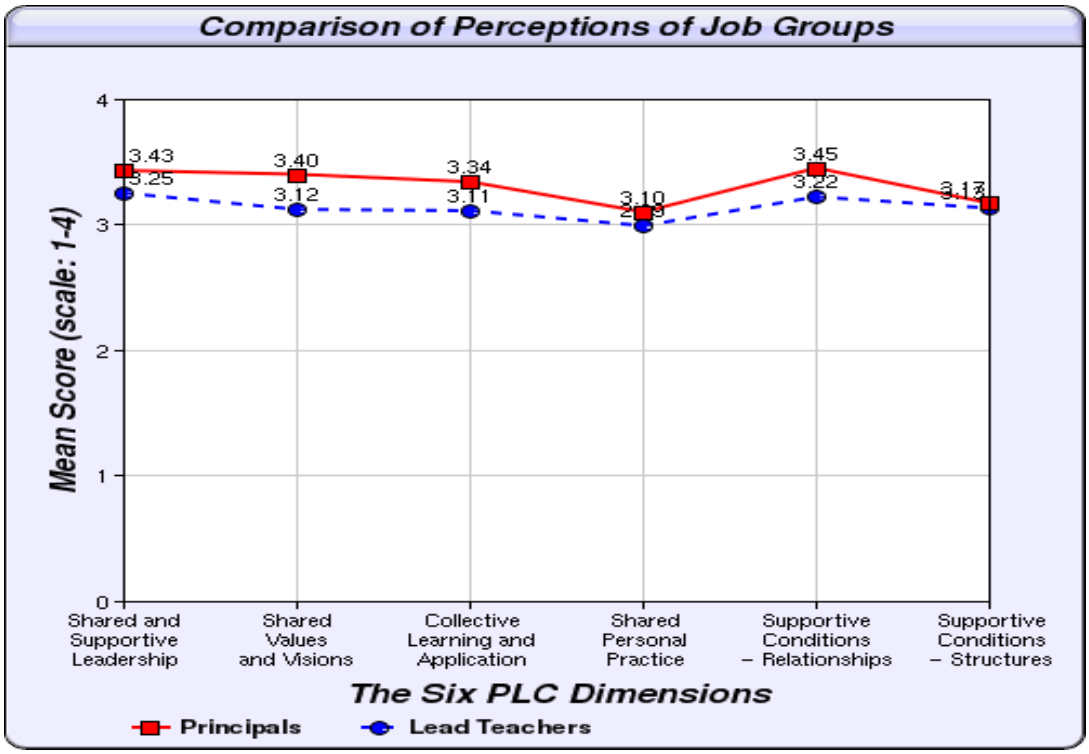



*Figure 5.* Comparison of Principals' and Lead Teachers' Composite Means reprinted from https://www.sedl.org/plc/survey/admin/index.cgi.

The perceptions of classroom teachers were lower than principals' perceptions for all six dimensions, and the composite means scores of the classroom teachers were statistically lower for the dimensions of Shared and Supportive Leadership, Shared Vision and Values, and Supportive Conditions of Relationships as shown in Figure 6 below.

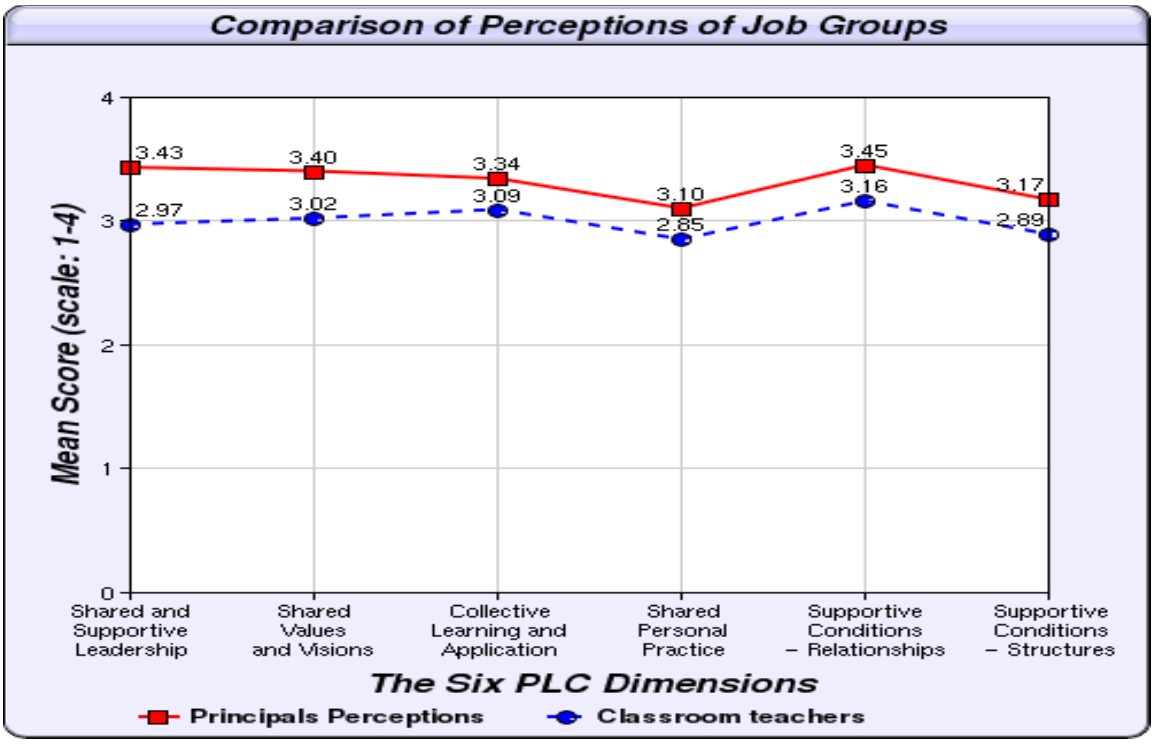



*Figure 6.* Comparison of Principals' and Classroom Teachers' Composite Means reprinted from https://www.sedl.org/plc/survey/admin/index.cgi.

The perceptions of classroom teachers were lower than lead teacher perceptions for all dimensions, and were statistically lower for the dimensions of Shared and Supportive Leadership and Supportive Conditions of Structures as shown in Figure 7 below.

