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Leading a successful change effort at the school level

Sindy Samantha Shell

Pepperdine University

Graduate School of Education and Psychology

LEADING A SUCCESSFUL CHANGE EFFORT AT THE SCHOOL LEVEL

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Sindy Samantha Shell

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June Schmieder-Ramirez, Ph.D.-Dissertation Chairperson

This dissertation, written by

Sindy Samantha Shell

under the guidance of a Faculty Committee and approved by its members, has been submitted to and accepted by the Graduate Faculty in partial fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION

Doctoral Committee:

June Schmieder-Ramirez, Ph.D., Chairperson
Christopher Lund, Ed. D.
Michael Matthews, Ed.D.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

DEDICATION

I extend my heartfelt thanks, love, appreciation, and warmest regards to my family and dearest friends in life. This dissertation is dedicated to my dad, J Shell for supporting me throughout this process. To my mom, Barb Shell for her love and support to my brother, Darren Shell for helping me along the way. Finally, to my loving boyfriend, Nathan Baca, who was my rock of support throughout this process. I sincerely appreciate your unwavering support, commitment, and patience as I pursued my goal. I would not have completed this monumental task if it was not for your encouragement and inspiration. My family is very dear to me and I thank them sincerely for providing me with support during this degree. My deepest gratitude is extended to you always.

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VITA

Sindy Samantha Shell

EDUCATION

PEPPERDINE UNIVERSITY	Doctoral Candidate In progress (July 2011) 3.96 Organizational Leadership
	Dissertation: Leading a Successful Change Effort at the School Level
	Master of Science (2008) 4.0 Administration Educational Leadership Academy Administrative Service Credential (2008) Leadership Project: Implementation of School-wide Science Fair Program
CALIFORNIA STATE UNIVERSITY, LONG BEACH	Single-Subject Teaching Credential (2006) 3.5 Biological Sciences
BELOIT COLLEGE	Bachelor of Science (2002) 3.2 Ecology, Evolution, and Behavioral Biology Senior Thesis: The Parallel Speciation of Three-Spine Stickleback

HONORS

Glen and Gloria Holden Scholarship—2008
DisneyHand Teacher Nominee—2003
Beloit College Women's Soccer Record Holder—2002
BBB Biology Honors Society First Place Organismal Biology– 2002
Susan Fulton Welty Award– 2000
Gracie Jiu-Jitsu National Champion—2000

RESEARCH

Thinking About ALASKA Technology Leads to Thinking About Student Learning: A Professional Development for Algebra Teachers, International Conference of the Society of Information Technologies, Orlando, FL, 2010

The Implementation Process of Professional Learning Communities in K-12 Schools, Society of Educators and Scholars, Costa Mesa, CA 2009

Pitfalls of PLCs—California League of Middle Schools Leadership Symposium, Lake Tahoe 2008

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International Conference of the Society of Information Technologies, Orlando, FL, 2010 Conference Proceedings

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Shell, S.S. (2003). Testing for parallel speciation with courtship latency in a stickleback species complex. *The Beloit Biologist.* 55, 10-15.

PROFESSIONAL EXPERIENCE
Brandman University
Adjunct Faculty-Organizational Development and Change, San Diego, Feb 2010-present

Pepperdine University
Researcher and Teaching Associate, Los Angeles, Sep 2009-July 2010

Crossing the Digital Divide, Los Angeles, Mar 2009-Aug 2009
Assistant Director

Miraleste Intermediate School PVPUSD, Rancho Palos Verdes, CA Sept 2007-Jun 2009
GATE Advisor
Science Fair Coordinator
Accelerated Physical Science Teacher

Summer Institute for the Gifted UCLA, August 2008*, 2009*
Biology Instructor

Rancho Santa Margarita Intermediate SVUSD Rancho Santa Margarita, CA Sept 2006-Jun 2007
Physical Science Teacher

Charles Drew Middle School LAUSD Los Angeles, CA Sept 2004-Jun 2006
Small Learning Community Chair
Science Department Chair
Science Teacher

ABSTRACT

Schools that have implemented professional learning communities (PLCs) have been experiencing the initial intention of professional learning communities, however, the essence of shared leadership, using collaboration as a problem solving component, and data-driven decision making is not in fact what is taking place in schools.   The term "PLC" has become an overused and often detrimental label.

This observed outcome could be attributed to how the professional learning community is implemented in the school. In order to have the change be effective, the new endeavor must be anchored in the culture. In fact, it has been observed that missing component in PLCs is the school culture does not take on the new culture that a PLC requires. This mixed method study was designed to investigate the extent to which professional learning communities are implemented among schools. The Concerns-Based Model and the Levels of Use instruments were used to assess the usage of the practices of professional learning communities. The Concerns-Based Adoption Model (CBAM) measures an organization's response to change or innovation. A change assessment was created to ascertain which provisions the leaders of the schools took to move the school from a traditional school to a professional learning community school. A regression analysis and factor analysis were conducted with the numerical scores of the change assessment and the Concerns-Based Model and the Levels of Use to determine which change efforts were most effective in implementing professional learning communities. The Change Assessment and the Concerns-Based Model are survey instruments and Level of Use is an interview protocol. In addition to these assessment tools, An Authentic PLC Assessment tool was created to determine which change efforts

measured by the Change Assessment yielded authentic professional learning

communities as described by the literature.

Chapter 1: Introduction

This chapter provides background information, the statement of the problem, the

purpose of the study, the research questions and hypotheses, the importance, scope,

limitations and assumptions of the study, and the definition of terms used in this study.

In the present school climate, high accountability under the No Child Left Behind

(NCLB) Act of 2001 has left schools with debilitating pressure to improve student

achievement and close the achievement gap. The No Child Left Behind Act of 2001

(NCLB, 2002) has set the goal of having every child in the United States perform at

grade level on state benchmark tests by the end of the 2014 school year. As a result of

the pressure, schools are asked to reflect on their teaching practices to improve student

achievement in their classrooms. In this reflective process, teacher collaboration

becomes an integral tool. Collective decision-making between teachers and

administrators is another strategy schools have taken in order to increase student

achievement (*No Child Left Behind: A Toolkit for Teachers*, 2004). Both teacher

collaboration and collective decision-making are indications that schools, which are very

complex, must take on a community approach when addressing the pivotal issue of

closing the achievement gap (Hord & Sommers, 2008).

One way a school can begin to address issues and concerns using a community

approach are by adopting a professional learning community model (PLC) as a means of

operating. Fullan (1993) indicated that the best manner in which to close the

achievement gap was to have principals operate schools as professional learning

communities, and in fact this was the best hope for school reform. Lieberman (1995)

suggested that the perceived role of principals needed to change as "the 1990s view of

leadership called for principals to act as partners with teachers, involved in a collaborative quest to examine practices and improve schools" (p. 9) as an imperative manner to re-culture a school into professional collaboration. Lezotte (1997) also noted that effective schools had principals enter a shared leadership model of leading rather than lead with a top-down approach.

While several studies and books exist about professional learning communities and their potential impact, there is little to no literature and studies on what implementation factors are responsible for yielding a professional learning community that frequently engages into student achievement and teacher practices and refines itself based on those findings. This study aims to look at what organizational change principles can a school adopt to yield a highly-functioning professional learning community. In addition this study will identify the cultural norms that must be incorporated to make the professional learning community sustainable.

The significance of this study is to profit educators, legislators, district leaders, school leaders, and educational reformists into the insights of implementing professional learning communities. This study will shed light on how collaborative educational teams can work more effectively, how school leaders can cultivate shared leadership, and how educational reformists can implement change at the school level. Since professional learning communities provide a successful avenue to close the achievement gap, it is imperative that a study explore what implementation factors are integral in forming a community where student results are discussed and teacher practice is modified based on those findings.

The effects of pressure of school accountability will be further explored in the background section. In addition, a case for teacher collaboration as means of professional development will also be explored. Finally, a link to reculture the school into professional learning communities that incorporate shared leadership, collective decision making, and professional learning as an answer to the pressure of school accountability will be made.

Background

The core existence of schools is to ensure that our youth is being educated. In order for education to be taking place, students must be learning. When students are learning in a classroom setting, the teacher is supplying the pedagogical framework from which the student is partaking. There has been awareness for some time that student achievement is tied to teacher learning (DuFour & Eaker, 1998; Killion, 2002a; Marzano, 2003; Schmoker, 1999). This awareness, however has not always been made clear to teachers in the classroom who have been vaguely reminded by their administrators to seek excellence in their professional craft without overtly emphasizing the very real threat of failure that might keep student achievement as the goal of all teachers seeking professional development (Lieberman & Miller, 2001). Although there is much evidence to support the concept that as teacher learning increased—student learning increased; research has not demonstrated a causal link (Anderson, Brown, & Lopez-Ferrao, 2003; Barnett, 2003a; 2003b; Brighton, 2001; Francis & Hardy, 2003; Hawley & Rollie, 2002).

Research has shown, there is a direct proportion to teaching quality and student learning. In addition, teaching quality improves when teachers engage in continuous reflection, professional learning, and development. This continuous refinement of

teachers as professionals takes place in a professional learning community (PLC; Hord, 2009). According to Dufour and Eaker (2004), "The most promising strategy for sustained, substantive school improvement is building the capacity of school personnel to function as a professional learning community" (p. 4).

Traditional professional development is falling short for effecting teacher practice. This phenomenon of student outcomes tied to teacher learning can be illustrated by research conducted by Anders, Hoffman, and Duffy (2000) when they looked at inservice teachers who taught reading. Anders et al. (2000) found that research addressing inservice teacher education in the subject of reading is thin; about .007% of all reading research between 1985-1995; and frequently focused on teacher satisfaction or one area of change in teachers, e.g. belief, attitude, practice; or a single element of student achievement, e.g. decoding or comprehension. Recently, more research is dedicated to inservice teacher professional development in the subject of reading (Killion, 2002b; Martin, 2001; Mason & Schumm, 2003), though no statistics were found to compare to Anders et al. (2000). Chard (2004) notes the conspicuous absence in current research of studies that "systematically examine the effects of teacher training on student outcomes" (p. 176). Further, Chard states that although there is much research on what needs to be done to improve pedagogy related to readers, very little research is available on how to change the instructional practice of teachers.

Elmore (2002) states:

The pathology of American schools is that they know how to change… promiscuously and at the drop of a hat. What schools do not know how to do is to improve, to engage in sustained and continuous progress toward a performance

goal over time. So the task is to develop practice around the notion of improvement. (p. 2)

Long-term school reform is needed and is tied to teacher learning. However, teacher learning and professional development for teachers seems to be falling short for what is needed to change teacher practice. Guskey (2000) claimed, "Never before in the history of education has greater importance been attached to the professional development of educators. Every proposal for educational reform and every plan for school improvement emphasizes the need for high-quality professional development" (p. 3).

Schools today. The United States views education as having all children to be able to perform at high levels. Teachers come to school every day, applying their pedagogical and content knowledge to classroom challenges; yet, a gap exists in student performance levels. Teacher effort has done little to alleviate this gap (Knapp, 1997). The gap exists because teachers do not have the resources or opportunity to develop the skill sets that they need (Haycock & Jerald, 2001). To ensure learning is occurring in the classroom, teachers must acquire the skill sets to make them effective instructors for our students. According to Blankstein, Houston, and Cole (2008),

> If these professionals are to become as effective as our children deserve for them to be, their knowledge and skills must be enhanced, their instructional strategies must become more powerful, and their application of strategies must be more appropriately determined and delivered. (p. 23)

A school provides evidence that students are learning by the state test scores that are reported each year. In California, this index measurement is referred to as the

Academic Performance Index (API) score. The API score is a result of California's

Public Schools Accountability Act of 1999 (California Department of Education).

The No Child Left Behind (NCLB, 2002) Law requires that states create

accountability systems that include Annual Yearly Progress (AYP) data in areas of

student mathematics and reading achievement, disaggregated into the following at-risk

groups: economically disadvantaged (ED); major racial or ethnic groups (Ethnicity);

students with disabilities (Disability); and English Language Learners (ELL). The

research design of this quantitative study will include student literacy score variables

disaggregated into subgroups: ED, ethnicity, disability, and ELL level.

Since the most influential factor of student learning is teacher performance,

student API scores are an indirect result of educators practice. If API scores are to be

affected, there must be a change in teacher performance and practice. This is, however,

in conjunction with other factors that influence education and API scores such as: social

economic status, growth of the API score, and meeting the projected API score

designated by the State of California. Despite these factors, there seems to be a growing

consensus that lasting instructional change in the classroom comes from the willingness

of the teacher to modify pedagogical knowledge, behavior, belief, and attitude (Guskey,

1986). Schlechty (2005) suggested two conditions that warrant reform efforts for

schools. These conditions occur when: (a) "moral values and commitments expressed in

the school culture are demonstrably at odds with manifest reality" (p. 26) and (b)

"fundamental shifts in the larger culture require that schools serve ends or meet

expectations not formerly required" (p. 26).

Learning organizations. Learning organizations have developed a culture where problem solving and being proactive are values shared among the organization. In a learning organization, inquiry into problems is a common exercise comprised on the assumption that if in inquiry and pragmatic searches for truth, solutions are derived. Leaders also seek development because they acknowledge that they have several deficiencies (Schein, 2004). Fullan (2001) has noted that, "At the most basic level, businesses and schools are similar in that in the knowledge society, they both must become learning organizations or they will fail to survive" (p. vii).

Developing learning organizations requires shifts in how the members of the organization interact and think. The change goes beyond corporate cultures, where the foundation of assumptions and norms are changed by means of the culture as a whole. Each of the members undergoes a personal transformation as well (Kofman & Senge, 1993).

Senge (2006) identified five disciplines essential for a learning organization: systems thinking, personal mastery, mental models, shared vision, and team learning. These disciplines provide a framework for schools to work and talk together. Schools can easily become learning organizations. Even though schools are where students learn, in a traditional setting, there was little learning for the educators of the school. Learning organizations resonate specifically with educators because they have the opportunity to combine their aspirations with better performance (Senge, 2000). One educational reform model that fits well with Senge's (2006) concept of learning organization are professional learning communities (PLCs) in schools.

Problems with school reform. Changing any organization is difficult, and if that organization is the American school system, then the task is daunting (DuFour, DuFour, & Eaker, 2008).