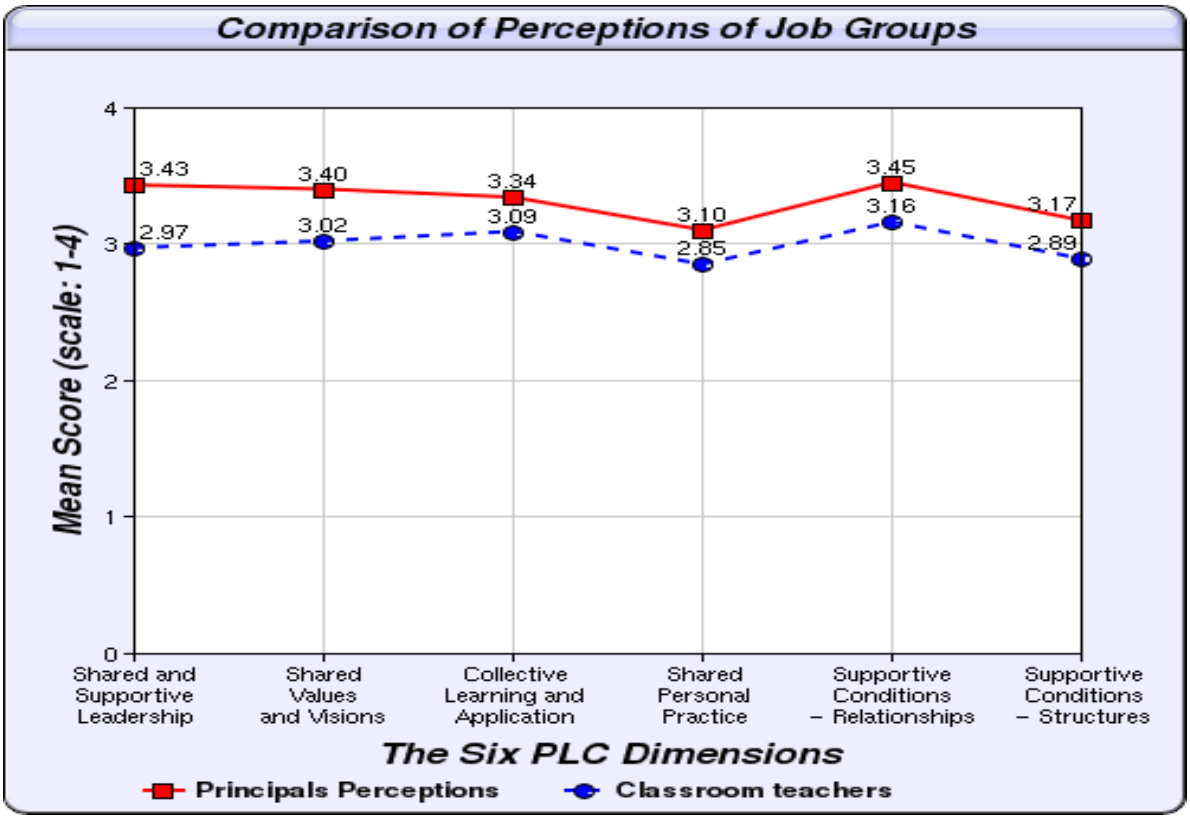



*Figure 7.* Comparison of Lead Teachers' and Classroom Teachers' Composite Means reprinted from https://www.sedl.org/plc/survey/admin/index.cgi.

Since lead teachers are hired for their positions by the principals and work closely together to promote the school vision, it is not surprising that their perceptions were not statistically different. More problematic is that perceptions of classroom teachers were significantly lower than the other job groups for several of the six dimensions. Further data analysis at the attribute level would provide more detailed information regarding specific practices that are in need of targeted intervention.

## Limitations of the Study

There are several delimitations and limitations when making generalizations based on the research findings. According to Creswell (2003), external validy threats arise when the researcher generalizes beyond the groups in the experiment to other

groups not under study. As mentioned in Chapter 1, the purpose of the study was limited to measuring the perceptions of school-based personnel who were directly involved in utilizing the state-endorsed CFIP protocol to promote the characteristics of a PLC. For the purposes of the study, the population consisted of principals, lead teachers, and classroom teachers in the 27 elementary schools in only one district of the state, and school districts outside of the state utilizing a different method for promoting PLCs may achieve different results from the PLCA-R survey. Additionally, with the purpose of the study limited to the specific exploration of how the state-endorsed CFIP protocol promoted the characteristics of a PLC, school districts outside of the state utilizing a different method for promoting PLCs may achieve different results from the PLCA-R survey. By limiting the scope of the study to one specific locale, the applicability of the study results to other geographical settings might be compromised.

The survey was administered via the school-based internet email system to all principals, lead teachers, and classroom teachers in the elementary schools in an effort to promote more reliable sampling. With the invitation extended to all classroom teachers, lead teachers, and principals in these schools, the targeted population was intended to improve external validity. Random sampling may not produce similar results. Educators at middle school and high school levels may have different perceptions than elementary educators. The window for taking the survey was limited to a two-week window, and keeping the window open for a longer period of time may have allowed more educators to participate. Hence, more participants may have changed the results, especially for classroom teachers – with a return rate of 29%. I do not suggest that the representativeness of this population will be generalizable to teachers outside of PCPS.

## Recommendations for Practice

Since the process of establishing a true PLC is complex, it became important to assess the perceptions of school-based personnel regarding the presence of school practices associated with a professional learning community. With the lack of quantitative research regarding the implementation of PLCs in PCPS, this study aimed to provide quantifiable data regarding the perceptions of the strengths and weaknesses of school practices related to the six dimensions of a PLC. The research results document several areas of opportunity for Palmero County Public Schools in determining the next steps toward utilizing CFIPs as a means to promote PLCs to improve student achievement and embedded professional development for teachers. Specifically, the implications for practice for this study include:

### Recommendation #1

Principals and district leaders should examine the need to establish opportunities for teachers to share best practices with their colleagues within their school and across the elementary schools. I recommend that administrators provide professional development opportunities for peer coaching, examining student work, and vertical teaming to promote a culture that is conducive for teachers to share personal practice. Hord and Sommers (2008) noted that visiting, observing, and giving feedback are learned skills and will require professional development to teach these skills. Moreover, structural supports will need to be established to provide time for teachers to observe one another and to meet for collaborative dialogue.

I recommend that school principals establish the practice of having peer evaluators as the next step in utilizing the Charlotte Danielson Framework. The recent

transition to the Charlotte Danielson Framework for teacher evaluation provides a wonderful opportunity for teachers to engage in peer observation. Colleagues will have the opportunity to observe colleagues and provide meaningful feedback based on the criteria established in the rubric.

**Recommendation #2**

Given the premise that **s**hared leadership must be developed over time, I recommend that district leaders examine the practice of principal and lead teacher turnover in school assignments. Endorsing a practice that supports principals to establish more tenure in their schools will more likely promote a culture of trust and rapport.

I also recommend that principals disperse power, gather teacher input on decisions, and foster intentional arrangements for teachers to influence decision making. Principals should begin this process by:

- Encouraging and empowering members of the School Improvement Teams to make decisions that impact student achievement.
- Establishing committees to assume responsibility for developing programs and practices to promote school goals.
- Creating PLCs within their school to establish the action plan to move to district and school-based initiatives, such as common core standards, newly established PARCC assessments, and skills needed to promote 21st century learners.

Since dispersing power is often a difficult task for principals, additional professional development should be offered to principals. I suggest that the topic of shared leadership be further explored at PCPS district leadership meetings by engaging in

a book study. ASCD has endorsed the book *Balanced Leadership: What 30 years of research tells us about the effect of leadership on student achievement* by Waters, McNulty, and Marzano. Providing principals the opportunity to become more knowledgeable on how to be leaders of learners in school-based PLCs could be a powerful step in re-culturing schools.

**Recommendation #3**

I recommend that principals examine the current status of their school mission and vision. Lower teacher perception that shared vision currently exists in their schools elicits the need for a renewed look at the current status of the vision. It is further recommended that all stakeholders, including teachers, parents, community members, and students, be included in the collaborative development of the mission, vision, values, and goals for the school. I suggest that once the new vision is created, principals should engage their staff in determining how the vision will be shared with stakeholders. Ideas may include: letterhead and email signatures; school cheer or song; banners displayed in the hallway; posting on website; etc.

**Recommendation #4**

I recommend that principals continue to promote supportive relationships by examining their practices for recognizing the achievements of their staff members and celebrating successes that occur at their schools. Celebrations reinforce a culture characterized by encouragement and risk-taking associated with supportive relationships. One simple way that principals can celebrate teacher's success is to write a thank you expressing appreciation for taking risks and/or motivating students to achieve.

**Recommendation #5**

I recommend that district leaders and principals find creative ways to provide supportive conditions for teachers to engage in professional learning, including:

- Additional time to meet and dialogue
- Physical proximity within grade-levels
- Collaborative teaching roles and responsibilities
- Effective communication programs (blogging, email, sharing documents)

Suggested options for increased time include taking creative measures to arrange time in the school day in the form of early releases, late starts, team teaching, and small learning communities. I encourage principals to engage in sharing their ideas for creative opportunities with colleagues. Establishing a PLC of PCPS principals provides an effective means of collaborating to share original ideas that provide benefit to all.

## Suggestions for Further Research

This study provides important insights into the perceptions of principals, lead teachers, and classroom teachers about the presence of school practices related to six dimensions of professional learning communities across elementary schools in Palmero County Public Schools. It raised additional questions for further research. Questions for further study are recommended as follows:

**Recommendation #1**

It is recommended that a study be conducted for middle and high schools in Palmero County Public Schools. This study was limited to staff in the elementary schools. Additional data for middle and high schools would be valuable for district leaders as they assess the development and maturity of PLCs across the district.

**Recommendation #2**

It is recommended that a study be conducted in which data is analyzed at the attribute level for each of the six dimensions. During this study analysis, the Likert-type questions (attributes) were treated as interval data and a composite mean score was calculated for each dimension. Additional studies that provide descriptive statistics at the attribute level within each dimension would provide more specific information. Identifying the perceptions of the school-based staff regarding the degree to which PLC attributes exist could prove to be advantageous to school leaders interested in improving teaching practices and student achievement. Mean scores by attribute can be found in Appendix B.

**Recommendation #3**

It is recommended that the PLCA-R survey be administered by school-based administrators to measure perceptions of their staff. This study was designed to determine staff perceptions of the six dimensions for all elementary schools at the district level. Executing a study at the school level would provide principals more specific data to assess the maturity of PLCs in their school and to more critically align their school improvement plan for supporting and sustaining PLCs.

**Recommendation #4**

Participation in the PLCA-R survey was voluntary and resulted in a low completion rate from classroom teachers. Perhaps providing an incentive and/or time to take the survey during the school day would provide a higher rate of return. Taking time during the CFIP meeting or a staff meeting would be recommended to maximize completion of the survey.

**Recommendation #5**

It is recommended that a mixed-method study be conducted utilizing the PLCA-R instrument. This study was designed as a quantitative study and focused exclusively on data collected from the Likert-scaled survey. The PLCA-R also provides the ability for respondents to make comments for each dimension. I recommend that comments be analyzed and incorporated as a mixed methods study (numbers and text data) to provide more specific information related to the respondents' perceptions. School leaders would be better positioned to address needs and make changes to their current PLC model.

**Recommendation #6**

It is recommended that further disaggregation of the collected data be performed to determine patterns of perceptions. Responses could be analyzed for the demographic data collected – years of experience in education, grade level(s) taught, and years in current school placement. More specific information could provide school leaders the opportunity to implement more focused efforts to foster the maturity and sustainability of PLCs in the schools.

**Recommendation #7**

It is recommended that a parallel study be conducted to include schools that use the CFIP protocol and schools that do not. This information would be insightful for determining the merits of CFIP as a model for promoting the practices associated with professional learning communities.

Appendix A

**Professional Learning Communities Assessment – Revised**

**Directions:**

This questionnaire assesses your perceptions about your principal, staff, and stakeholders based on the dimensions of a professional learning community (PLC) and related attributes. This questionnaire contains a number of statements about practices which occur in some schools. Read each statement and then use the scale below to select the scale point that best reflects your personal degree of agreement with the statement. Shade the appropriate oval provided to the right of each statement. Be certain to select only one response for each statement. Comments after each dimension section are optional.

**Key Terms:**

- Principal = Principal, not Associate or Assistant Principal
- Staff/Staff Members = 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)

***Demographic Customization by Researcher***

*Thank you for taking time to complete this task.* ***Please answer the following 5 items:***

***1. Position:*** *Principal, Lead Teacher, Classroom Teacher, or Other*

*If you selected "other," please specify:*

***2. Grade taught:*** *(select all that apply)*

- ☐ *Pre-K*
- ☐ *K*
- ☐ *1*
- ☐ *2*
- ☐ *3*
- ☐ *4*
- ☐ *5*
- ☐ *None*

***3. Years of experience in education:*** *1, 2, 3…30, other*

*If you selected "other," please specify:*

***4. Years in current school:*** *1, 2, 3…30, other*

*If you selected "other," please specify:*

***5. Do you participate in Classroom Focused Improvement Process (CFIP) meetings?*** *Yes or No*

**Select one response for each question below.**

| | STATEMENTS | SCALE | | | |
|---|---|---|---|---|---|
| | **Shared and Supportive Leadership** | **SD** | **D** | **A** | **SA** |
| 1. | Staff members are consistently involved in discussing and making decisions about most school issues. | 0 | 0 | 0 | 0 |
| 2. | The principal incorporates advice from staff members to make decisions. | 0 | 0 | 0 | 0 |
| 3. | Staff members have accessibility to key information. | 0 | 0 | 0 | 0 |
| 4. | The principal is proactive and addresses areas where support is needed. | 0 | 0 | 0 | 0 |
| 5. | Opportunities are provided for staff members to initiate change. | 0 | 0 | 0 | 0 |
| 6. | The principal shares responsibility and rewards for innovative actions. | 0 | 0 | 0 | 0 |
| 7. | The principal participates democratically with staff sharing power and authority. | 0 | 0 | 0 | 0 |
| 8. | Leadership is promoted and nurtured among staff members. | 0 | 0 | 0 | 0 |
| 9. | Decision-making takes place through committees and communication across grade and subject areas. | 0 | 0 | 0 | 0 |
| 10. | Stakeholders assume shared responsibility and accountability for student learning without evidence of imposed power and authority. | 0 | 0 | 0 | 0 |
| 11. | Staff members use multiple sources of data to make decisions about teaching and learning. | 0 | 0 | 0 | 0 |

| | | | | | |
|---|---|---|---|---|---|
| COMMENTS: | | | | | |
| | **STATEMENTS** | **SCALE** | | | |
| | **Shared Values and Vision** | **SD** | **D** | **A** | **SA** |
| 12. | A collaborative process exists for developing a shared sense of values among staff. | 0 | 0 | 0 | 0 |
| 13. | Shared values support norms of behavior that guide decisions about teaching and learning. | 0 | 0 | 0 | 0 |
| 14. | Staff members share visions for school improvement that have an undeviating focus on student learning. | 0 | 0 | 0 | 0 |
| 15. | Decisions are made in alignment with the school's values and vision. | 0 | 0 | 0 | 0 |
| 16. | A collaborative process exists for developing a shared vision among staff. | 0 | 0 | 0 | 0 |
| 17. | School goals focus on student learning beyond test scores and grades. | 0 | 0 | 0 | 0 |
| 18. | Policies and programs are aligned to the school's vision. | 0 | 0 | 0 | 0 |
| 19. | Stakeholders are actively involved in creating high expectations that serve to increase student achievement. | 0 | 0 | 0 | 0 |
| 20. | Data are used to prioritize actions to reach a shared vision. | 0 | 0 | 0 | 0 |
| COMMENTS: | | | | | |
| | **Collective Learning and Application** | **SD** | **D** | **A** | **SA** |
| 21. | Staff members work together to seek knowledge, skills and strategies | 0 | 0 | 0 | 0 |