Most educators have not been trained in initiating, implementing and sustain change. They have neglected the process of creating a "critical mass" of support or have failed to proceed because of the mistaken notion that they needed unanimous support before launching an initiative. They have regarded conflict as a problem to avoid rather than an inevitable and valuable byproduct of substantive change. They have failed to anchor the change within the culture of the school. They have considered a change initiative as a task to complete rather than an ongoing process. In short, school practitioners have not made a sufficient effort to become skillful in the complexities of the change process. (Dufour et al., 2008, p.14)

Taking introspection into the implementation process of professional communities in K-12 schools allows other schools to learn from mistakes that are made during the way. An analysis of this process is important because organizations only improve "where the truth is told and the brutal facts confronted" (Collins & Porras, 1997, p. 5).

Professional development. After reviewing literature on increased student achievement, U.S. Department of Education Assistant Secretary for Education Research and Improvement, Grover J. Whitehurst (2002), states that the most critical element to positively impact student achievement is effective teaching. Further, Whitehurst states that effective teaching is most greatly impacted by strong cognitive ability, followed by

content-focused, highly intensive professional development; and then by teaching

experience. Strickland, Kamil, Walberg and Manning (2003) elaborate:

> …though much has been learned about what constitutes effective professional
>
> development, there is little research-based evidence about how to design
>
> professional development programs and activities such that changes in teacher
>
> instructional practices can be made permanent. (p. 1)

Professional development for educators can have a variety of purposes

(Lieberman & Miller, 2001) which might include: encouraging educators to "plant new

seeds for democracy—and for imagination and thought" (Greene, 2001, p. 11); being part

of a body of educators committed to building a place "where public purpose is

encouraged and supported throughout the school by its official leaders through the

provision of time and opportunities" (Glickman & Alridge, 2001, p. 21); or increasing

"teachers' capacity for reform" (Little, 2001, p. 41) and encouraging teachers'

interpretations of reform initiatives. The National Staff Development Council (NSDC)

was created in 1968 to pursue the purposes of professional development as they relate to

student achievement.

> The NSDC describes itself as:
>
> …a national non-profit association of about 10,000 educators….committed to
>
> ensuring success for all students by applying high standards for professional
>
> development for everyone who affects student learning. The Council views high-
>
> quality staff development programs as essential to creating schools in which all
>
> students and staff members are learners who continually improve their
>
> performance. (NSDC, 2001, p. ?)

The NSDC (2001) corporately believes that "Staff development is the means by which educators acquire or enhance the knowledge, skills and attitudes necessary to create high levels of learning for all students" (p. 2) and that "sustained, intellectually rigorous staff development is essential for everyone who affects student learning" (p. 2).

In 1995, the NSDC developed standards for staff development built on *context*, *process*, and *content*, revised in 2001. The *context standards* are organized around the need for learning communities, leadership and resources. The *process standards* focus on how professional development should be used to improve student learning by using data, evaluation, research-based practices, learning, and collaboration as follows:

- staff development that improves the learning of all students;

- uses disaggregated student data to determine adult learning priorities, monitor progress, and help sustain continuous improvement. (Data-Driven);

- uses multiple sources of information to guide improvement and demonstrate its impact (Evaluation);

- prepares educators to apply research to decision making (Research-Based);

- uses learning strategies appropriate to the intended goal (Design);

- applies knowledge about human learning and change (Learning);

- provides educators with the knowledge and skills to collaborate.

The *content standards* focus on the commitment of professional development to embrace equity, quality teaching, and family involvement. Interestingly, even though the NSDC Standards are seen as "the state of the art in the professional development

literature" (Chard, 2004, p. 186), others note that there is little empirical evidence to support a relationship between the standards and student achievement (Gersten, Chard, & Baker, 2000; Klingner, Vaughn, Hughes, & Arguelles, 1999).

According to Gersten et al. (2000) the sustainability of research-based practices in the classroom has been a research priority for the U.S. Department of Special Education since the early 1980's, and continues to need further study. A distinction is made between two types of innovation, *structural* and *core of teaching* (p. 447). Structural innovations are those that aim to change noninstructional practices, and may only minimally impact how teachers instruct students. Structural innovations might include changes to the daily schedule or supply ordering procedures. Core of teaching innovations describe the paradigm shift teachers must permit themselves for real pedagogical change to occur. In other words, if teachers are asked to incorporate phonemic awareness instruction into their language arts lessons, for example, professional development efforts should consider how they currently teach language arts, what teachers currently understand, and how best to help them change pedagogy to meet the needs of their students.

Over the last decade, it has become apparent to many researchers (Fullan, 2005; Olivier, 2001; Peterson, 1997; Ross, Hogaboam-Gray, & Gray, 2004; Slick, 2002; So, Sharpe, Klockow, & Martin, 2002; Speck, 2002; Teel, 2003; Tschannen-Moran & Barr, 2004; Tucker, 2004) that student achievement does not occur in a vacuum of teacher-student work. Many current experts agree that there is a need for a balanced effort between students, parents, teachers, administrators, and the surrounding community to be pooled into a hard-working, shoulder-to-shoulder professional learning community with the student and teacher at the core (DuFour & Eaker, 1998; Fullan, 2005; Hawley &

Rollie, 2002; Lieberman & Miller, 2001; Marzano, 2003; Schmoker, 1999). These experts contend that two key components in the mix are teacher collaboration and administrative support of the efforts of teachers.

PLC—school reform *du jour*. It has been experience that the initial intention of professional learning communities is not in fact what is taking place in schools. The term *PLC* has become an overused and often detrimental label. Bloom and Vitcov (2010) state, "Like so many good ideas that have come and gone in K-12, the concept of professional learning communities is often misunderstood and frequently abused" (p. 24).

To elucidate this notion, Dufour et al. (2006) observe that the term *professional learning community* has been used haphazardly and the term's meaning has become uncertain as a result of its growing popularity. The others go on to state "In fact, the term has become so commonplace and has been used so ambiguously to describe virtually any loose coupling of individuals who share a common interest in education that it is in danger of losing all meaning" (p. 2).

One of the observations that have emerged among studies can be attributed to a stagnant culture. This missing component in PLCs can be summarized that the school culture does not take on the new culture that a PLC requires. In summary, Bloom and Vitcov (2010) state "To be successful, a PLC needs to be a cultural habit built on trust and the intrinsic motivation for everyone to hold themselves accountable to one another through de-privatized and transparent practice" (p. 24).

Sergiovanni (1996) observed how teachers are isolated in their own classrooms, and this culture is harmful to the learning and development of the teacher and ultimately the learning and development of the students, as he stated:

The culture of most schools is characterized by norms of privatism and isolation,

which keep teachers apart. Furthermore, although administrators often talk about

the value of collegiality, their actions sometimes encourage teachers to compete,

rather than cooperate. Moreover, breaking with the norms of isolation and

privatism can make teachers more vulnerable to censure and criticism from

administrators. . (p. 88)

Sergiovanni (1996) discusses this concept in greater detail:

…the existing culture were transformed into a professional culture and the school

itself were transformed into a learning community, then collegiality would

become real. For this transformation to occur, change strategies and leadership

practices must be based primarily on professional and moral authority. In a sense,

it is a problem of getting the "vaccine" right. In this case, cultural problems

require cultural solutions. (p. 90)

Measuring implementation. The Concerns-Based Adoption Model (CBAM)

measures an organization's response to change or innovation. The CBAM is a data

collection tool used to measure school improvement endeavors' level of implementation

of the new innovation. "Implementation researchers may also use the CBAM tools to

build knowledge about how teachers make sense of reform policies and resulting

innovations" (Webb, Robertson, & Fluck, 2005, p. viii). Each of the CBAM tools is

unique in its traits and strengths in measurement. There are three levels of measurement,

Stages of Concern (SoC), Level of Use (LoU), and Innovation Configurations (IC)

(Webb et al., 2005). The SoC is a quantitative instrument that measures what a teacher is

feeling about an innovation. The LoU is an interview that focuses on the teachers'

actions using eight behavior profiles along a continuum. The IC is a map which verbally describes the components of an innovation with varying decrease of practice which is determined to be on a scale from poor to ideal. These instruments can be used all together to understand the complete picture of the implementation of an innovation, or they can be used singularly. For the purpose of this study, the SoC and LoU will be used to understand the implementation level of professional learning communities in schools (Webb et al., 2005).

The SoC measures the personal side of change and the individual's point of view. The SoC measures the affective aspect of change, such as: people's feelings, perceptions, reactions, and attitudes. The SoC is a survey, which can quickly ascertain individual's perception on the change (Webb et al., 2005).

Webb et al. (2005) explain the CBAM further:

The Stages of Concern About an Innovation was developed as one of three diagnostic dimensions of the Concerns-Based Adoption Model (CBAM), a framework for measuring implementation and for facilitating change in schools. The Stages of Concern Questionnaire (SoCQ) provides a way for researchers, program evaluators, administrators, and change facilitators to assess teacher concerns about strategies programs, or materials introduced in a school. Only by understanding concerns and addressing those concerns can they assess the extent of implementation and/or guide teachers successfully throughout the change process. (p. xi)

The LoU uses behaviors as its measure. This instrument is more objective and measures observed behavior. The LoU depicts how users are acting with respect to the

specific change. Together, the SoC and LoU can provide insightful and powerful descriptions of how the change is impacting the individuals of the organization. These descriptions can measure the impact of change in two ways. First, these instruments focus on perceptions and feelings and secondly, on demonstrated behaviors reported by the user of the innovation or change. Each individual will respond to the change initiative differently. The CBAM has been used in school interventions and reforms to measure how educators are using the innovation (Webb et al., 2005).

Summary of background. The most critical element in improving student achievement and ultimately API in California and the national AYP scores is to affect teacher practice. Professional development and teacher learning can influence teacher practice. However, professional development and teacher learning has fallen short over the last several decades as the achievement gap broadens. According to Guskey (2000), "Many conventional forms of professional development are seen as too top-down and too isolated from school and classroom realities to have much impact on practice" (p. 3).

Edward T. Joyner wrote an excerpt in Peter Senge's (2000) *A Fifth Discipline: Schools that Learn* where he said, " I coined the term 'drive-by staff development' to help educators understand the need for schools to be reflective placers where teachers can select the training they need to improve teaching and learning" (p. 385). Traditional professional development that takes place in schools and school districts is typically a one-shot event that is disconnected from the teacher's pedagogical or content needs, the students' needs, and is not tied into having an ongoing, reflection on their practice (Senge, 2000). Engaging teachers and administrators to solve their own developmental needs by engaging in collaboration can change this. Consequently, teaching quality

improves when teachers are engaged in this type of constant reflection, learning, and development. One avenue where teachers can engage in this continuous refinement of teachers as professionals is in a professional learning community (Dufour et al., 2008).

Hargreaves stated in the forward of *Leading Professional Learning Communities: Voices from Research and Practice* by Hord and Sommers (2008) that:

> This apparent synergy between those who strive for professional renewal and those who insist on immediate achievement gains, coupled with the incontrovertible evidence of the early impact and effectiveness of PLCs, has led to a drive to disseminate PLCs further, to spread them out and scale them up. (p. ix)

Unfortunately, the outcome of this trend of schools reorganizing into professional learning communities has resulted in "…instead of being sustainable learning communities, PLCs often amount to little more than thrown-together teams performing hurried tasks together" (2008, p. x). Essentially, the term PLC has been broadly used and has resulted in the term effectively describing schools that are not in fact what the original authors and theorist determined what a PLC should be. In addition, Hargreaves also stated that, "They also need moral discernment and intelligent critique and to distinguish the serious from the superficial, the politically opportune from the authentic and profound" (p. x).

As Hargreaves (as cited in Hord & Sommers, 2008) alerted the educational community that the new trend of implementing professional learning communities did not in fact yield authentic PLCs, this study aims to elucidate what actions in the implementation process where necessary to yield an authentic professional learning

community. In addition, this study aims to assess the use and concerns of teachers about the implementation process of professional learning communities by using the two components of the CBAM, the Soc and LoU. The problem and purpose of this study are explained in the proceeding sections.

Problem Statement

As a result of the negligence schools have had in organizational change, this study seeks to specifically identify the change attributes used by the school in implementing a PLC in a traditional school that yielded a sustainable program.

The present study has four main purposes:

1. To identity attributes in the change process that a school used to implement a sustainable professional learning community;

2. To determine teacher's perceptions of professional learning communities when certain change attributes were used in the implementation process;

3. To identify the change attributes in the implementation phase of that yield a high level of use of the professional learning community;

4. To identify the change attributes that yielded an authentic professional learning community as defined by Hord (1997).

An ex post facto study can begin to identify common change attributes that schools have used to change process to fill in the gaps of the literature on PLC development and make meaningful contributions to the field of educational leadership. A rationale on the reason an ex post facto study was chosen for this investigation is in the methodology section.

Purpose of the Study

The purpose of this study was to examine the relationship between change attributes and authentic professional learning communities. In addition, this study aims at describing the relationship between change attributes and teachers stage of concern and levels of use. Furthermore, this study also defines the relationship between teachers' level of use of the professional learning community and the authenticity of professional learning communities. The examination of background information was important to this study because it was hoped it would be possible to identify characteristics of authentic professional learning communities and characteristics of the professional learning community implementation process.

The second part of this study interviews participants to identify their level of use of the professional learning community in their day-to-day activities. The Level of Use protocol contains eight levels of use that a teacher can experience when using professional learning communities. By correlating these instruments, understandings about the nature of the implementation of professional learning communities, teacher concerns and emotions, the level of use of the innovation, and the authenticity of the professional learning community can be measured and yield vast insights into future implementations of professional learning communities and educational reform endeavors.

Naturally, schools will take on a *new way of doing things*, which will yield a cultural shift in the school community. The goal of this study is to look at the implementation process and identify change attributes that schools used in the creation and support of PLCs. By doing so, this will highlight where to inject further energy into the future efforts of schools implementing and sustaining of professional learning

communities. It also should be noted, that of all of the PLCs that have been implemented nation-wide, many did not use organization change models in doing so, and as a result, authentic, team-based PLCs are exceedingly rare (Schmoker, 1999).

Professional learning communities are a school management program that allows and encourage teachers to collaborate on best practices (Hord & Sommers, 2008). To illustrate the cultural shift necessary to have an authentic professional learning community, take for example a component of PLC involves the notion of administering common assessments (Blankensip & Ruona, 2007; Blankstein, Houston, & Cole, 2008; Blankstein, Houston, Cole, & Foundation, 2007; Borko, 2004; Bransform, Vye, Stevens, & Schwarz, 2006; Bullough & Baugh, 2008; Bullough, 2007; Dufour et al., 2008). Common assessments can be defined as where teachers who teach the same grade and subject administer the same test. Then the results are reported and analyzed in a collaborative setting. The teaching group could discuss different pedagogical techniques that were used to yield the results. Individual students may be discussed and the teaching group may discuss future pedagogical techniques and re-teaching strategies (Schmoker, 1999). This system can prove to be very powerful for impacting teacher practice and data-driven decision-making. However, these behaviors are foreign to educators and teachers may have a difficult time entering into these activities (Hord & Sommers, 2008). In the teaching practice, teachers seldom discuss educational or instructional strategies, let alone share results from assessments (Dufour et al., 2008; Schmoker, 1999). Professional learning communities in essence, seek to tear down the classroom walls, and allowing teachers to freely discuss their strategies. However, unless the proper structures

are put into place, the professional learning community may be detrimental to the school than improving it.

This is a synthesis of the definition and description of what a professional learning community is by the leading theorists. The following section aims to decipher which contributions each theorist has made to the concept of professional learning communities.

Theoretical Frameworks of the Study

The theoretical framework of this study is founded on several authors. The most prevalent theorists and authors on professional learning communities are Hord along with Dufour and his coauthors, Dufour and Eaker. Another theorist and author that has vast insights into the difficulties of professional learning communities is Schmoker, whose premise is grounded on student results and making data-driven decisions. Hord (1997) and Dufour et al. (2008), differ slightly in their definitions of a professional learning community. Hord (1997) has five characteristics that are not isolated from each other, but are rather interdependent and intertwined. Hord (2004) is from the Southwestern Educational Development Laboratory (SEDL) and her definition of PLCs is based on her empirical research. Dufour et al. (2008) has a characterization of professional learning communities that is based on several years of working with schools derived six principles as being experience as a practitioner. Each of the three theorists are explained in detail and provide the basis for this study.

Hord. According to Hord and Sommers (2008), professional learning communities are a significant and effective school improvement strategy; however, the definition of a PLC seems to be subjective and dependent on who is being asked to define

the term. Hord (1997) defines professional learning communities as having supportive

and shared leadership, collective learning and the application of learning, shared values

and vision, supportive conditions, and shared professional practice.

    Supportive and shared leadership. Sharing leadership in a school is not common

in the traditional school setting. As Hord and Sommers (2008) stated:

> The PLC structure in a school is one of continuous adult learning, strong
>
> collaboration, democratic participation, and consensus about the school
>
> environment and culture and how to attain that. That sharing of power and
>
> authority may be tough not only for principal, but for the staff as well. (p. 10)

Since teachers become learners in the professional learning community, so does the

administration and effectively the principal. Together, these bodies discuss instructional

strategies, school policies, and other cultural norms. Hargreaves and Fink (2006) as cited

in Hord and Sommers (2008) noted, "The principal is not made irrelevant by positively

distributed leadership that professional learning communities represent" (p. 10).

    Although there is a need for everyone to contribute, boundaries must be made in

regarding leadership. The faculty must be aware of the parameters of which they are

allowed to make decisions. However, the traditional roles of teachers, students, and

administrators is now blurred, allowing for a free-flowing solutions of problems, and

ways to benefit student learning are shared and considered (Hord & Sommers, 2008).

    Collective learning and application of learning. According to Hord and

Sommers (2008) *all* staff should be part of the learning process. Working collaboratively

will ensure that the learning is collective. Hord and Sommers (2008) also state that "The

major emphasis is on collective learning, when individuals learn more than if they are

learning independently. The PLC is not just about collaboration; it is collaborating to learn together about a topic the community deems important" (p. 12).

The key component of the collective learning is strengthening the community to better serve all of the students. This learning can include new instructional strategies for challenged learners, new curriculum, or making classes more interdisciplinary. The main focus of the learning is to have professionals engage in reflection and to continuously improve to benefit their students (Hord & Sommers, 2008).

Shared values and vision. An organization is guided by its values and beliefs and either is explicitly or implicitly governed by them. Consequently, one of the most elementary characteristics of a professional learning community "…is the shared mission and goals the staff sees as their common purpose" (Hord & Sommers, 2008, p. 8). Ideally, the members of the organization create their vision for the school, and reevaluate it as the school grows. Hord and Sommers (2008) states "The community constructs a shared vision of the improvements that they will work toward for the increased learning of students" (p. 8). Hord and Sommers (2008) define a shared vision as having a mental image of the important concepts of the individuals and of the organization and is used as a catalyst to the individuals to work toward to realize their vision.

In the shared vision of a professional learning community should contain certain characteristics that set it apart from traditional schools. The vision should have an unrelenting responsibility to ensure the learning of all students to success. This is the core essence of a PLC vision. In addition, all members of the organization must create the shared vision so that the vision is at the foremost thoughts when they are collaborating with colleagues, and planning and delivering instruction. As explained by

Hord and Sommers (2008), "The vision dictates the parameters of decision making about teaching and learning in the school" (p. 10).

　　　　Supportive conditions. Hord and Sommers (2008) separate supportive conditions into two categories, physical and structural and relational and human capacities. Schools that value the work of PLCs will allocate time for teachers to meet so they can reflect, inquire, learn, problem solve, and make decisions. This time allocation, preferably during the school day would fall into the structural category. There are also several other physical and structural factors:

　　　　Boyd (1992) enumerated a list of physical factors needed in a context conducive

　　　　to change and improvement: availability of needed resources; schedules and

　　　　structures that reduce isolation; and policies that provide greater autonomy, foster

　　　　collaboration, provide effective communication, and proved for staff

　　　　development. Louis and Kruse (1995) offer a similar list time to meet and talk,

　　　　physical proximity of the staff to one another, teaching roles that are

　　　　interdependent, communication structures, school autonomy, and teacher

　　　　empowerment. (Hord & Sommers, 2008, p. 14)

　　　　Relational factors and human capacities have to do with development in order to see the success of the professional learning community. Hord and Sommers (2008) states "Building trust is a goal requiring substantial time and activities provided to individuals that enable them to experience the trustworthiness of colleagues and for the individual to extend or become trustworthy to complete the cycle" (p. 14).

　　　　Hord and Sommers (2008) furthers stated that the principals must foster collegial attitudes and relationships and to nurture the human capacities that are demanded of the

PLC work. By having the staff socialize with each other in non-work related ways is one way to facilitate the staff to be acquainted with themselves on a personal level. Creating an environment of caring is the ultimate goal of the school leadership to nurture relationships that will build on trust and ultimately make the PLC stronger (Hord & Sommers, 2008).

Shared personal practice. The cultural norm of a PLC should be teachers facilitating the growth of each other. Hord and Sommers (2008) states "This is not an evaluative process, but part of peers helping peers helping peers that includes teachers visiting each other's classrooms on a regular basis to observe, take notes, and discuss their observations with the teacher they have visited" (p. 15). This process may also include peer coaching or mentorship.

In order to obtain this type of activities, trust must be developed among the teaching staff. Wignall (1992) as cited in Hord and Sommers (2008) suggested, "teachers…are comfortable sharing both their success and their failures. They praise and recognize one another's triumphs, and offer empathy and support for each other's troubles" (p. 15).

These are the five principles that Hord (1997) indicates that a PLC should have. The following theorists provide similar ideas to these five principles. Dufour et al. (2008), will be very analogous to Hord (1997). Schmoker (2005) will focus on the results of the students' learning and making decisions based on that data.

Dufour. Dufour and his coauthors define professional learning communities using six principles. These principles include having a shared mission vision and values; having a collaborative culture focused on learning; engaging in collective inquiry into

best practices and defining the current reality; taking an action orientation approach to problem solving; committing to continuous improvement; and being results orientated.

> We define a professional learning community as educators committed to working collaboratively in ongoing processes of collective inquiry and action research to achieve better results for the students they serve. Professional learning communities operate under the assumption that the key to improved learning for students is continuous, job-embedded learning for educators. (Dufour et al., 2008, p. 14)

According to Dufour et al. (2008), learning is a major component to a professional learning community. The school is centered on learning, and more specifically, student learning. Therefore, the commitment of the professional learning community is to have each student learning at high, rigorous levels. Consequently, with the professional learning community being committed to having each student learning at high levels, this also becomes the school's vision. This vision guides the school in the decisions that are made in order to create a school where all students learn. Each of the school's members makes a collective commitment to create such an organization (Dufour, Dufour, Eaker & Many, 2006).

In addition to student learning, the adults in the organization must also be continually learning in order to become more effective in helping all students learn. Structures must be put into place to ensure that adult learning is taking place. According to Dufour et al. (2006), the adult learning cannot be after work hours, but must be "job-embedded learning as part of their routine work practices" (p. 3).

With student learning as the essence of the professional learning community, the school makes cultural shifts based on this premise.

There is no ambiguity or hedging regarding this commitment to learning. Whereas many schools operate as if their primary purpose is to ensure that children are taught, PLCs are dedicated to the idea that their organization exists to ensure that all students learn essential knowledge, skills, and dispositions. All the other characteristics of a PLC flow directly from this epic shift in assumptions about the purpose of the school. (Dufour et al., 2006, p. 3)

From the notion of student learning, all of the components of professional learning communities are in an effort to support this.

Shared mission, vision, and values. The shared vision as stated above in a professional learning community is student learning. In a professional learning community, a school must define *student learning* insomuch that teachers and staff can conceptualize the essence of what they are working towards (Doolittle, Sudeck & Rattigan, 2008; Down, Chadbourne, & Hogan, 2000; Dudley, 2005; Easterbrook, 1993; Egawa, 2009, Feiman-Nemser, 2003; Floyd, 2005). School leaders have the obligation to create and clarify what shared purpose, principles, and priorities guide the everyday decisions in schools. According to Dufour et al. (2008) it is the responsibility of the school leaders to facilitate the staff in clarifying and creating a school vision that is aligned with the vision of the district.

Effective and shared visions are the essence of decision making in the school. First of all, the vision must align the faculty and staff at all levels toward a direction. Next, the vision must also guide the decision-making process for every faculty and staff

member. In addition, policies, procedures, and processes must be evaluated based on the vision of the school (Dufour et al., 2008).

The shared vision must also have certain other characteristics. It must motivate and energize people to work for goals that go beyond their classroom, desk, or office. From the shared vision a collective purpose must ensue with a commitment of effort toward attaining the vision (David, 2009). Members of the organization must realize that their work is meaningful and by having a shared vision, the work of each member does become more aligned with moving the organization into a positive direction (Dufour et al., 2008).

Collaborative teams. Dufour et al. (2008) states that "If shared purpose, vision, collective commitments, and goals constitute the foundation of a PLC, then the collaborative team is the fundamental building block of the organization" (. 15). One of the hallmarks of a school that has different collaborative teams is the members of the team become *independently* related to achieve a common goal and ultimately contribute to creating and sustaining the shared vision (Cranston, 2009).

In collaboration, teachers work together toward all students learning. They achieve this vision by analyzing the impact of their professional practice on student learning in order to improve the results of their students, of their team, and ultimately the school (Chisholm, 1998; Cowan, Capers, & Southwestern Education Developmental Laboratory, 2000). Dufour et al. (2008) states that "In a PLC, *collaboration* represents a systematic process in which teachers work together interdependently in order to *impact* their classroom practice in ways that will lead to better results…" (p. 17). This notion is also reinforced by Senge and Kofman (1995), "The rationale for any strategy for building

a learning organization revolves around the premise that such organizations will produce dramatically improved results" (p. 44).

Collective inquiry. The involvement of educators in collective inquiry is twofold. On one hand, teachers are to define their current reality. Without defining the current reality of their students and teaching practices, they are unable to make improvements. Then educators seek out best practices about teaching and learning to acquire into their own classrooms. From this, a shared knowledge emerges as consensus is derived from being involved in collective inquiry (Dufour et al., 2008).

> Collective inquiry enables team members to develop new skills and capabilities
> that in turn lead to new experiences and awareness. Gradually, this heightened
> awareness transforms into fundamental shifts in attitudes, beliefs, and habits
> which, over time, transform the culture of the school. (Dufour et al., 2006, p. 4)

Action orientation and experimentation. Collective inquiry is one of the hallmarks of being action research orientated. From the collective inquiry comes action, followed by more inquiry. Dufour et al. (2008) states that "Learning by doing develops a deeper and more profound knowledge and greater commitment than learning by reading, listening, planning, or thinking" (p. 16). Educators are able to take the ideas generated from the collective inquiry phase and put those ideas into action.

Continuous improvement. From inquiry and action also stems continuous improvement (Calvaleri & Fearon, 1996).

> Systematic processes engage each member of the organization in an ongoing
> cycle of:
> - gathering evidence of current levels of student learning;

- developing strategies and ideas to build on strengths and address

  weaknesses in that learning;

- implementing those strategies and ideas;

- analyzing the impact of the changes to discover what was effective and

  what was not;

- applying new knowledge in the next cycle of continuous improvement.

  This goal is not simply to learn a new strategy, but instead to create conditions

  for perpetual learning—an environment in which innovation and

  experimentation are viewed not as tasks to be accomplished or projects to be

  completed but as ways of conducting day-to-day business, *forever.* (Dufour et

  al., 2006, p. 5)

In addition, it must also be clear that this exercise is not to solely be done by the school

leaders, but all educators can engage in this practice.

   Results orientation. Without results, the previous endeavors are done in vain.

Yielding results is the entire reason to enter into the previously mentioned practices.

According to Durfour et al. (2006), "Finally, members of a PLC realize that all of their

efforts in these areas—a focus on learning, collaborative teams, collective inquiry, action

orientation, and continuous improvement—must be assessed on a basis of results rather

than intentions" (p. 5). By measuring success by objective results, this allows

collaborative teams to improve their goals and measure incremental increases.

   In collaborative team meetings, results of common assessments can be analyzed.

This in essence brings the practice of collective inquiry into best practices to the forefront

of discussions. The results can be analyzed to enlighten educators where their strengths

and weaknesses are in their teaching practice and it allows them to dialogue and learn from one another. Secondly, results can elucidate which students are not learning and intervention activities can be administered such as additional time and support for learning. From gathering results, not only in the form of common assessments but also observational data, which can be done with peers, provides teachers with strong and effective tools to affect their teaching practice and eventually student learning (Dufour et al., 2006).

Schmoker.   Schmoker (2006) stated that the focus of school improvement should not be on reform, but on a "tough, honest self-examination of the prevailing culture and practices of public schools, and a dramatic turn toward a singular and straightforward focus on instruction" (p. 2). Schmoker (2006) also noted that the emergence of professional learning communities is arguably the best means to continuously improve instruction and student learning where typical staff development and workshops to affect teacher practice generally fail. The following outlines the criteria that Schmoker (2006) believes should be included into a professional learning community.