| | | | | | |
|---|---|---|---|---|---|
| | and apply this new learning to their work. | | | | |
| 22. | Collegial relationships exist among staff members that reflect commitment to school improvement efforts. | 0 | 0 | 0 | 0 |
| 23. | Staff members plan and work together to search for solutions to address diverse student needs. | 0 | 0 | 0 | 0 |
| 24. | A variety of opportunities and structures exist for collective learning through open dialogue. | 0 | 0 | 0 | 0 |
| 25. | Staff members engage in dialogue that reflects a respect for diverse ideas that lead to continued inquiry. | 0 | 0 | 0 | 0 |
| 26. | Professional development focuses on teaching and learning. | 0 | 0 | 0 | 0 |
| 27. | School staff members and stakeholders learn together and apply new knowledge to solve problems. | 0 | 0 | 0 | 0 |
| 28. | School staff members are committed to programs that enhance learning. | 0 | 0 | 0 | 0 |
| 29. | Staff members collaboratively analyze multiple sources of data to assess the effectiveness of instructional practices. | 0 | 0 | 0 | 0 |
| 30. | Staff members collaboratively analyze student work to improve teaching and learning. | 0 | 0 | 0 | 0 |
| COMMENTS: | | | | | |
| | **STATEMENTS** | **SCALE** | | | |
| | **Shared Personal Practice** | **SD** | **D** | **A** | **SA** |
| 31. | Opportunities exist for staff members to observe peers and offer encouragement. | 0 | 0 | 0 | 0 |
| 32. | Staff members provide feedback to peers related to instructional | 0 | 0 | 0 | 0 |

| | | | | | |
|---|---|---|---|---|---|
| | practices. | | | | |
| 33. | Staff members informally share ideas and suggestions for improving student learning. | 0 | 0 | 0 | 0 |
| 34. | Staff members collaboratively review student work to share and improve instructional practices. | 0 | 0 | 0 | 0 |
| 35. | Opportunities exist for coaching and mentoring. | 0 | 0 | 0 | 0 |
| 36. | Individuals and teams have the opportunity to apply learning and share the results of their practices. | 0 | 0 | 0 | 0 |
| 37. | Staff members regularly share student work to guide overall school improvement. | 0 | 0 | 0 | 0 |
| COMMENTS: | | | | | |
| | **Supportive Conditions - Relationships** | **SD** | **D** | **A** | **SA** |
| 38. | Caring relationships exist among staff and students that are built on trust and respect. | 0 | 0 | 0 | 0 |
| 39. | A culture of trust and respect exists for taking risks. | 0 | 0 | 0 | 0 |
| 40. | Outstanding achievement is recognized and celebrated regularly in our school. | 0 | 0 | 0 | 0 |
| 41. | School staff and stakeholders exhibit a sustained and unified effort to embed change into the culture of the school. | 0 | 0 | 0 | 0 |
| 42. | Relationships among staff members support honest and respectful examination of data to enhance teaching and learning. | 0 | 0 | 0 | 0 |
| COMMENTS: | | | | | |
| | | | | | |

| | **Supportive Conditions - Structures** | **SD** | **D** | **A** | **SA** |
|---|---|---|---|---|---|
| 43. | Time is provided to facilitate collaborative work. | 0 | 0 | 0 | 0 |
| 44. | The school schedule promotes collective learning and shared practice. | 0 | 0 | 0 | 0 |
| 45. | Fiscal resources are available for professional development. | 0 | 0 | 0 | 0 |
| 46. | Appropriate technology and instructional materials are available to staff. | 0 | 0 | 0 | 0 |
| | **STATEMENTS** | **SCALE** | | | |
| | | **SD** | **D** | **A** | **SA** |
| 47. | Resource people provide expertise and support for continuous learning. | 0 | 0 | 0 | 0 |
| 48. | The school facility is clean, attractive and inviting. | 0 | 0 | 0 | 0 |
| 49. | The proximity of grade level and department personnel allows for ease in collaborating with colleagues. | 0 | 0 | 0 | 0 |
| 50. | Communication systems promote a flow of information among staff members. | 0 | 0 | 0 | 0 |
| 51. | Communication systems promote a flow of information across the entire school community including: central office personnel, parents, and community members. | 0 | 0 | 0 | 0 |
| 52. | Data are organized and made available to provide easy access to staff members. | 0 | 0 | 0 | 0 |
| COMMENTS: | | | | | |



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

# Appendix B

## Responses for All PLCA-R Statements

*Dimension 1: Share and Supportive Leadership*

| ***Dimension Statements*** | ***Group*** | ***Principals*** | ***Lead Teachers*** | ***Classroom Teachers*** |
|---|---|---|---|---|
| 1. Staff members are consistently involved in discussing and making decisions about most school issues. | 2.93 | 3.27 | 3.05 | 2.89 |
| 2. The principal incorporates advice from staff members to make decisions. | 3.09 | 3.55 | 3.33 | 3.02 |
| 3. Staff members have accessibility to key information. | 3.09 | 3.50 | 3.33 | 3.03 |
| 4. The principal is proactive and addresses areas where support is needed. | 3.19 | 3.68 | 3.43 | 3.12 |
| 5. Opportunities are provided for staff members to initiate change. | 2.97 | 3.45 | 3.19 | 2.89 |
| 6. The principal shares responsibility and rewards for innovative actions. | 3.10 | 3.45 | 3.38 | 3.04 |
| 7. The principal participates democratically with staff sharing power and authority. | 2.95 | 3.32 | 3.19 | 2.89 |
| 8. Leadership is promoted and nurtured among staff members. | 3.03 | 3.55 | 3.48 | 2.94 |
| 9. Decision-making takes place through committees and communication across grade and subject areas. | 3.03 | 3.45 | 3.24 | 2.97 |
| 10. Stakeholders assume shared responsibility and accountability for student learning without evidence of imposed power and authority. | 2.72 | 3.09 | 2.86 | 2.67 |
| 11. Staff members use multiple sources of data to make decisions about teaching and learning. | 3.24 | 3.45 | 3.24 | 3.22 |

*Dimension 2: Shared Values and Vision*

| ***Dimension Statements*** | ***Group*** | ***Principals*** | ***Lead Teachers*** | ***Classroom Teachers*** |
|---|---|---|---|---|
| 12. A collaborative process exists for developing a shared sense of values among staff. | 2.98 | 3.32 | 3.05 | 2.94 |
| 13. Shared values support norms of behavior that guide decisions about teaching and learning. | 3.04 | 3.41 | 3.05 | 3.00 |
| 14. Staff members share visions for school improvement that have an undeviating focus on student learning. | 3.10 | 3.14 | 3.05 | 3.10 |
| 15. Decisions are made in alignment with the school's values and vision. | 3.20 | 3.55 | 3.33 | 3.16 |
| 16. A collaborative process exists for developing a shared vision among staff. | 3.06 | 3.45 | 3.10 | 3.01 |
| 17. School goals focus on student learning beyond test scores and grades. | 2.95 | 3.55 | 3.33 | 2.86 |
| 18. Policies and programs are aligned to the school's vision. | 3.18 | 3.55 | 3.19 | 3.14 |
| 19. Stakeholders are actively involved in creating high expectations that serve to increase student achievement. | 2.84 | 3.14 | 2.90 | 2.80 |
| 20 Data are used to prioritize actions to reach a shared vision. | 3.22 | 3.50 | 3.05 | 3.21 |

*Dimension 3: Collective and Application*

| ***Dimension Statements*** | ***Group*** | ***Principals*** | ***Lead Teachers*** | ***Classroom Teachers*** |
|---|---|---|---|---|
| 21. Staff members work together to seek knowledge, skills and strategies and apply this new learning to their work. | 3.15 | 3.23 | 3.10 | 3.15 |
| 22. Collegial relationships exist among staff members that reflect commitment to school improvement efforts. | 3.24 | 3.32 | 3.19 | 3.24 |
| 23. Staff members plan and work together to search for solutions to address diverse student needs. | 3.16 | 3.41 | 3.10 | 3.15 |
| 24. A variety of opportunities and structures exist for collective learning through open dialogue. | 2.98 | 3.36 | 3.05 | 2.94 |
| 25. Staff members engage in dialogue that reflects a respect for diverse ideas that lead to continued inquiry. | 3.08 | 3.32 | 2.95 | 3.06 |
| 26. Professional development focuses on teaching and learning. | 3.15 | 3.55 | 3.52 | 3.07 |
| 27. School staff members and stakeholders learn together and apply new knowledge to solve problems. | 2.89 | 3.18 | 3.14 | 2.83 |
| 28. School staff members are committed to programs that enhance learning. | 3.20 | 3.36 | 3.14 | 3.19 |
| 29. Staff members collaboratively analyze multiple sources of data to assess the effectiveness of instructional practices. | 3.14 | 3.45 | 3.00 | 3.12 |
| 30. Staff members collaboratively analyze student work to improve teaching and learning. | 3.11 | 3.18 | 2.90 | 3.12 |

*Dimension 4: Shared Personal Practice*

| *Dimension Statements* | *Group* | *Principals* | *Lead Teachers* | *Classroom Teachers* |
|---|---|---|---|---|
| 31. Opportunities exist for staff members to observe peers and offer encouragement. | 2.70 | 2.86 | 2.95 | 2.66 |
| 32. Staff members provide feedback to peers related to instructional practices. | 2.70 | 2.82 | 2.81 | 2.68 |
| 33. Staff members informally share ideas and suggestions for improving student learning. | 3.18 | 3.32 | 3.14 | 3.17 |
| 34. Staff members collaboratively review student work to share and improve instructional practices. | 2.94 | 3.18 | 2.81 | 2.92 |
| 35. Opportunities exist for coaching and mentoring. | 2.79 | 3.18 | 3.38 | 2.69 |
| 36. Individuals and teams have the opportunity to apply learning and share the results of their practices. | 3.03 | 3.41 | 3.29 | 2.97 |
| 37. Staff members regularly share student work to guide overall school improvement. | 2.82 | 2.95 | 2.57 | 2.83 |

*Dimension 5: Supportive Conditions: Relationships*

| *Dimension Statements* | *Group* | *Principals* | *Lead Teachers* | *Classroom Teachers* |
|---|---|---|---|---|
| 38. Caring relationships exist among staff and students that are built on trust and respect. | 3.43 | 3.59 | 3.48 | 3.41 |
| 39. A culture of trust and respect exists for taking risks. | 3.26 | 3.55 | 3.38 | 3.22 |
| 40. Outstanding achievement is recognized and celebrated regularly in our school. | 3.13 | 3.36 | 3.19 | 3.10 |
| 41. School staff and stakeholders exhibit a sustained and unified effort to embed change into the culture of the school. | 2.98 | 3.32 | 3.05 | 2.94 |
| 42. Relationships among staff members support honest and respectful examination of data to enhance teaching and learning. | 3.15 | 3.41 | 3.00 | 3.14 |

*Dimension 6: Supportive Conditions: Structures*

| ***Dimension Statements*** | ***Group*** | ***Principals*** | ***Lead Teachers*** | ***Classroom Teachers*** |
|---|---|---|---|---|
| 43. Time is provided to facilitate collaborative work. | 2.79 | 3.45 | 3.48 | 2.66 |
| 44. The school schedule promotes collective learning and shared practice. | 2.81 | 3.32 | 3.19 | 2.72 |
| 45. Fiscal resources are available for professional development. | 2.65 | 2.82 | 2.81 | 2.61 |
| 46. Appropriate technology and instructional materials are available to staff. | 2.67 | 2.77 | 2.62 | 2.67 |
| 47. Resource people provide expertise and support for continuous learning. | 2.88 | 2.95 | 3.14 | 2.84 |
| 48. The school facility is clean, attractive and inviting. | 3.32 | 3.55 | 3.33 | 3.30 |
| 49. The proximity of grade level and department personnel allows for ease in collaborating with colleagues. | 3.17 | 3.45 | 3.38 | 3.12 |
| 50. Communication systems promote a flow of information among staff members. | 3.06 | 3.32 | 3.19 | 3.02 |
| 51. Communication systems promote a flow of information across the entire school community including: central office personnel, parents, and community members. | 2.94 | 2.86 | 3.00 | 2.95 |
| 52. Data are organized and made available to provide easy access to staff members. | 3.06 | 3.18 | 3.19 | 3.03 |

# Appendix C

## Permission to Use the Survey

webmaster@sedl.org

Actions
To: M Palmer, Karen
Cc: Mesmeralda.urquidi@sedl.org
Inbox
Monday, February 03, 2014 3:09 PM
Dear Karen Palmer,

Thank you for your purchase of the Professional Learning Communities Assessment-Revised (PLCA-R) online. I have set up your administrator account for the PLCA-R online.

In addition to the 200 survey completions you purchased, I have added a quantity of "10" survey completions to your admin ID, so you can test the PLCA-R site to see how it works before using it with live survey participants.

You can log on to the PLCA-R Administrative interface at:
http://www.sedl.org/plc/survey/admin

You will log on to the admin site using
- Your e-mail address "PalmeKar@wcps.k12.md.us"
- Your password "palmer"

NEXT STEPS:
Once you set up a survey "cohort" on the Admin site, you will have a password for that cohort which the participants will use to take the survey.

Survey participants will access the PLCA-R online at:
http://www.sedl.org/plc/survey

You can watch a short video walkthrough of the PLCA-R at:
http://www.sedl.org/plc/assessment.html

Let me know if you have any difficulty accessing the site or have other questions about customizing the PLCA-R Online.

Brian Litke

# Appendix D

## Invitation and Follow-up Sent via Microsoft Outlook

Dear Colleague,

I am Karen Palmer, a principal in the Washington County Public School (WCPS) system and a doctoral candidate at the University of Maryland, working under the supervision of Dr. Dennis Kivlighan, professor at UMD. I am inviting you to participate in a survey that forms the basis of my dissertation research regarding *Teachers' and Principals' Perceptions of School Practices Related to a Professional Learning Community* because you are a principal, lead teacher, or classroom teacher who participates in the Classroom-Focused Improvement Process (CFIP) meetings in your school. CFIP is endorsed by the Maryland State Department of Education as a strategy for building professional communities in schools. The purpose of this research project is to measure the perceptions of school practices related to six dimensions of professional learning communities (PLCs) in elementary schools in WCPS.

The online survey is called the Professional Learning Communities Assessment-Revised (PLCA-R) and it contains a number of statements about six practices associated with professional learning communities. *The survey* will take approximately 5-10 minutes to complete. The analyses of data relative to each of the six practices will provide diagnostic information to identify successful practices and those practices needing focused improvement efforts.

There are no risks to you from participating in this research study. Participation in the survey is anonymous and voluntary. The online survey program is not collecting information that will identify you personally, and no rewards or punishments are associated with your participation in the survey. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized.

There are no direct benefits to you, but possible benefits may include diagnostic information that will identify successful practices and those practices needing focused improvement efforts. Insight gained from the study may provide opportunities for WCPS leaders to determine the next steps toward utilizing CFIPs as a means to promote PLCs to improve student achievement and embed professional development.