Common instructional practice. One of the fundamental concepts of a professional learning community according to Schmoker (2006) is to have a common instructional practice among departments. It is essential for teachers to establish common, concise set of essential curricular standards and to teach them roughly on the same schedule. The development of the essential standards is naturally derived from the state adopted standards and the state assessment guidelines and other documents provided by the state department of education to advise teachers on the correct content to teach.

Furthermore, teachers must meet regularly. Schmoker (2006) suggests that minimum time for teachers to meet is twice a month for forty-five minutes. Schmoker (2006) advises that this time to be extremely focused and spent talking in "concrete, precise terms about instruction with a concentration on thoughtful, explicit examination of practices and their consequences—the results achieved with specific lessons and units" (p. 107).

Common assessments can be one of the most powerful tools of a professional learning community. Teachers can use common assessments as ways to have introspection into their teaching practice. Common assessments allow dialoguing among professionals as to which instructional practices worked and which did not. The analysis of the results from these common assessments can allow teachers to conduct "What Eaker calls active research where a culture of experimentation prevails" (Schmoker, 2006, p. 107).

Schmoker also warns that professional learning communities can be inauthentic:

These simple, fundamental concepts combine a guaranteed and viable curriculum with continual analysis of actual lessons and units, and improvement of instruction. These elements, so rarely emphasize in school or state improvement or accreditation plans, deserve our attention more than anything else we do in the name of school improvement. Failed attempts to establish professional learning communities can usually be trace to a lack of fidelity to these fundamental concepts. (Schmoker, 2006, p. 107)

Lesson study. In Japan and Germany, professional development takes on a different meaning. Schmoker (2006) believes that the lesson study approach to teacher

development in an essential protocol that should be adopted into professional learning communities. Lesson study involves, "…School leaders arrange for teams of teachers to meet regularly to create—to craft and refine—lessons and teaching units until they have the maximum impact on student learning" (p. 109). The lesson study is very deliberate with the teachers carefully deliberating over each step of the lesson, the best possible sequence of the lesson, and how to most effectively introduce and explain a concept. Consequently, when a lesson is perfected, the teachers publish the lesson so other teachers may use it. This also contributes to the teaching profession.

Schmoker (2006) criticized the implementation of previous professional learning communities by stating the following:

This simple approach may seem unexciting to some; there is no big send-of, no program launch—just regular team meetings, year after year, where teachers help on another find a better lesson for teaching subtraction with regrouping, or effective introductions to persuasive essays, for example. (p. 110)

Obviously, Schmoker's (2006) focus is on changing instruction as the central manner in which to change student learning.

Collins points out that the most powerful improvement action will appear boring and pedestrian to those who love glitzy initiatives and programs. We have to see how this seemingly mundane concern with creating, testing, and refining lessons and units, in teams, is the real—guaranteed—path to better instruction. Our resistance to such procedures represents no less than a battle over the soul of school improvement. (Schmoker, 2006, p. 110)

In order to change instruction, workshops and fly-by professional development activities

fall short, where teacher practice needs to be affected by continuous self-reflection.

Team and workshops. The common teacher workshop and standard-issue staff

development must be re-evaluated because they have not shown significant gains in

affecting teacher practice. Instead, Schmoker (2006) suggests:

> If we are going to conduct workshops, let's insist on a radically different format;
>
> they should be designed on this same team-based, cyclical format that focuses
>
> immediately on producing lessons and then evaluating and refining them on the
>
> basis of results. (p. 111)

> Schmoker goes on to state that workshops would be better if they were done on a

team level versus a school level. These teams should be monitored after the workshop to

ensure the team sees the results that the workshop promised. Schmoker (2006) also noted

that, "Organized teamwork combined with such lesson fairs perfectly captures what is

meant by a true 'professional learning community'" (p. 111).

A new culture of teaching. Teachers and the teaching profession have been

lacking in viewing themselves as professionals with the leeway to invent, adapt, and

improve their teaching practice (Schmoker, 2006). Hiebrert and Stigler (2004) as cited in

Schmoker (2006) view that teacher professionalism is at stake:

> When teachers recognize that knowledge for improvement is something they can
>
> gernerate, rather than something that must be handed to them by so-called experts,
>
> they are on a new professional trajectory. They are on the way to building a true
>
> profession of teaching, a profession in which members take responsibility for

steady and lasting improvement. They are building a new culture of teaching. (p.

118)

Within this new culture of the teaching profession, all of the experts necessary to change

education and improve student learning already exists at the school.

Theoretical frameworks tied to this study. The theoretical frameworks used for

this study are by the theorists Dufour et al. (2008), Hord (1997), and Schmoker (2006).

These authors when used together provide a detailed definition of what a professional

learning community looks like, the potential pitfalls, and reasons for the use of

professional learning communities in schools as an educational reform. Dufour et al.

(2008), highlights the six principles of professional learning communities as being shared

mission, vision, values, and goals; a collaborative culture focused on learning; collective

inquiry into best practice and current reality, action orientation, a commitment to

continuous improvement, and having a results orientation. Hord (1997) defines

professional learning communities as having supportive and shared leadership, collective

learning and application of learning, shared values and vision, supportive conditions, and

shared personal practice. Schmoker (2006) suggests that professional development needs

to be continuous and reflective and should be done on a team basis. Results need to be

analyzed and modifications must be made based on the results. Numerous other authors,

which are explored in the literature review, also provide insights into the school reform

issue and key understandings of the rationale of professional learning communities.

These theoretical frameworks are used throughout this study. The instruments

used to measure the implementation of professional learning communities and the

authenticity of the professional learning community culture is based on these theoretical

frames. Furthermore, the data that is acquired through these instruments will be tied to these theoretical frameworks in an effort to explain how the data is interpreted and recommendations are constructed.

Research Question

To address the problem statements, change factors the schools employed to implement PLCs and teacher collaboration systems will be identified. The change factors that yield a high level of implementation and sustainability among the teachers at that school will be identified. A regression and correlation analyses are conducted using several instruments.

1. What factors in the change process affect a school in moving into an authentic professional learning community based on the five principles: shared beliefs and values, shared and supportive leadership, collective learning, supportive conditions, and shared personal practice?

2. What is the relationship if any between the teacher's Stages of Concern questionnaire and the PLC Change Assessment that the school used during the implementation phase of the professional learning community?

3. (a) What is the relationship if any between the Level of Use interview protocol and the specific change attributes identified by the PLC Change Assessment that the school used during the implementation phase of the professional learning community? (b) In addition, what is the relationship if any between the Level of Use interview protocol and Authentic Professional Learning Community Cultural Assessment?

4. What is the relationship if any between the change attributes identified by the PLC Change Assessment and the Authentic Professional Learning Community Cultural Assessment?

Research hypotheses. Each of the research questions has hypotheses of the expected outcome each of the research questions will result in.

1. The null hypothesis (H_0) assumes that there is no difference among change factors in implementing an authentic PLC. The alternative hypothesis (H_A) is that there is a difference among change factors in implementing an authentic PLC

2. There is a direct, positive relationship between the stage of concern a teacher has and the change attributes identified by the Change Assessment. The null hypothesis (H_0) assumes no relationship between the Change Assessment value and SoC scores. The alternative hypothesis (H_A) is that there is a relationship between the Change Assessment value and SoC scores.

3. There is a direct, positive relationship between the level of use a teacher demonstrates and the change attributes identified by the PLC Change Assessment. The null hypothesis (H_0) assumes that there is no relationship between the PLC Change Assessment value and LoU scores. The alternative hypothesis (H_A) is that there is a relationship between the Change Assessment value and LoU scores. For the second part of the question, there will be a direct, positive relationship between the level of use a teacher demonstrates and Authentic Professional Learning Community Cultural Assessment. The null hypothesis (H_0) assumes that there is no relationship between LoU score

and the score from the Authentic Professional Learning Community Cultural

Assessment. The alternative hypothesis (H_A) will be that there is a

relationship between LoU score and the score from the Authentic Professional

Learning Community Cultural Assessment.

4. There is a direct, positive relationship between the authentic PLC activities a

teacher engages in and the change attributes identified by the Change

Assessment. The null hypothesis (H_0) assumes that there is no relationship

between the Change Assessment value and Authentic PLC scores. The

alternative hypothesis (H_A) is that there is a relationship between the Change

Assessment value and Authentic PLC scores.

Importance of the Study

The importance of this study is to answer questions where the current literature

falls short in our understandings of school reform and professional learning communities.

The literature does fall short in terms of the implementation phase of moving traditional

schools to collaborative systems. The research questions are written based on the

instruments used, however, after the data is analyzed the instruments will be able to

elucidate the steps necessary to properly implement an authentic professional learning

community with high levels of use and high levels of concern in instructional practice,

which will ultimately effect student learning.

This study is based on several assumptions, which will be further explained later

on in this chapter. One of the most imperative findings that will be derived from this

study is what factors in the change process are necessary to yield collaborative teams that

look at students' results and make decisions based on those results. Schmoker (2006) does warn:

> We have to be very clear about what true teamwork entails: a regular schedule of formal meetings where teachers focus on the details of their lessons and adjust them on the basis of assessment results. The use of common assessments is essential here. Without these, teams can't discern or enjoy the impact of their efforts on an ongoing basis. Enjoying and celebrating these short-term results is the very key to progress, to achieving momentum toward improvement. (p. 108)

Scope of the Study

The study uses a mixed methods approach to answer the research questions. However, the emphasis in the research questions is on the quantitative data. Using an explanatory design, this study will gather data sequentially in two phases. The emphasis on the data collected will be quantitative and analyzed, followed by a qualitative data collection. The using of qualitative methods is necessary to elucidate the quantitative findings.

Limitations of the Study

There are several limitations of this study. Professional learning communities, although sharing similar values and assumptions, are different at each school. Fifteen schools will be survey, and at fifteen different schools, there will be fifteen different cultures that the instruments will attempt to correct for by stating common language and use of terms, however, interpretation of these instruments may be viewed differently by the different cultures. Despite these limitations, generalities geared around organizational

change and PLCs can be made. It is also important to mention that the concept of PLCs

for the purpose of this study is in the context of a single school system. Some districts

may have entire district-wide PLCs. This study is only looking at PLCs implemented at

specific school sites. Particularly where only certain schools implemented PLCs and

other schools in the same district did not.

In addition, this study does include schools that have a school-wide collaboration

system, where they analyze student achievement results and make decisions based on

them. This is a growing trend among schools, where they adopt the elements and

principles of professional learning communities; however, they do not actually call

themselves PLCs. Instrumentation was modified for these type of schools and is

explained in the methodology chapter.

The study will be looking at a sample from several states, with the majority of the

samples being from Southern California, however, the data and findings will only be

accurate for those samples and because of this, this study will have limitations. Needless

to say, this study can be location specific. However, general trends can be used for the

implementation of future professional learning communities.

Another contributing factor to the limitations of this study will be during the time

the teachers are being surveyed. The survey will be administered during the spring

semester, a time when teachers may have received layoff notices. This may very well

affect the results of this study. However, with the recent budget crises, year-long fear of

job cuts has been plaguing our teaching staff for the last 2-3 years. This is an unfortunate

affecting factor, which may alter the results of the survey.

Assumptions about the Study

This study is based on the assumption that school educators and leaders do not have extensive training in organizational change. Also, that there are attributes, factors or characteristics in the change process that will yield a sustainable professional learning community, with high levels of use and high stages of concern. In addition, these change factors will facilitate a school culture embedded with the values consistent with authentic professional learning communities.

Definition of Terms

The following definitions of terms hold true for this study:

1. *Artifact*- In schools, anything used to support the structure. For example, printed schedules, agendas, teacher lists of PLC teams.

2. *Collaboration*- a group of people working together systematically and interdependently to improve results (DuFour, DuFour, Eaker, & Many, 2006).

3. *Common Assessment*- An assessment typically created collaboratively by a team of teachers responsible for the same grade level or course (DuFour et al., 2008).

4. *Continuous Improvement*- continuous improvement requires continuous evaluation and learning (Schlechty, 2005).

5. *Culture*- basic underlying assumptions that an organization operates under (Schein, 2004).

6. *District Leader*- area superintendent, chief lead area superintendent, deputy superintendent, associate superintendent, and director of school performance. These leaders are responsible for the continuous improvement of student

performance. The area superintendent and directors of school performance supervise schools.

7. *Goals*- To enhance collaboration, reflection, and learning through participation in a PLC. This term usually has measurable benchmarks within each goal. They are team-generated, and are small, measureable, agreed upon, relevant, and time-based.

8. *Inquiry*- Reflective dialogue and collective inquiry into best practices. Typical actions include: dialogue on curriculum, common assessments, collective problem-solving, applying new ideas, and information to address student needs (Hord, 1997).

9. *Leadership System*- the school (principal, leadership team, teacher grade level representatives, and professional support staff) has processes in place for monitoring and communicating the mission, goals, and action plans. The leadership system is designed to create the mission to support a high-performing organization focused on continuous improvement.

10. *Leadership Team*- is comprised of the principal, assistant principal, grade level teacher representatives, and/or teacher leaders. Each school may have a different configuration of this team.

11. *Mission Statement*- a statement defining why a particular school exists (DuFour & Eaker, 1998).

12. *Principal*- is responsible for administering and supervising the school program and providing educational leadership for students and staff. The principal should

foster a collaborative environment through shared vision and shared decision making and lead school improvement initiatives.

13. *Shared Practice-* peer visits with other teachers and observes other teachers to offer encouragement, to learn and provide feedback on instructional practices to increase organizational and individual capacity for the enhancement of student learning.

14. *Shared Values and Vision-* staff shares the vision for school improvement that has a strong focus on teaching and learning. Shared values support norms of behavior that guide decisions about teaching and learning.

15. *Stakeholders-* the principal, assistant principal, teacher leaders, teachers, parents, students, and community. This group can also include district personnel and school board, and anyone who has a vested interest in the school or district.

16. *Supportive Conditions-* includes human resource and structural frames which are used to support improvements in classroom practice. This includes collegial relationships which include respect, trust, norms of critical inquiry and improvement, and positive, caring relationships among teachers and administrators. Structures include a variety of conditions such as size of the school, proximity of staff to one another, communication systems, and the time and space for teachers to meet and examine practice. This can also include compensation for extra time spent, release time, and access to classroom technology.

17. *Supportive and Shared Leadership-* the principal participates democratically with teachers by sharing power, authority, and decision making and by promoting and

nurturing leadership among staff for instructional improvement and other aspects of the school.

18. *Sustainability*- Sustainability, as used in this study, refers to the ability of an organization to sustain over time the initiatives to improve student achievement.