The window to take the survey will be open from February 13 to February 28, 2014. Clicking on the link to take the survey indicates that you are at least 18 years of age; you have read the attached consent form; your questions have been answered to your

satisfaction and you voluntarily agree to participate in this research study. The consent form is attached with this email message, and you may print a copy of the consent form for your records if you choose.

Thank you for your consideration for taking part in this study. Your input is valued. Should you have any questions, please do not hesitate to contact Karen Palmer at 301-766-8015 or palmekar@wcps.k12.md.us or Dr. Dennis M. Kivlighan Jr, faculty advisor for this project, at dennisk@umd.edu.

If you agree to participate, please access the survey by clicking on the link below *or pasting it in your browser*:

http://www.sedl.org/plc/survey/index.cgi?sc=f2bcgg

Dear Colleague:

You received an e-mail message last week inviting you to participate in a survey that forms the basis of my dissertation research regarding *Teachers' and Principals' Perceptions of School Practices Related to a Professional Learning Community*.

If you have filled out the survey, thank you!

If you have not had a chance to take the survey yet, I would appreciate your valuable input by completing the survey. This survey should take no more than 5 to 10 minutes to complete.

To take the survey, please click on the link
http://www.sedl.org/plc/survey/index.cgi?sc=f2bcgg.

Thank you for your time!
Best,
Karen Palmer

# Appendix E

## Informed Consent Form

<table>
<tr><td>Project Title</td><td>Teachers' and Principals' Perceptions of the Implementation of the Classroom-Focused Improvement Process as a Professional Learning Community</td></tr>
<tr><td>Purpose of the Study</td><td>This study is being conducted by Karen Palmer at the University of Maryland, College Park. I am inviting you to participate in a survey that forms the basis of my dissertation research regarding Teachers' and Principals' Perceptions of School Practices Related to a Professional Learning Community because you are a principal, lead teacher, or classroom teacher who participates in the Classroom-Focused Improvement Process (CFIP) meetings in your school. The Classroom Focused Improvement Process (CFIP) is endorsed by the Maryland State Department of Education as a strategy for building professional communities in schools. The purpose of this research project is to measure the perceptions of school practices related to six dimensions of professional learning communities in elementary schools in WCPS.</td></tr>
<tr><td>Procedures</td><td>The Professional Learning Communities Assessment-Revised (PLCA-R) survey contains a number of statements about six practices associated with professional learning communities. The survey will take approximately 5-10 minutes to complete. The analyses of data relative to each of the six practices will provide diagnostic information to identify successful practices and those practices needing focused improvement efforts. Participation in the survey is anonymous and voluntary. The online survey program is not collecting information that will identify you personally, and no rewards or punishments are associated with your participation in the survey. You will access the survey by clicking on the link http://www.sedl.org/plc/survey/index.cgi?sc=f2bcgg. The window to take the survey will be from …. to …<br><br>A survey question will look like this…<br><br>
<table>
<tr><th>Collective Learning and Application</th><th>Strongly Disagree</th><th>Disagree</th><th>Agree</th><th>Strongly Agree</th></tr>
</table>
</td></tr>
</table>

| | |
|---|---|
| | **Staff members work together to seek knowledge, skills and strategies and apply this new learning to their work.** ○ ○ ◉ ○ |
| **Potential Risks and Discomforts** | *There are no known risks to you from participating in this research study. The online survey program is not collecting information that will identify you personally, and no rewards or punishments are associated with your participation in the survey.* |
| **Potential Benefits** | *There are no direct benefits to you, but possible benefits may include diagnostic information that will identify successful practices and those practices needing focused improvement efforts. The Classroom Focused Improvement Process (CFIP) is endorsed by the Maryland State Department of Education as a strategy for building professional communities in schools. Insight gained from the study may provide opportunities for WCPS leaders to determine the next steps toward utilizing CFIPs as a means to promote PLCs to improve student achievement and embed professional development.* |
| **Confidentiality** | *Participation in the survey is anonymous and voluntary. The online survey program is not collecting information that will identify you personally, and no rewards or punishments are associated with your participation in the survey. All electronic data will be collected and securely stored in a password protected file at SEDL. The data will be transferred from SEDL to the researcher electronically in an Xcel file and will be stored on the researcher's password protected office computer. The researcher is the only person who will have access to the data and hard copies of data will remain in the researcher's office in a locked file cabinet. All data will be destroyed (i.e., shredded or* |

| | |
|---|---|
| | *erased) when their use is no longer needed but not before a minimum of ten years after data collection.* |
| **Right to Withdraw and Questions** | *Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized.*<br><br>*If you have questions please contact*<br><br>*Karen Palmer*<br><br>*5 Campus Road Boonsboro, MD 21713*<br><br>*301-766-8015*<br><br>*palmekar@wc[ps.k12.md.us*<br><br>*or*<br><br>*Dennis Kivlighan*<br><br>*dennisk@umd.edu* |
| **Participant Rights** | *If you have questions about your rights as a research participant or wish to report a research-related injury, please contact:*<br><br>**University of Maryland College Park**<br><br>**Institutional Review Board Office**<br><br>**1204 Marie Mount Hall**<br><br>**College Park, Maryland, 20742**<br><br>**E-mail:** irb@umd.edu |

| | |
|---|---|
| | **Telephone: 301-405-0678**<br><br>*This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.* |
| **Statement of Consent** | *Clicking on the survey link to take the survey indicates that you are at least 18 years of age; you have read this consent form or have had it read to you; your questions have been answered to your satisfaction and you voluntarily agree to participate in this research study.*<br><br>*You will access the survey by clicking on the link* http://www.sedl.org/plc/survey/index.cgi?sc=f2bcgg. |

# Appendix F

## IRB Approval Notification


1204 Marie Mount Hall
College Park, MD 20742-5125
TEL 301.405.4212
FAX 301.314.1475
irb@umd.edu
www.umresearch.umd.edu/IRB

| | |
|---|---|
| DATE: | February 3, 2014 |
| TO: | Karen Palmer |
| FROM: | University of Maryland College Park (UMCP) IRB |
| PROJECT TITLE: | [548002-1] Teachers' and Principals' Perceptions of the Implementation of the Classroom-Focused Improvement Process as a Professional Learning Community |
| SUBMISSION TYPE: | New Project |
| ACTION: | DETERMINATION OF EXEMPT STATUS |
| DECISION DATE: | February 3, 2014 |
| REVIEW CATEGORY: | Exemption category #2 |

Thank you for your submission of New Project materials for this project. The University of Maryland College Park (UMCP) IRB has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations.

We will retain a copy of this correspondence within our records.

If you have any questions, please contact the IRB Office at 301-405-4212 or irb@umd.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of Maryland College Park (UMCP) IRB's records.