19. *Team Leaders*- grade level representatives selected by teachers and professional support staff who serve as members on the school's leadership and/or school improvement teams. These teachers lead discussions at their levels and have active input in the decision-making process.

20. *Vision Statement*- A vision statement gives stakeholders the ability to see their school as they would like it to become (Dufour & Eaker, 1998).

21. *Value or Belief Statement*- A value or belief statement defines what stakeholders are willing to do to see the vision statement become reality (DuFour & Eaker, 1998).

Conclusion

The goal of this study is to look at the implementation process and identify change attributes that schools used in the creation and support of PLCs. Accordingly, this will shed light on where to inject further energy into the future efforts of schools implementing and sustaining of professional learning communities. It also should be noted, that of all of the PLCs that have been implemented nation-wide, many did not use organization change models in doing so, resulting in few authentic, team-based PLCs (Schmoker, 1999).

The No Child Left Behind Act of 2001 (NCLB, 2002) has set the aim of having a students in the United States perform at grade level on state benchmark tests by the end

of the 2014 school year. As a result of the burden that schools are experiencing, they are asked to reflect on their teaching practices to progress student achievement in their classrooms. In this reflective procedure, teacher collaboration becomes an integral instrument. Cooperative decision-making between teachers and administrators is another approach schools have taken in order to growth student achievement (NCLB, 2004). Together teacher collaboration and collective decision-making are indications that schools, which are very intricate, must take on a community method when addressing the critical issue of closing the achievement gap (Hord & Sommers, 2008).

One way a school can begin to address issues and a concern using a community approach is by adopting a professional learning community model (PLC) as a means of operating. Fullan (2003) stated that the best method in which to close the achievement gap was to have principals function schools as professional learning communities, the best hope for school reform.

Research has shown there is a direct proportion to teaching quality and student learning. In addition, teaching quality improves when teachers engage in continuous reflection, professional learning, and development. This continuous refinement of *teachers as professionals* takes place in a professional learning community (PLC; Hord, 2009). According to Dufour and Eaker (1998) the most promising approach for continued, fundamental school progress is building the capability of school personnel to work as a professional learning community.

It has been the understanding that the initial intent of professional learning communities is not what is happening in schools. The term *PLC* has become clichéd and often-harmful label. According to Bloom and Vitcov (2010), comparable to so many

worthy concepts that have entered in K-12 education, the notion of professional learning communities is often misinterpreted and regularly abused.

This study will measure the implementation of professional learning communities in schools by using instruments from the Concerns-Based Adoption Model (CBAM). The CBAM measures an organization's response to change or innovation. The CBAM is a data collection tool used to measure school improvement endeavors' level of implementation of the new innovation. The CBAM has been used by implementation researchers to build knowledge about how teachers make sense of reform policies and resulting improvements (Hall, Dirksen, & George, 2006).

The CBAM is based on the premise that instituting complex reforms those results in local implementation of innovations is more difficult than it was in the past. The key role in implementing these reforms is the role of the teacher. There is an underrepresentation of research regarding how a teacher understands and interprets a policy into their classroom (Hall et al., 2006).

The theoretical framework of this study is founded on several authors. The most dominant theorists and authors on professional learning communities are Shirley Hord along with Richard Dufour and his coauthors, Rebecca Dufour and Robert Eaker. Another theorist and author that has vast understandings of the complications of professional learning communities is Michael Schmoker, whose foundation is grounded on student results and making data-driven decisions. Hord (1997) and Dufour et al. (2008), diverge slightly in their characterizations of a professional learning community. Hord (1997) has five characteristics that are interdependent and intertwined. Hord's (2004) principles of PLCs are based on her empirical educational research. Dufour et al.

(2008), is based on several years of working with schools and base their six principles as being experience as a practitioner.

Change is very difficult for schools to undergo. The following section sheds light on the viewpoints of several theorists on school reform. The following section also takes a look at several case studies of schools that have implemented professional learning communities. Specific aspects of the change process are also investigated to provide a framework of the study.

Organization of this study. This study, Leading a Successful Change Effort at the School Level consists of five chapters. Chapter I presented an overview outlining the significance of the study as well as the conceptual framework the school systems historically have used to create the PLC program, and the purpose of the research.

Chapter II is a review of the achievement gap as a need for the role of the principal in the PLC, the change process and the concept of PLC. The literature highlights the complex nature of schools in response to closing the achievement gap, the use of distributed leadership in the PLC, the role of the principal and teachers in the PLC, issues surrounding principals who cannot share leadership, and the benefits of shared practice. Chapter II also covers five educational reform theorists and makes a case for the use of PLCs as an educational reform.

Chapter 3 restates the problem in terms of what the literature reveals about PLCs and the role of the principal. This section focuses on the population under study while providing support for using a mixed methodology. This chapter identifies the sources of information used in the study (survey) as well as a specific section about data collection and analysis procedures.

Chapter 4 includes a restatement of the problem and the findings of the study. The research questions are restated in addition to a summary of the data collection. An organized presentation of the findings focused on the research questions were provided in the chapter.

In Chapter 5, includes a research summary, findings of the study, conclusions of the study are discussed based on the results of the study. Implications for practices are suggested as well as recommendations for further research.

Chapter 2: Conceptual Support and Review of Literature

This section provides conceptual support for the current state of school reform, an overview of PLCs, discussions of PLC studies on implementations, organizational change and systems, and measuring implementation in schools using the Concerns Based Adoption Model and Levels of Use.

There has been a growing amount of literature on professional learning communities, the role of the principal, and other leaders in the school. The past decade has sparked a substantial growth in the literature of professional learning communities, yield several collegial relationships for building the capacity for change at the school level (Dufour & Eaker, 1998; Fullan, 2004; Hord, 2004; Senge, 2000). According to Blankenship and Ruona (2007), "These scholars each posit that professional learning communities are a way for schools to reduce isolation and learn together to create sustainable change (p. 8).

Historical Overview and Current State of School Reform

Since the publication *A Nation at Risk* (Gardner, 1983) came out in 1983, people have adopted the opinion that American public schools are failing. Thus, leaving our graduating population less equipped to compete in global markets (Senge, 2000). If only it were that simple. Senge (2000) more clearly states this in the following:

Schools face a unique set of pressures these days, unknown to any other kind of organization. In the nineteenth-century industrial world, a one-size-fits-all educational system was a boon that reduced the abusiveness of child labor and brought opportunity to the world. By 1950, half of the eighteen year olds in

industrialized nations expected to graduate secondary school; many of these

people got relatively good jobs even though they had little more than sixth-grade

level math and reading skills. By any objective measure, when you take into

account the full range of the school population, educators in the United States

(and around the world) are still as good, and probably better, at teaching basics

sills. (p. 9)

A Nation at Risk was instrumental for a sense of urgency for school reform initiatives.

These reforms were implemented using a top-down approach, where educators lost their

autonomy for standardization (Dufour et al., 2008).

Before *A Nation at Risk,* Sputnik was the literal cause of large-scale school reform

in the U.S. post-1957. In the 1960s, the U.S. was the only country to engage in

educational reform. In the late 1950s and throughout the 1960s, the Federal Government

in the U.S. launched a large-scale national curriculum reform series of initiatives, despite

failed reform efforts in the past. The intent was to bring desired improvements by

flooding the educational system with external ideas. These methods brought huge sums

of money being poured into major curriculum reforms like PSSC Physics, BSCC

Biology, and MACOS Social Sciences, and other school organization novelties such as

open plan schools, flexible scheduling, and team teaching (Fullan, 2001).

One of the major focuses in the 1960s, during the civil rights movements was to

target educational inequities. In the U.S., the educational system was thought to be one

of the major societal vehicles for reducing social inequality (Fullan, 2001).

To the intrinsic complexity of changing one's practice was added the enormous

difficulty of tackling the existing power structure and overcoming the prejudice

and ignorance of ethnic, class, gender, and special differences of all kinds. Nor is

there much evidence that the lives of the disadvantaged have improved, even in

cases where sincere efforts to do so are in evidence. (Fullan, 2001, p. 7)

Despite numerous reform initiatives, the 1970s yielded little change at the most

critical level, the classroom. In education, a new vocabulary word emerged as the

essence of school reform, *implementation*. The new language miss categorized the

necessary change efforts that needed to take place in order to enact educational reform

and provided the understanding that programs to increase student achievement in literacy,

mathematics, or science, were simply implemented (Fullan, 2000).

School reforms have been failing for decades. Fullan and Miles (1992) state in an

examination of school reform:

Reform often fails because politics often favors symbols over substance.

Substantial change in practice requires a lot of hard and clever work "on the

ground," which is not the strong point of political players. (p. 746)

Society may have placed too much concern with policy, rather than looking at the most

obvious *on the ground concerns*, which are the schools' purpose, goals, and results

(Schmoker, 2000).

To understand school structure and how schools resist change, during the 1970s

and 1980s, organizational theorist applied the concept of *loose coupling* to understand the

school dynamic. The theorists have traced the structure as it evolved to allow

considerable autonomy for teachers and specialists. Schools have evolved in teachers

being responsible for teaching practices in the classroom and school administrators

responsible for the school environment and external interferences. Formal and informal

resistance has cemented teacher autonomy. Formal resistance has been in the form of collective bargaining agreements that preserve teacher autonomy and limit teacher evaluations and informally resistance to intrusions by the school leaders into classrooms (Stoll & Louis, 2007).

In the 1980s, educational reform on a large-scale focused on accountability. Despite the new focus on accountability, educational reform has yet to become a reality. However, the good news is there is pressure and a sense of urgency to achieve it.   Where changes have made gains, they are isolated cases, and not on the large-scale (Fullan, 2000).

Theorists on school reform. School reform is complex. Change that occurs in organizations is the foundation that makes school reform vastly complex and intricate. School leaders face dilemmas that stem from a rapidly changing environment as new policies are pasted, the student population is changing, and the technological skills required to sustain in society are becoming more rigorous. The notion of school reform is not disputed, however, how or what that change is does have different perspectives.

Marzano on school reform. Marzano, Waters, and McNulty (2005) identify school leadership as being the determining factor in school reform. Marzano et al. (2005) contradict prior notions and research on leadership in school reform that suggest that school leadership has no discernable direct effect on student achievement. Instead, Marzano et al. (2005) make the claim that over the past 35 years, there is strong evidence that specific leadership behaviors for school administrators have a well-documented effect on student achievement (Marzano et al., 2005).

Marzano et al. (2005) computed that there were 69 computed correlations representing the relationship between general leadership behaviors and student academic achievement. The researchers report that there is a .25 correlation between leadership and student achievement. Marzano et al. (2005) identified that when using state-wide exam data, school principals who scored high on the Leadership Effectiveness Test had a higher percentage of their students passing the exam. This percentage was 62.5%, a clear indication that principals' leadership skills effect student achievement.

Marzano et al. (2005) identified 21 responsibilities a school leader must possess to have a direct correlation to student achievement. This identification of responsibilities is not new to other leadership theorists who identified characteristics of effective leaders. In the identification, a correlation coefficient was calculated to indicate which responsibilities had the greatest impact on student achievement.

The responsibility of affirmation means to recognize and to celebrate accomplishments and failures among the followers. The responsibility of change agent is the willingness to actively seek to challenge the status quo. The responsibility of contingent rewards is where the leader recognizes and rewards individual accomplishments. The responsibility of communication is where the leader establishes strong lines of communication with and among the teaching staff and students. The responsibility of culture is where shared beliefs and the sense of community and cooperation are fostered by the leader. Discipline is the responsibility where teachers are protected from issues and influences that would otherwise detract from their teaching time and focus. The responsibility of flexibility is where the leader adapts their leadership behavior to the needs of the current situation and is comfortable with the

dissent. The responsibility of focus is where the principal establish goals and keeps those goals at the forefront of the schools attention. The responsibility of ideals and beliefs is where the strong ideals of the principal are continuously communicated to the staff. Input is the responsibility where the principal involves teachers in the design and implementation of important decisions and policies. Intellectual stimulation is the responsibility where the principal ensures the faculty and staff are aware of the most current theories and the discussions of these a regular aspect of the school's culture. The responsibility of involvement in curriculum, instruction, and assessment is to be directly involved in the design and implementation of the curriculum, instruction, and assessment practices at the school. Knowledge of curriculum is where the principal is knowledgeable about current curriculum, instruction, and assessment practices. The responsibility of monitoring and evaluating is where the principal monitors the effectiveness of school practices and their impact on student learning. The responsibility of optimizer is where the principal inspires and leads new and challenging innovations. The responsibility of order is where a set of standard operating procedures and routines are established. The responsibility of outreach is where the principal acts as an advocate and spokesperson for the school to all of the stakeholders. Relationships is the responsibility where the principal demonstrates an awareness of the personal aspects of teachers and staff members. The responsibility of resources is where the principal provides teachers with materials and professional development necessary for the successful execution of their jobs. The responsibility of situational awareness is where the principal is aware of the details and undercurrents in the running of the school and uses this information to address current and potential problems. The responsibility of

visibility is where the principal has quality contact and interactions with teachers and students (Marzano et al., 2005).

One of the biggest challenges facing the school-level administrators has to do with directly addressing performance issues, whether the issue is positive or negative. Although, it is easy to recognize positive performance of educators, it is rarely done, because often school leaders are afraid of alienating the rest of the staff. In a typical school, might classify 30% of its members as being superstars, 50% being middle stars, and 20% being falling stars. It is natural for school leaders to ignore exceptional performance from the superstars because they have grown accustomed to expecting that behavior from them, as well as ignoring inferior performance from the falling stars for the same reason. However, both behaviors must be dealt with explicitly if school reform is to occur (Marzano, 2003).

That is where accountability in the system becomes apparent. In the current era of standards, accountability encompasses consequences for both positive and negative results.

The specific behaviors and characteristics associated with this responsibility as found in our meta-analysis are the following:

- systematically and fairly recognizing and celebrating the accomplishments of students;

- systematically and fairly recognizing and celebrating the accomplishments of teachers;

- systematically and fairly recognizing the failures of the school as a whole.

(Marzano et al., 2005, p. 44)

The responsibilities do have an effect on student achievement than other responsibilities. Situational awareness ($r =$) has the highest impact on student achievement, followed by flexibility ($r = .28$), discipline ($r = .27$), outreach ($r = .27$), monitoring and evaluation ($r = .27$), culture ($r = .25$), order ($r = .25$), resources ($r = .25$), knowledge of curriculum, instruction, and assessment ($r = .25$), input ($r = .25$), change agent ($r = .25$), focus ($r = .24$), contingent rewards ($r =.24$), intellectual stimulation ($r = .24$), communication ($r = .23$), ideals and beliefs ($r = .22$), involvement in curriculum, instruction, and assessment ($r = .02$), visibility ($r = .20$), optimizer ($r = .20$), affirmation ($r = .19$), and relationships ($r = .18$).