# Appendix G

## District Approval to Conduct Research

**Washington County Public Schools (WCPS)**
**Request for Conducting a Research Study (not a survey)**

| Karen Palmer | 11/26/12 | University of MD |
|---|---|---|
| **Name of Researcher** | **Date of Request** | **Sponsoring Institution** |

**WCPS Employee** ☑ **Yes** ☐ **No**

Before conducting a research study, the study must be approved by the Superintendent or designee. In order for your research study to be considered for approval, attach a description of your study (including a list of finalized survey questions and/or finalized questionnaire), as well as, a signed copy of your Institutional Review Board (IRB) approval.

| # | Questions | Yes | No | ? |
|---|---|---|---|---|
| 1. | Will subjects receive money or gifts exchange for their participation? | | ✓ | |
| 2. | Does the research involve the release of personal student information such as name, address, academic history etc.? | | ✓ | |
| 3. | Will the research require students to miss instructional time during the school day? | | ✓ | |
| 4. | Does the research require parental permission? | | ✓ | |
| 5. | Will the collection of data involve audio or visual recording of students? | | ✓ | |
| 6. | Will the collection of data require 30 or more minutes of staff time? | | ✓ | |
| 7. | Will the research involve the release of personal staff information such as name, address, age, gender etc.? | | ✓ | |
| 8. | Does study participation involve any inherent risks to Washington County Public Schools (WCPS)? | | ✓ | |
| 9. | Will WCPS assume any costs beyond time for participation in the study? | | ✓ | |
| 10. | Will WCPS be held responsible for consequences resulting from participating in the study? | | ✓ | |
| 11. | Does the study present any possible inaccurate and/or inflammatory information related to WCPS? | | ✓ | |
| 12. | Is WCPS the only school system participating in the proposed research? | ✓ | | |

*Revised by OTA 10.09.09*

## Washington County Public Schools (WCPS)
## Request for Conducting a Research Study (not a survey)

| # | Questions | Yes | No | ? |
|---|---|---|---|---|
| 13. | Will WCPS be provided with an in-depth explanation of the study's findings at no cost? | ✓ | | |
| 14. | Will participants be able to withdraw from the study at any time? | | | ✓ voluntary |
| 15. | Will WCPS staff be able to review the study findings prior to publication? | ✓ | | |
| 16. | Has the researcher's proposal been approved by the sponsoring institution's internal review board (IRB)? | | ✓ | |

17. In the space below, provide a written description on how this research will benefit or impact Washington County Public Schools.

see attachment for impact

Anticipated participants:

Elementary Teachers - 467
Middle School Teachers - 288
High School Teachers - 364
School Administrators - ≈ 90
1209

The survey can be administered as a paper copy or online. It is anticipated that staff will use online access.

Reference: http://www.sedl.org/pubs/catalog/items/plc01.html

| | | Yes | No |
|---|---|---|---|
| [signature] | 12/10/12 | ✓ with conditions | |
| Signature of WCPS staff member reviewing the proposal | Date | Recommendation | |
| | | Yes | No |
| Clayton W. Lewis | 12/10/12 | ✓ with stated conditions | |
| Signature of Superintendent or Designee | Date | Recommendation | |

*Revised by OTA 10.09.09*

# References

(2006). *WCTA/WCPS joint school improvement team study committee report.* WCTA/WCPS Joint School Improvement Team. Hagerstown: WCPS.

*Professional learning communities.* (2009). Retrieved from LDonline: http://www.ldonline.org/article/31653/

(2011). *Washington County Public Schools 2010-2016 bridge to excellence master plan: Program overview and progress report 2011.* Hagerstown, MD: Washington County Public Schools.

*Why Data-based Decision Making is Best Done at the Teacher Team Level*. (2012, November 23). Retrieved from School Improvement in Maryland: http://www.mdk12.org/process/cfip/Key_Understandings_d.html

*Key understandings for CFIP*. (2013). Retrieved April 10, 2013, from School Improvement in Maryland: http://www.mdk12.org/process/cfip/index.html

(2013). *Race to the Top Maryland Report 2011-2012.* Washington, DC: U.S. Department of Education. Retrieved March 27, 2013, from http://www2.ed.gov/programs/racetothetop/performance/maryland-year-2.pdf

*A Principal's Role in Improving Student Achievement*. (n.d.). Retrieved November 23, 2012, from School Improvement in Maryland: http://www.mdk12.org/process/student_achievement/index.html

Annenberg Institute for School Reform. (n.d.). *Professional learning communities: Professional development strategies that improve instruction.* Retrieved March 13, 2013, from Annenberg Institute for School Reform: http://annenberginstitute.org/pdf/proflearning.pdf

Black, P., Harrison, C., Lee, C., Marshall, B., & William, D. (2004, September). Working inside the black box: Assessment for learning in the classroom. *Phi Delta Kappan, 8*(1), 8-21.

Blankstein, A. M. (2004). *Failure is not an option: Six principles that guide student achievement in high-performing schools.* Thousand Oaks, CA: Corwin Press.

Boone, H. N., & Boone, D. A. (2012, April). Analyzing likert data. *Journal of Extension, 50*(2).

Boudette, K. P., City, E. A., & Murnane, R. J. (2010). *Data wise: A step-by-step guide to using assessment results to improve teaching and learning.* Cambridge: Harvard Education Press.

Creswell, J. W. (2003). *Research design: Qualitatitve, quantitative, and mixed methods approaches* (2nd ed.). Thousand Oaks, CA: Sage Publications, Inc.

Czaja, R., & Blair, J. (2005). *Designing surveys: A guide to decisions and procedures.* Thousand Oaks, CA: Sage Publications, Inc. .

Darling-Hammond, L., & McLaughlin, M. W. (1995). Policies that Support Professional Development in an Era of Reform. *Phi Delta Kappan, 76*(8), pp. 597-604.

Dillman, D. A., Tortora, R. D., & Bowker, D. (1998). *Principals for conducting web surveys.* SESRC Technical Report, Pullman, WA. Retrieved July 4, 2013, from http:/134.121.51.35/dillman/papers/1998/principlesforconstructingwebsurveys.pdf

DuFour, R. (1991). *The principal as staff developer.* Bloomington, IN: National Educatinal Service.

DuFour, R. (2004). What is a professional learning community? *Educational Leadership, 61*(8), 6-11.

DuFour, R. (2007, November). In praise of top-down leadership. *The School Administrator, 64*. Retrieved from The School Administrator: What drive: http://aasa.org/schooladministratorarticle.aspx?id=6498

DuFour, R. (2009, Fall). Professional learning communities: The key to improved teaching and learning. *The AdvancED Source*, p. 2.

DuFour, R. (n.d.). What is a Professional Learning Community? *Educational Leadership, 61*(8), 6-11.

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

DuFour, R., & Marzano, R. J. (2009, February). High leverage strategies for prinicpal leadership. *Educational Leadership, 66*(5), 62-68.

Dufour, R., & Marzano, R. J. (2011). *Leaders of Learning: How district, school, and classroom leaders improve student achievement* . Bloomington: Solution Tree Press.

DuFour, R., DuFour, R., & Eaker, R. (2005). *On common ground: The power of professional learning communities.* Bloomington: Solution Tree.

Dufour, R., Dufour, R., Eaker, R., & Karhanek, G. (2004). *Whatever It Takes: How professional learning communities respond when kids don't learn.* Bloomington: Solution Tree Press.

*Education: Race to the top*. (n.d.). Retrieved March 28, 2013, from The White House President Barack Obama: http://www.whitehouse.gov/issues/education/k-12/race-to-the-top

Elmore, R. F. (2002). *Bridging the gap between standards and achievement" The imperative for profesisonal devleopment in education.* Washington, DC: Albert Shanker Institute.

Fausset, C. B., Rogers, W., & Fisk, A. D. (2009, November). *Univariate and multivariate analysis of variance: A primer (Technical Report HFA-TR-0904).* Retrieved June 30, 2013, from Smartech: https://smartech.gatech.edu/bitstream/handle/1853/40570/HFA-TR-0904-ANOVA%20MANOVA%20Primer.pdf

Feger, S., & Arruda, E. (2008). *Professional learning communities: Key themes from the literature.* Providence, RI: The Education Alliance of Brown University.

Fullan, M., Cuttress, C., & Kilcher, A. (2005, Fall). 8 forces for leaders of change. *JSD, 26*(4), 54-64.

Gay, L. R., Mills, G. E., & Airasian, P. (2012). *Educational research; Competencies for analysis and application* (10th ed.). Upper Saddle River, NJ: Pearson.