Despite the ranking order of these 21 responsibilities, it would be ill advised to interpret these findings in a rigid manner. First of all, the range of correlation coefficients does not differ greatly. Secondly, all of the 21 responsibilities found to have a significant effect on student achievement when demonstrated by a school leader. Based on the correlation coefficients, Situational Awareness ($r =.33$) would have a greater effect on student achievement than Relationships ($r =.18$) (Marzano et al., 2005).

When discussing leading change, the 21 Responsibilities change. Unfortunately, there is no formula that problems can be "plugged in" and a solution comes out. First of all, it is important to note that Marzano et al. (2005) use the terminology of first and second-order change to illustrate the magnitude of change that needs to take place.

First-order change is perceived as an extension of the past. This type of change also fits within existing paradigms. Norms are already established and the change is consistent with these norms. First-order change can also be implemented with existing knowledge and skills, requires resources currently available to those responsible for the

implementation of the innovation. Universally, the change is accepted because there is agreement that the change or innovation is necessary (Marzano et al., 2005).

Second-order change is perceived as a break with the past. This type of change lies outside existing paradigms. It conflicts with prevailing norms and values, and requires the acquisition of new knowledge and skills. It also requires resources currently not available to those responsible for implementation the innovations or change. There may exist some resistance because those who have a broad perspective of the school, may not see the innovation as necessary (Marzano et al., 2005).

First-order change is incremental and is the next obvious step to take to make a process or procedure more effective. Second-order change is more substantive and requires more time and resources. That is why there is least resistance with first-order changes (Marzano et al., 2005).

A change that is necessary for a school to undergo may conflict with the current norms, values, and morals set by the existing school culture. However, just because there is a set norm, does not mean that it is the best way to educate all students. This form of change is called second-order change. Educators must be flexible because the nature of profession deals with change. A major complaint of public schools is that it is constantly changing (Marzano et al., 2005).

In second-order change, of the 21 responsibilities of leadership, this change only involves seven of them (Marzano et al., 2005). They are the following:

1. Knowledge of Curriculum, Instruction, and Assessment

2. Optimizer

3. Intellectual Stimulation

4. Change Agent

5. Monitoring/Evaluation

6. Flexibility

7. Ideals/Beliefs (Marzano et al., 2005, p. 116).

The other responsibilities are not necessary in the implementation plan, but in the sentiment behind the change.   In this second-order change, there is a responsibility of being a Change Agent because the district and the principal wanted to challenge being good to bringing our district to one of greatness. The Optimizer responsibility would be to inspire and develop new innovative ideas. The change is being driven by the meaning that we want every student to be successful, and this is reinforcing the Ideals/Beliefs responsibility (Marzano et al., 2005).

Marzano et al. (2005) would classify the type of change necessary in order to move a traditional school into a professional learning community as second-order change. Order refers to establishing procedures and routines that provide faculty, staff, and students with a sense of predictability. In contrast to first-order change, which is incremental and building on already existing systems, second-order change, which is deep change, seeks to alter the system radically. Since fundamental changes are being made during second-order changes, the organization is essentially breaking from its past. The school will have a paradigm shift of why the organization engages in activities (Marzano et al., 2005).

Marzano (2003) organized the findings from thirty-five years of research on student achievement into three levels of influencing factors. School-level factors are those that the school generally has control over and are related to the learning and

working environment. Teacher-level factors are those factors which are directly affected by decisions of the teacher. Student-level factors are those which the student may be experiencing, but the school has the ability to positively impact to increase student achievement. The examples shown are organized in order of highest impact on student achievement, so a "guaranteed and viable curriculum" has a stronger influence on student achievement than does "challenging goals and effective feedback" (p. 15).

The factors that affect student achievement are school, teacher, and the student. Examples that illustrate the factor of school are providing a guaranteed and viable curriculum, challenging goals and effective feedback, parent and community involvement, safe and orderly environment, and collegiality and professionalism. Examples that illustrate the factor of teacher are the instructional strategies, classroom management, and classroom curricular design. Examples that affect the student factor are home atmosphere, learned intelligence and background knowledge, and motivation (Marzano, 2003).

Opposing literature is authored by Schacter and Thum (2005) and relates to teacher effectiveness, positing that pedagogical change comes from:

> …aggressively recruiting new teachers, providing a career continuum, introducing teacher-led professional development, implementing rigorous teacher accountability, and paying teachers based on their position, teaching skills, and how much their students achieve. (p. 1)

Schmoker on school reform. A remarkable finding has emerged with organizations that succeed. The organizations that succeed were only concerned with

processes insomuch as those processes affected results. In addition, these organizations focused on both short-term and long-term results (Schmoker, 1999).

Schmoker (1999) has three key components to increasing student achievement. First, by having teachers and administrators set goals for teachers, students and the school. Second, by having teachers working collaboratively in content teams, and third, keeping track of student-achievement, schools can begin to address the education shortfall.

Schmoker (1999) identifies teacher isolation as being a big contributor to low student achievement. It must be acknowledged that teachers would perform better and be more effective if they worked in focused, supportive teams. Fullan (2001) also notes this concept:

> Collegiality among teachers, as measured y the frequency of communication, mutual support, help, etc., was a strong indicator of implementation success. Virtually every research study on the topic has found this to be the case. (p. 132)

Schmoker (1999) does elicit the notion that the isolation that a teacher experiences in their daily work environment is detrimental to the profession and to the individual teachers. Schmoker (1999) goes on to state, "Teacher individualism is not cocky and self-assured; it is hesitant and uneasy. Such isolation promotes professional insecurity. Many teachers, comfortable in their isolation, may find the transition to teamwork a little daunting" (p. 10).

Schmoker (1999) also reported that teachers realized the ramifications of their work environments. Being hermetically sealed off in classrooms inhibited professional

growth of the educators. Furthermore, teachers had no confidence if they were doing a

job well. Lortie (1975) expands this notion:

> Individualism combines with presentism to retard the search for occupational
>
> knowledge. Teachers who work in isolation cannot create an empirically
>
> grounded, semantically potent common language. Unless they develop terms to
>
> indicate specific events, discussion will lack the clarity it needs to enlighten
>
> practice…Individualism supports presentism by inhibiting work with others in a
>
> search for common solutions. Teachers do not undertake the collegial effort
>
> which has played so crucial a role in other occupations. (p. 212)

The term that Lortie uses as presentism describes the myriad of daily events and duties

that keeps educators from reflectively collaborating on challenges and concerns in the

classroom.

If school improvement is the goal, then working in isolated environments is

countering that effort and in essence, cutting the lifeline of useful information that can be

shared among professional educators. Schmoker (1999) goes on to state that "Such

isolation thwarts them in developing common solutions through dialogue. Isolation

tacitly assumes that practitioners have nothing to learn from each other" (p. 10).

Not only is collaboration key to school improvement, collaboration must take on

an action research methodology. Schmoker adds that "…Collaboration is not often

enough characterized by a thoughtful, explicit examination of practices and their

consequences. Effective collaboration is really action research—carefully conducted

experimentation with new practices and assessment of them" (p. 16).

In addition to collaboration and teamwork, Schmoker (1999) recommends that schools and collaborative teams set goals for themselves and their students. Schmoker (1999) states that "Unfortunately, most schools do not make the connection between goals, motivation, and improvement" (p. 23). There is a consistent lack among failing schools nation-wide, and that is they lack of understandable, tangible academic goals. As Schmoker (1999) adds to this notion:

> We have what is perhaps the most striking, contradictory, self-defeating characteristic of schooling and our efforts to improve it: the gap between the need—and intent—to improve academic performance in our schools on the one hand, and the conspicuous and virtual absence of clear, concrete academic goals in most school or district planning efforts on the other. Without explicit learning goals, we are simply not set up and organized for improvement, for results. Only such goals will allow us to analyze, monitor, and adjust practice toward improvement. (p. 23)

After the school and teacher teams have established goals, these goals must be monitored on a continued basis. Data and data monitoring are necessary to improve teaching practice. Schmoker (1999) attributes the mass amounts of school reform endeavors to the lack of data collected during each reform. Schmoker (1999) also raises the notion:

> Umpteen reforms have come and gone, using up time, money, and hope. They have left a crippling disillusionment in their wake, a cynicism about staff development and any belief that training or innovation benefits students. Not using data to monitor results can be calamitous. (p. 37)

According to Schmoker (1999), there is a tacit reason for not collecting more data. That reason is fear; the fear of revealing strengths, weaknesses, failures, and success of the school or district and providing a telling illustration of the students that it serves. It seems that as long as the field of education acknowledges that change is necessary, and the data to elicit what needs to be changed is not collected, no one knows what to improve or what changes need to be made, and that seems to be the *status quo*. Yet, the states and school districts spend enormous amounts of money on reform, when in fact, all of the reform that has been undergone has been spinning its wheels (Schmoker, 1999).

Educators do have a fear that they can raise their students' achievement. Some of this fear is bred from their isolating environments. Lortie (1975) states that "A few years in the system typically undermines whatever confidence they may have had about their ability to significantly affect groups of children" (p. 127).

Schmoker (1999) highlights the dangers of not using data to make decisions on school improvement, as it stems from fear:

This fear of results, of accountability, influenced the impact of outcome-based education (OBE). A majority of schools that set out to respond to the cry to become more outcome based found ways to avoid or postpone becoming results oriented, which was a major part of what "outcome-based" was supposed to mean. Having ever so gingerly put our toes into the cold waters of change, we realized that change would require something like accountability, which we have never warmed toward. We stepped back and took refuge in the much easier and more traditional activity of defining and redefining our outcomes—a safer pursuit

that waylaid us, like so many things have, on the road to actual improvement. (p. 40)

After the three components of school improvement are applied to a school improvement plan, the next step is to celebrate, reward, recognize and reinforce. The accomplishments of individuals and groups must be recognized and celebrated if teachers are to work effectively together. Most teachers have unfulfilled needs from recognition and approval. Schmoker (1999) notes, "…teachers crave reassurance which, for them, could only come from superordinates or teaching peers. The absence of this reassurance not only reduces the joy of teaching but also leads many teachers to seek professional fulfillment by concentrating only on their strong suits…" (p. 112).

Fullan on school reform. Fullan (date) is insistent on system-wide reforms, from the classroom level to the state if education is going to see a change in how it educates its students. Fullan is also insistent on data-driven decision-making and changing instructional practice based on data and collaboration.

Earl and Fullan (2003) cited three case studies where large-scale school reforms that incorporated data into decision-making that were successful. They are:

- The National Literacy and Numeracy Strategies in England;

- The Manitoba School Improvement Program in Manitoba, Canada; and

- Secondary School Reform in Ontario, Canada (Earl & Fullan, 2003).

In each of these case studies, data was a driving force in decision making. Each of the case studies used different data, and used it to make different decisions.

The National Literacy and Numeracy Strategies (NLS and NNS) in England used critical friend evaluations. The NLS and NNS are government initiatives to improve

classroom practice and student learning in literacy and mathematics in primary grades across England. Earl and Fullan (2003) clearly state that "The strategies, comprehensive in design and execution, have pulled together various policy strands to provide clear direction and support for change, with new roles, high quality materials and political support" (p. 385). National targets were established to increase the percentage of eleven-year-olds reaching the expected level, Level 4, in annual national assessments for English and mathematics. There was already an established accountability system from the previous government, which was continued. In addition to the accountability system already in place, "…the government added many opportunities for capacity building and created a national infrastructure to support the implementation and advancement of the Strategies" (Earl & Fullan, 2003, p. 385).

Earl and Fullan (2003) describe the Strategies as being an ambitious professional learning program, which involved nearly all primary schools in England. The national government provided access to training and regular monitoring of the school's performance, which made the Strategies a high priority for most schools. Each year, all of the primary schools received detailed reports on their school's yearly progress entitled Autumn Package. The Autumn Package included individual school's performance and assessment report, as well as the national summaries. In addition to the training and annual monitoring, schools were regularly inspected for compliance on quality of teaching and school management. These reports were posted on a public website. Furthermore, headteachers at each school were responsible for monitoring progress and success of the Strategies and are "expected to use available data to guide their monitoring and to justify their decisions" (Earl & Fullan, 2003, p. 386).

The Manitoba School Improvement Program (MSIP) was established to improve the learning and outcomes of secondary school students by building the schools' capacities. MSIP is a non-profit, non-governmental school improvement initiative. MSIP aimed at helping at-risk students to remain in school and fulfill their educational potential. MSIP supplied grants to the schools and districts to engage in locally-defined school improvement efforts.

One of the improvement efforts was to focus on data. MSIP firmly believed that through thoughtful reflection based on data yields a school's capacity to sustain improvement. The core foundation of MSIP was that school improvement only occurred when educators delved into inquiry and data to improve instructional practices. Earl and Fullan (2003) describe the practice as, "Engaging in ongoing inquiry and reflection appears to be one of the key factors separating schools with deep impact from those whose project impact is less significant" (p. 386).

The Secondary School Reform (SSR) in Ontario, Canada was introduced in 1997 as part of a major education bill, The Education Quality Improvement Act. Earl and Fullan (2003) state, "The goals of SSR were to improve the accountability, effectiveness and quality of Ontario's school system" (p. 387). One of the reform efforts was to reduce secondary school from five years to four years. Another effort of SSR was to add new and more challenging curriculum and to differentiate the curriculum to two levels of courses, and to make community service mandatory. SSR initiative also included specific subject and skill graduation outcomes, prior learning assessment, common report cards and a mandatory literacy test as a requirement for a secondary school diploma (Earl & Fullan, 2003).

In addition to these initiatives, a funding structure free from taxation was also established. As might be expected with large-scale reform, the road was not easy. Teachers staged a 2-week province-wide walkout in opposition to the new accountability system. Analogous to the U.S., having data available about schools is relatively a recent phenomenon in Ontario, Canada. Earl and Fullan (2003) go on to state that "With the exception of a few sample assessments of students during the 70s and 80s, the province had almost no history of large-scale assessment and none with 'high stakes' for students, schools, or districts" (p. 387). Despite the initial resistance, the program provided the educational system with accountability to the community. The results are published in the local newspapers (Earl & Fullan, 2003).

In all cases, school leaders were not used to using data as a decision-making tool. Earl and Fullan (2003) highlight that "Many of them indicated that they had not had training or experience in research, data collection, data management or data interpretation" (p. 388). In the MSIP case, the schools gathered and summarized the data that they felt would be most important for making decisions and ensuring trends in the right directions. In England, the school leaders became more sophisticated and comfortable with using data. In order for data gathering to be pivotal for decision-making, human interpretation and creating meaning out of the numbers is integral. Becoming comfortable with using data and being statistically literate is imperative for school leaders to become more effective in the education system (Earl & Fullan, 2003).

According to Fullan (2001), restructuring alone does not yield sustainable change. The school must be recultured. Having a culture that appreciates change is difficult because human nature perpetuates to consistency. Fullan (2001) elaborates that "It does

not mean adopting innovations, one after another; it does mean producing the capacity to seek, critically assess, and selectively incorporate new ideas and practices—all the time, inside the organization as well as outside it" (p. 44).

Fullan's three phases include: initiation, implementation, and institutionalization. Institutionalization is where the change initiative has become embedded into the school's culture. From this study, several themes were identified. PLCs were best implemented by having teachers engage in conversations around teaching and learning. The other theme that emerged was that when teachers examined *what* they were learning was most crucial to the success of the PLC being implemented.

Fullan developed a change model that includes the steps of initiation, implementation, and institutionalization. Initiation is where the staff adopts an innovation by making a decision to proceed with a change. The implementation phase is where the staff begins to operationalize the innovation into their practice. Finally, institutionalization is where the innovation is recognized as an ongoing part of the system or simply put, the way things are done around here (Fullan, 2001).

According to Fullan and Watson (2000) change initiatives worked best when professional learning communities were established, allowing teachers to discuss and act on new ideas. There needs to be a system where teachers can regularly engage in these practices. The teachers take on a collective responsibility as teachers expand their roles, exchange ideas, and delve into dialogues about data. According to Fullan and Watson (2000) "Our label for what is happening in these schools is 'reculturing' or 'capacity-building' that is, this is a process of increasing the focus on core instructional goals,

processes and outcomes by improving the capacity of teachers and others to work together on these matters (p. 457).

   Resnick on school reform.   American education is founded on the assumption that aptitude is an innate trait and not learned. In essence, that effort and aptitude are independent of each other and the U.S. school system is based on that notion. However, the possibility that effort can create ability has not been entertained. Therefore, our school system is an essence a selection process in itself, distinguishing those who are naturally able from the less able and selecting programs for students with those natural talents (Resnick, 1995).

   According to Resnick (1995), schools could be structured where a system elucidates effort-created ability and would serve American students more effectively. By creating effort-based schools, the problem of instruction not meeting the needs of students can be addressed and very well could be the answer to school reform. By creating effort-based schools with high academic rigor and a thinking curriculum, student achievement will increase. This research comes out of the Institute for Learning at the University of Pittsburgh. This educational reform has nine principles that govern everyday classroom activity and school structure. The eight principles are: organized for effort, clear expectations, recognition of accomplishment, fair and credible evaluations, academic rigor and a thinking curriculum, accountable talk, socializing intelligence, and learning as apprenticeship (Resnick, 1995; Resnick & Hall, 1998).

   A school that is organized for effort will have a different system than the one observed today. High curriculum standards are set, and students are expected to master each of the standards. Naturally, a student may need more time in mastering the

standards, and promotion would not be determined by students' ages, but by mastering the standards (Resnick, 1995).

Clear expectations are to guide effort of the students. These goals are clear and are the same for all students. Resnick (1995) goes on to state that "Achievement standards—publicly announced and meant for everyone—are the essential foundation of an equitable, effort-oriented education system" (p. 58).

Fair and credible evaluations will ensure respect for the students who are demonstrating serious effort in mastering high rigorous and clear standards. Formative or summative assessments administered by the teacher and the end of a teaching student are fair and credible, usually. Students are prepared for them, and the content is known in advance. Resnick (1995) notes, "But especially for students in poor schools, those tests do not really 'count' ..It is understood that an A or a B in an inner-city school does not equal the same grade in an upscale suburban or private school" (p. 59).

Academic rigor in a thinking curriculum means to teach students how to think and requires an organized curriculum around major fundamental concepts. By engaging students in active reasoning, students' critical thinking skills increase, helping them to become expert problem solvers in the real world (Resnick, 1995).

Accountable talk asks students to demonstrate their knowledge of curriculum in an active discussion centered on appropriate discipline concepts. Accountable talk appears much like instructing using the Socratic Method. There are established norms for this activity, and allows students to put intelligence into practice (Resnick, 1995).

Socializing intelligences is to have students engage in activities that teach intelligence. The habits of mind, or learning how to think, should be a daily occurrence

in classrooms. Typically this is an exercise that teachers do with only their advanced

students, however, all students can benefit from these exercises (Resnick, 1995).

Learning as apprenticeship allows students to work alongside an expert who can

model skills and guide the student for authentic instruction. Often, this type of learning

involves interdisciplinary knowledge since the real world is not a vacuum to a specific

school subject. This is the most authentic or real-world instruction, and will assist in

students being prepared for the demands of adult life. These types of activities in the

school settings can be in the form of extended projects and presentations, community

service work, and service learning (Resnick, 1995).

Some of these aspects of effort-based learning exist in the school system

currently, and others require a complete restructuring of the system. Unfortunately,

education is not equitable in America, and one way of unifying the school system is to

create effort-based schools (Resnick, 1995).

Hanushek on school reform. Hanushek (2007) has identified that high-quality

instruction stemming from teacher preparation and ability is the most influential

component to school reform, however he proposes that the change must occur with

teacher salaries and working conditions. However, present policies do not ensure that

quality teachers are recruited or retained in the profession. Hanushek (2007) presents the

issue that how can school reform occur, the achievement gap be closed, or American

students be prepared to compete in the global economy if the compensation package for

teachers that works against that.

According to Hanushek (2007), the manner in which teachers are currently paid

now, with salary structures aligned with experience and years of schooling, are weakly

linked to student achievement. This indicates that teacher quality is not highly correlated to experience or years of schooling, however, school districts and state policies recognize this as being indictors of teacher quality. Instead, Hanushek proposes that student test score gains be used to measure teacher effectiveness, and that measure be used to increase teacher salaries (Hanushek, 2007). Hanushek (2007), also notes that:

> The magnitude of estimated differences in teacher quality is impressive.
> Hanushek (1992) showed that teachers near the top of the quality distribution can get an entire year's worth of additional learning out of their students compared to those near the bottom. That is, a good teacher will get a gain of 1.5 grade level equivalents where as a bad teacher will get 0.5 year for a single academic year.
> (p. 576)

Hanushek (2007) has reported that there is a wide disparity in teacher salaries nation-wide. In the Midwest, new teachers in rural districts earn less than $25,000 a year. In their tenth year, those teachers can expect to earn less than $35,000 a year. The variation among urban and suburban teacher salaries is far less. However, in the urban and suburban regions, variation in working conditions provides a complete picture to the disparity among school districts (Hanushek & Rivkin, 2007).

In competitive labor markets, Hanushek argues that higher salaries should attract more people, provided that working conditions are roughly comparable. Therefore, increases in teacher salaries should provide an increase in the average teacher quality (Hanushek & Rivkin, 2007).

However, Hanushek (2007) argues that before the teacher pay structure is changed, that there be more stringent requirements to enter the field. This change would

occur with policy change that aims at tightening the requirements to enter the teaching field. The proposal includes an undergraduate major in the disciplinary field, a master's degree that includes pedagogy, psychology, and field experience as its requirements, higher test scores to enter teacher training programs, and elevated minimum grade point averages (Hanushek, 2007).

One would argue that after these stringent requirements were implemented by policy, would that reduce the number of potential applicants. Since the programs required becoming a teacher would be more rigorous, more costly, and more difficult than the current certification requirements. Increasing teachers' salaries across the board would be a necessity to offset educational costs as well as the recognition of advanced degrees and credentials. This would result in paying teachers a salary similar to accountants, lawyers, and other professionals of a respectable status. The increase in status of teachers in society along with the increase in teacher salary would ultimately draw a larger recruiting pool, thus making teacher recruitment easier (Hanushek, 2007).

Retention is another shortfall in the teaching field. The teaching field does experience a high level of turnover, and has been the focus of policy debates for years. It is reported that nationally, every year over 7% of the teachers with less than 3 years of experience leave the field. Then there are another 13% who change schools, which does cause disruption in the education field. Teachers with 4 to 9 years of experience still have an annual exit rate of 5% and a transfer rate of 10%. To put it more simply, one third of all new teachers leave the classroom by the end of their 5th year. It is presumed that the teachers with the best ability and highest aptitude are leaving the profession

because they have the highest opportunities elsewhere. Therefore, the highest quality teachers are the ones leaving the field (Hanushek, 2007). According to Hanushek (2007):

> The central argument behind this is that none of the generally used current policies reflect or promote teacher quality. Today's compensation policies reward characteristics that are not closely related to student performance, so it is not surprising that these policies do not promote better student performance. (p. 581)

Steven Kerr (1975) illustrated this concept when he wrote *On the Folly of Rewarding A While Hoping for B*. Kerr (1975) presents several examples from society and organizations that demonstrate reward systems that in fact do not reward the desired result. Kerr (1975) goes on to explain:

> Whether dealing with monkeys, rats, or human beings, it is hardly controversial to state that most organisms seek information concerning what activities are rewarded, and then seek to do (or at least pretend to do) those things, often to the virtual exclusion of activities not rewarded. The extent to which this occurs of course will depend on the perceived attractiveness of the rewards offered, but neither operant nor expectancy theorists would quarrel with the essence of this notion. (p. 769)

This is not to say that all organizational behavior is determined by a formal reward system. It is true that in the absence of merit-based pay structure that some teachers would aim to increase student achievement. However, as a result of not having teachers be rewarded for increasing their students' achievement, the school district, school boards, or state policies are not *causing* the behaviors desired, but it is only out of

chance that student tests scores increase. For a school system to *act* upon its students, the formal reward system should positively reinforce desired behaviors (Kerr, 1975).

The long road on school reform. One way to address educational reform and to close the Knowing-Doing gap is by restructuring schools into Resnick's Effort Based School Model focusing on Clear Expectations, Academic Rigor, and Accountable talk. As Senge (2000) says:

> I coined the term "drive by staff development" to help educators understand the need for schools to be reflective places where teachers can select the training they need to improve teaching and learning. Such training should not be one shot events that are disconnected from the core work of schooling. (p. 247)

Many schools have improvement goals. However, all too often they are written in a mandated school improvement plan, sent off to the district, soon forgotten, and the school returns to "business as usual" (O'Neill & Conzemius, 2005, p. 5). Without clear, developed, specific, common goals, teachers are not able to communicate meaningfully and precisely on how to improve their instruction or student learning (Schmoker, 1999). Goals are a meaningful way to drive instruction, which then drives school improvement. The goals should be based on data, which then ultimately drives the instruction.

The problem of converting professional development into pedagogical change is not new. Regarding professional development efforts, Joyce and Showers (1981) caution that "there is great variability even within sites with respect to the implementation of curricula—even well implemented curricular and organizational changes tend to disappear fairly rapidly" (pg.164). Joyce and Showers (2002) claim that by the early 1970s, it was evident that even the best efforts of professional development, though well-

funded and supported, resulted in a mere ten percent implementation of the new innovations in the classroom. Even the strongest efforts for continuous professional development to improve student achievement are met with half-hearted teacher attempts at pedagogical change or overt resistance (Duffy, 2003).

Closing the achievement gap and affecting lasting instructional change in the classroom comes from the willingness of the teacher to modify pedagogical knowledge, behavior, belief, and attitude (Guskey, 1986; 2002; Killion, 2002b; Lieberman & Miller, 2001; Roskos & Vukelich, 2003; Schaefer, 2004; Stokes, 2001). Guskey (1986; 2002) suggested that not only do these indications for change need to be existing, but that they must come in a set order if pedagogical change is going to last.

Over the last decade, it has become apparent to many researchers (Fullan, 2005; Olivier, 2001; Peterson, 1997; Ross et al., 2004; Slick, 2002; So et al., 2002; Speck, 2002; Teel, 2003; Tschannen-Moran & Barr, 2004; Tucker, 2004) that student achievement does not occur in a vacuum of teacher-student work. Many recent experts agree that there is a need for a balanced effort between students, parents, teachers, administrators, and the surrounding community to be pooled into a hard-working, shoulder-to-shoulder professional learning community with the student and teacher at the core (DuFour & Eaker, 1998; Fullan, 2005; Hawley & Rollie, 2002; Lieberman & Miller, 2001; Marzano, 2003; Schmoker, 1999). These specialists contend that two key constituents in the combination are teacher collaboration and administrative support of the efforts of teachers.

Professional Development

Chard (2004) employs a model of human competence development proposed by Gilbert (1978) as a vehicle to develop a "conceptual framework of factors that support professional development and sustain its impact on reading improvement" (p. 175). System and person variables are considered, with the system providing the context for improvement of competence in the person, in this case, the teacher.

Beginning with the systems variable, Chard (2004) considers the data sub-variable first, noting the importance for the larger system (e.g. school, district, state) to have measurement systems in place that align with instructional reading goals presented in professional development. When considering the next variable factor: tools, materials and technology; Chard (2004) cautions that professional developers carefully consider the alignment between research-based principles and instructional materials, which may also serve as a tool for the professional development of the educator, as well as a daily instructional guide

Adequate instructional time must also be considered an invaluable tool for teachers, and be held sacred and protected against chipping away by inappropriate uses of time (e.g. assemblies, announcements), which may be even more restricted in a half-day setting.

At the system level, motivation is in the form of incentives that are contingent on performance, and include career development. From 1999-2002, California extended substantial monetary incentives for those teachers and schools meeting their academic performance goals on state standardized assessments. Lack of funding halted large monetary incentives after 2002, however, school districts continue to accept funds ($5.00

or less per student) for submitting demographic data and administering a variety of standardized assessments (Fullan, 2001).

Chard (2004) noted that at the person level variable, the information is in the form of knowledge. High quality professional development is research based, models exemplary practice, and can be differentiated to meet the needs of the teacher. California professional development program approval is based on the ability to deliver instruction centered on research based pedagogical practices that advance state standards and testing goals. Models of exemplary practice are shared and discussed, and the content is delivered to teachers at their own grade level to achieve differentiation. Motivation at the person level is responsive to the teachers' sense of efficacy, "as it relates to teachers' perceptions of their effectiveness in teaching struggling readers" (Chard, 2004, p. 185).