Goddard, Y., Goddard, R., & Tschannen-Moran, M. (2007, April). A theoretical and empirical investigation of teacher collaboration for school improvement and student achievement in public elementary school. *Teachers College Record, 109*(4), 877-896.

Graham, P. (2007). Improving teacher effectiveness through structured collaboration: A case study of a professional learning community. *RMLE Online, 31* (1).

Halverson, R. (2006, August). A distributed leadership perspective on how leaders use artifacts to create professional community in schools (WCER Working Paper No. 2006-4). Madison, WI: Wisconsin Center for Education Research.

Halverson, R., Grigg, J., Prichett, R., & Thomas, C. (2003). *The new instructional leadership: Creating data-driven instructional systems in schools.* University of Wisconsin, School of Education, Madison. WI.

Hargreaves, A., Earl, L., Moore, S., & Manning, S. (2001). *Learning to change: Teaching beyond subjects and standards.* San Francisco, CA: Jossey-Bank, Inc.

Heise, M. M. (1994). Goals 2000: Educate America Act. *Fordham Law Review, 63*(2), pp. 345-381.

Hickey, M. E., & Thomas, R. S. (2007). Re-thinking how school teams improve: A team dialogue model for data-based instructional decision making. *CCSSO Education Leaders Conference.*

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

Hipp, K. K., & Huffman, J. B. (2010). *Demystifying professional learning communities: school leadership at its best.* Lanham: Rowman and Littlefield Education.

Hord, S. M. (1997). *Professional Learning Communities: Communities of continuous inquiry and improvement.* Retrieved from SEDL Advancing Research, Improving Education: http://www.sedl.org/pubs/change34/

Hord, S. M. (2007, April). What is a PLC? *SEDL Newsletter, 19*(1). Retrieved from http://www.sedl.org/pubs/sedl-letter/v19n01/what-is-a-plc.html

Hord, S. M., & Sommers, W. A. (2008). *Leading professional learning communities: Voices from research and practice.* Thousand Oaks: Corwin Press.

*Introduction to the Classroom-Focused Improvement Process (CFIP)*. (n.d.). Retrieved November 23, 2012, from School Improvement in Maryland: http://www.mdk12.org/process/cfip/index.html

Kruse, S., Louis, K. S., & Bryk, A. (1994, Spring). Building porfessional communities in schools. *Issues in Restructuring Schools*(6).

Lachat, M. A., & Smith, S. (2004). *Data use in urban high schools.* Providence RI: The Education Alliance .

Little, J. W. (2006). *Professional community and professional development in the learning-centered school.* Washington,DC: National Education Association.

Louis, K. S., & Kruse, S. D. (1995). *Professionalism and community: Perspectives on reforming urban schools.* Thousand Oaks, CA: Corwin Press.

Louis, K. S., & Marks, H. M. (1998). Does professional learning community affect the classroom teachers' work and student experience in restructured school? *American Journal of Education, 106*(4), 532-575.

McDonald, J. P., Mohr, N., Dichter, A., & McDonald, E. C. (2007). *The power of protocols: An educator's guide to better practice* (2nd ed.). New York, NY: Teachers College Press.

McLaughlin, M. W., & Talbert, J. E. (2006). *Building school-based teacher learning communities: Professional strategies to improve student achievement.* New York: Teachers College Press.

McMillan, J. H. (2008). *Educational research: Fundamentals for the Consumer.* Boston, MA: Pearson Education, Inc.

MetLife. (n.d.). *The MetLIfe survey of the American teacher: Collaborating for student success Part 1: Effective teaching and leadership.* Retrieved from MetLife: https://www.metlife.com/assets/cao/contributions/foundation/american-teacher/MetLife_Teacher_Survey_2009_Part_1.pdf

MGT of America. (2008). *An Evaluation of the Effect of Increased State Aid to Local School Systems Through the Bridge to Excellence Act.* Tallahassee: MGT of America.

NAESP. (2001). *Leading learning communities: Standards for what principals should know and be able to do.* Washington, DC: Collaborative Communications Group, Inc.

Newmann, F. M., King, M. B., & Youngs, P. (2001, January 5). Professional development that addresses school capacity: Lessons from urban elementary schools. *American Journal of Education,* 259-299.

Newmann, F., & Wehlage, G. (1997). *Successful school restructuring: A report to the public and educators by the Center on Organization and Restructuring of Schools.* Document Service, Wisconsin Center for Education Research: Madison, WI.

Oberman, I., & Symonds, K. W. (2005). What matters the most in closing the gap. *Leadership, 34*(3), 8-11.

Rosenholtz, S. J. (1991). *Teachers' workplace: The social organization of schools.* New York, NY: Teachers' College Press.

Schmoker, M. J. (1996). *Results: The key to continuous school improvement* (2nd ed.). Alexandria: ASCD.

Schmoker, M. J. (2001). *The results fieldbook: Practical strategies from dramatically improved schools.* Alexandria: ASCD.

Schmoker, M. J. (2004). *Tipping point:From reckless reform to substantive instructional improvement.* Retrieved March 28, 2013, from Phi Delta Kappan: http://www.kappanmagazine.org/content/85/6/424.abstract

Schmoker, M. J. (2005). *On common ground: The power of professional learning communities.* (R. Barth, & B. Eason-Watkins, Eds.) Bloomington, IN: Solution Tree Press.

Schmoker, M. J. (2006). *Results now: How we can achieve unprecedented improvements in teaching and learning.* Alexandria: ASCD.

Schmoker, M. J. (2007, April). Authentic accountability: The education community at a crossroads. *SEDL Newsletter, 19*. Retrieved March 31, 2013, from http://www.sedl.org/pubs/sedl-letter/v19n01/SEDLLetter_v19n01.pdf

Schmoker, M. J. (2009, January). Data: What now? Measuring what matters. *Educational Leadership, 66*(4), 70-74.

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

Smith, L. (2008). *Schools that change: Evidence-based improvement and effective change leadership.* Thousand Oaks: Corwin Press.

Sparks, D. (2005). *Leading for results: Transforming teaching, learning, and relationships in schools.* Thousand Oaks, CA: Corwin Press.

Sparks, D. (2005). Leading for transformation in teaching, learning, and relationships. In R. DuFour, R. Eaker, & R. DuFour (Eds.), *On common ground* (pp. 155-175). Bloomington, IN: Solution Tree.

Stevens, W. D., & Kahne, J. (2006). *Professional communities and instructional improvement practices: A study of small high schools in Chicago* . Chicago, IL: Consortium on Chicago School Research.

Stiggins, R. (2005). Assessment FOR learning: Building a culture of confident learners. In R. DuFour, R. DuFour, & R. Eaker (Eds.), *On common ground: The power of professional learning communities* (pp. 65-84). Bloomington, IN: Solution Tree.

Supovitz, J. A., & Klein, V. (2003). *Mapping a course for improved student learning: How innovative schools systematically use student performance to guide improvement.* Retrieved April 1, 2013, from Consortium for Policy Research in Education: http://www.cpre.org/images/stories/cpre_pdfs/AC-08.pdf

Tobia, E. (2007, April). The porsessional teaching and learning cycle: Implementing a standards-based approach to professional development. *SEDL Newsletter, 19*(1), pp. 11-15.

Vescio, V., Ross, D., & Adams, A. (2008). A review of research on the impact of professional learning communities on teaching practice and student learning. *Teaching and Teacher Education, 24*, 80–91.

Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity.* New York, NY: Cambridge University Press.

WestEd. (2000). *Teachers who learn, kids who achieve: A look at schools with model professional development.* San Francisco, CA: WestEd.