Guskey (1986; 2002) presented an opposing model of professional development. Guskey (2002) stated that the primary purpose of professional development is to ensure changes in teachers' knowledge, belief and behavior that will improve student learning. Guskey (2002) further maintains that what "many staff development programs fail to consider is the *process of teacher change*" (p. 6). Many staff developers erroneously assume that changing teachers' attitudes, beliefs and perceptions will lead to a change in teaching behaviors. Guskey (2002) asserts that the stated model is more suited to preservice teachers, who have little or no professional experience upon which to base their learning. Guskey developed an alternative model for staff development that hinges on the order of desired outcomes, and takes into consideration that professional development is aimed at teachers already in practice.

Guskey (1986; 2003b) portends that it is crucial that professional development in which teachers gain new knowledge of research-based innovations be quickly followed by a length of time in which teachers are allowed to practice the innovation in the classroom, with the support of a coach who is available to answer questions and model the new methods. When the teacher sees improvement in student achievement, changes in beliefs and attitude follow. Guskey (2000; 2003a; 2003b) evaluates the effectiveness of professional development at five levels: participant reactions; participant learning; organization support and change; participants' use of new knowledge and skills; and student learning outcomes. The current study will measure participant learning, and participants' use of new knowledge and skills by quantifying student learning outcomes; and organization support and change by quantifying the availability of literacy coaches.

Theoretical Outcomes for PLC

In the 1990s, professional community emerged as an answer to the loosely coupled system as observed and valued by many school cultures. Professional communities seek to promote collective responsibility, collegial norms, and shared vision for student learning and increasing student achievement (Stoll & Louis, 2007).

The issue becomes, how does a school transform from an autonomous, loosely coupled system, to a professional community that values collective responsibility, organizational learning, and action research methodologies?

Schools are not immune to these downsizing efforts as a result of the economy. Many education budgets have been slashed by 50%. These cuts will not allow results in little to no budget allowances for professional development for teachers. Professional development for teachers is necessary for their growth as professionals. Professional

learning communities will allow teachers to get the professional development they need to renew their craft. PLCs take advantage of the best-untapped resource at schools. Why should teachers attend conferences, seek mentors that are off campus, hire educational coaches to assist in the reflective process when teachers at that same site can do all of that? Teachers can teach other teachers, and through that process, there becomes a sense of learning and collaboration (Dufour et al., 2008; Elbousty & Bratt, 2009; Floyd, 2005; Fogarty & Pete, 2009; Ford & Kozlowski, 1997).

According to Kotter and Cohen (2002), the only way to change an organization's culture is to change the way people behave. The shift that takes place when implementing a PLC is a primary focus from teaching to a focus on learning. This change cannot be superficial and be only structural; it must be rooted in the organization's values, beliefs, and assumptions (Eaker & Keating, 2008).

DuFour (2004) took the concept of alternative professional development one step further. He argued that, rather than treating professional development as a distinct and separate entity or area of focus, as has commonly been the case, teacher improvement should be approached as a natural byproduct of larger *organizational management* strategies (Glaser, 2005; Graham, 2007; Goldsmith, Lyons & Freas, 2000; Haycock & Jerald, 2001; Hipp, 2001).

Origin of professional learning communities. The origin of learning communities dates back to 1927, when Alexander Meiklejohn formed the two-year experimental college at the University of Wisconsin, Madison (Erickson & Kellogg, 2003).

Professional learning communities are currently defined as having no universal definition. There are commonalities of consensus building for the organizations decision-making; however, consensus is a subjective term and specific to each organization (DuFour, DuFour, Eaker, & Many, 2006). There are commonalities among professional learning communities that groups of teachers share and critically interrogate their practice, as a result, this behavior is depicted in being ongoing, reflective, collaborative, having a common mission, vision, values, and goals in the organization, is inclusive, learning-oriented, and promoting professional growth (DuFour, DuFour, Eaker, & Karhanek, 2004). It is generally agreed that professional learning communities (PLCs) promote and sustain the learning of professionals in a school with the collective purpose, enhancing student learning (Stoll & Louis, 2007).

Dufour, Dufour, and Eaker (2008) currently define professional learning communities as educators who share a commitment to work collaboratively in a continual process of collective inquiry and action research to yield better results for the students that they serve. The operating assumption is that the key to improvement for students is to provide ongoing and continuous job-embedded learning for educators (DuFour, et al., 2008).

In *Professional Learning Communities at Work* (1998), six characteristics of PLCs we identified and explained. They are:

1. Shared Mission, Vision, Values, and Goals—All focused on student learning;

2. A collaborative culture with a focus on learning;

3. Collective inquiry into best practice and current reality;

4. Action orientation: learning by doing;

5. A commitment to continuous improvement;

6. Results orientation (DuFour & Eaker, 1998, p. 6).

Hord and Sommers (2008) identified slightly different characteristics of professional learning communities. These characteristics provide insight into the culture that is perpetuated by a professional learning community. PLCs generally have five characteristics. They have shared beliefs, values and vision. They have shared supportive leadership, collective learning, supportive conditions, and a shared personal practice (Hord & Sommers, 2008).

Dufour (2004) argued that *Learning Community* has been used to describe a grade level teaching team, a school committee. Learning community has also been used to describe single high school department, a school, an entire school district, a state department of education and even a national professional organization. This term has been used or misused so often and for so many different applications that it is in danger of losing its meaning and integrity altogether. This definition may in fact be too large and too broad. Dufour et al. (2008) go on to say, "The term is now used so ubiquitously to describe any loose grouping of educators that it is in danger of losing all meaning" (p. 14).

Dufour et al. (2008) elaborate:

> While the term *professional learning community* has become commonplace, the actual practices of a PLC have yet to become the norm in education. Too many schools, districts, and organizations calling themselves PLCs do virtually none of the things that characterize PLCs. Despite the increasing popularity of the term,

actually transforming the culture of a traditional school to reflect the PLC concept

remain a complex and challenging task. (p. 14)

According to Stoll and Louis (2007), it is discouraging to realize that the concept

of professional learning communities has transformed into a *program* that can be

implemented, instead of a deep, cultural understanding of continual inquiry and growth to

produce effective instructional results.

The core ideology for professional learning communities. Professional

learning communities have five agreed characteristics that are shared among all

researchers in the field. The five major dimensions of a professional learning community

are: supportive and shared leadership, collective learning and application of learning,

shared values and vision, supportive conditions, and shared personal practice (Hord,

1997). Below describes the framework to develop these five dimensions.

Mission. The mission statement is an explanation on why does the school exist.

In meetings, all decisions should be directed to the mission and vision of the school. The

topic of cost cutting in schools is more meaningful when the topic of the mission is

brought up rather than beginning with *we need to cut copy costs*. People will unite

around a mission, especially when they are being asked to do the same job they have

been doing, just on less (Bolman & Deal, 2003; Hill & Egan, 1966; Hipp, Huffman,

Pankake & Oliver, 2008; Holman, Devane, & Cady, 2007; Huffman & Hipp, 2003).

The main focus of a professional learning community must be *learning.* The

mission statement must go beyond each and every child becoming lifelong learners.

Some entities must be identified when discussing learning. They are: "(a) what do we

expect students to learn? (b) How will we know what students have learned? (c) How

will we respond to students who are not learning" (Eaker, Dufour, & Burnette, 2002, p. 12)?

   Vision. Bolman and Deal (2003) are very explicit about the vision statement as they state, "Vision turns an organization's core ideology, or sense of purpose, into an image of the future" (p. 225). The vision statement is the product of action research (Jackson, 2006). Rather than writing a *wish list* of where the organization wants to be (i.e. the use of more technology, new band uniforms, etc.), the vision statement should articulate results operating on the bare essentials (Ackerman-Anderson & Anderson, 2001; Hughes & Kritsonis, 2006). Dufour et al. (2008) indicated that the vision should be measurable. Where does the school want to be in six years? There should be a six-year plan of where the school wants to go, with benchmarks after every year.

   The vision statement is the product of action research. Rather than writing a *wish list* of where the school wants to be (i.e. the use of more technology, new band uniforms, etc.), the vision statement articulates results operating on the bare essentials. The vision statement is directed to describing what excellent academic programs look like (Eaker et al., 2002; Jacobson, 2010; Jang, 2009; Jaques, 2010).

   Finally, every decision is to be based on the school's vision. The vision statement forms the basis for school improvement planning, budgeting, staff development, and other improvement endeavors. Eaker et al. (2002) suggests, "Discussions and decisions should inevitably focus on the question, 'How will this help us move the school toward the vision we have for our school?'" (p. 15).

   Values. Values that count are those an organization are demonstrated, regardless of what is articulated in the mission statement or formal documents. The value statements

clarify the purpose of the school (Bolam et al., 2005; Kilbane, 2009; Joyce, 2004; Johnson-Estes, 2009; Kofman & Senge, 1993; Linn, Tinger, Husic & Chiu, 2006). Dufour et al. (2002) provide steps for identifying shared values:

1. Carefully review the school's vision statement;

2. Identify the attitudes, behaviors, and commitments that must be demonstrated by the group;

3. Develop a draft of a statement of these attitudes, behaviors, and commitments, limiting it to no more than 10 statements;

4. Arrange small-group meetings with colleagues to present task force findings, solicit feedback, and answer questions;

5. Review initial draft as appropriate;

6. Continue small-group meetings and revisions until there is a strong consensus for the statements;

7. Present your findings to the entire staff and obtain its endorsement of the final product. (p. 220)

Goals. The goal statements break down the vision into small measurable units. The goals provide a plan that build toward the vision . Goals are monitored continuously, they are designed to promote short-term wins, they are measurable, and closely monitored (Eaker et al., 2002).

The leadership team. An effective broad-based leadership team is comprised of a variety of interests and perspectives. By the leadership team being inclusive, wide ranges of stakeholders are included and the workload is distributed. This also will develop a

broader ownership of the school's improvement plan (Blankstein et al., 2008; Louis, 2008; Malecki & Mahood, 1972; McCuellen, 2007).

The leadership team should include eight to ten members. These members should be from a variety of roles in the school. There should be at least one principal or assistant principal, at least two grade-level classroom teachers, and other support staff such as: counselors, psychologists, and paraprofessionals. The team should also include parents, afterschool program leaders, and technology support staff. Ideally, teachers who are respected among their peers should be sought out to join the team, which will heighten the team's credibility. Having a wide range of roles included in the leadership team will bring about complementary strengths (Meyer, 1978; Morrissey, 2000; O'Neill & Cozemius, 2005). Of course, the inclusion of a principal or assistant principal will ensure that the decisions that are made have administrative support.

Illustrations of the benefits of professional learning communities: a look at case studies. There are several documented case studies, where the implementation of professional learning communities has increased student achievement. Three of those case studies are summarized to illustrate the potential benefit that professional learning communities can have on student learning.

Cottonwood Creek School. A school that incorporated the five major dimensions of professional learning communities and saw an increase in student achievement is Cottonwood Creek School. The five major dimensions of a professional learning community are: supportive and shared leadership, collective learning and application of learning, shared values and vision, supportive conditions, and shared personal practice (Hord, 1997).

Cottonwood Creek School is very small. It was originally built in 1923 in one schoolhouse, but since has expanded to several portable buildings and some other permanent structures. The school, which is located minutes from a central business district of a large city, services approximately 500 students. Cottonwood Creek School is an elementary school with grades K-5. The faculty and staff include 36 teachers, a principal, an assistant principal, an instructional guide, and twelve teaching assistants.

Cottonwood Creek School began using professional learning communities around 1987. This endeavor was accelerated as the result of a state-level decision regarding teacher education. Hilltop University (HU) had secured grant money and asked Cottonwood Creek School to collaborate with them to develop a high-quality teacher education program. In addition to this new partnership, the state had announced that extra funding would be awarded to 80 schools to work toward educational excellence. The teachers at Cottonwood Creek School worked diligently and entered the school in the competition. Cottonwood Creek was ultimately selected as one of the 80 schools to receive the funding, thus gaining notoriety and recognition within the state (Hord & Rutherford, 1998).

Later that summer, a new principal was assigned to Cottonwood Creek. This principal was not supportive of the new plans that were underway. Numerous conflicts erupted between the new leadership and the teachers. As a result, the district was forced to assign another new principal (Hord, 1997).

The relationship that Cottonwood Creek had with HU contributed to the teachers' feelings of efficacy, and provided the foundation for the staff to implement the new curriculum. During the implementation phase, the components of the new collaboration

structure of the professional learning community were established and refined (Hord & Rutherford, 1998).

The characteristics of a professional learning community were engrained in the values and beliefs at Cottonwood Creek. One of the five characteristics, shared decision making was evident in an instance in 1987 (Hord, 1998).

A representative from each grade level in Cottonwood made up the HU Forum. These representatives met with HU and assumed the responsibility for sharing plans back at the campus and forwarding ideas to HU at the next Forum meeting. These teachers (established in each school earlier by the district), acted as the vehicle for communication and decision making across the entire school staff…Subsequently, the district began to look more closely at shared decision making at the campus level and instituted the instructional leadership team, training staff from across the district in the knowledge and skills deemed necessary for serving on such a team in each school. (Hord, 1998, p. 4)

Teachers seemed satisfied with the decision making system as they reported that the structure invites everyone on the staff to express their concerns. Decisions are ultimately made by the teacher representatives. Decisions included staff development for the school year. Suggestions were voiced upward through the ladder of communication, and eventually the final decision was made in a school-wide meeting (Hord & Rutherford, 1998).

Collective learning was also an important characteristic of professional learning communities and is a value that Cottonwood Creek holds. Cottonwood Creek was asked by HU to implement a new curriculum, TNC. The teachers felt that learning this new

curriculum would best be done using a collective learning approach (Hord & Rutherford, 1998). Hord and Rutherford (1998) go on to account:

> …before school began in the fall, the entire staff met in the cafeteria, referring to TNC, reviewing their textbooks, looking at the state's key competencies and skills elements in each academic area at each grade level. As a way to get an overview of what TNC would look like across the a year of instruction, they mapped out the entire year on large sheets of butcher paper spread around the cafeteria. Getting it on paper, and marking those items to which they were already giving attention, brought understanding of how things would flow from the old to the new. (p. 5)

As a result of this exercise, the teachers had a collective understanding of the curriculum, versus an individual understanding. In addition, the teachers had ongoing meetings throughout the year to work on ways to sequence their instruction and to implement the new curriculum (Hord, 1998).

Having shared values and vision is another characteristic of a professional learning community and one that Cottonwood Creek found as one of their cornerstone beliefs. "According to the research, a school's vision evolves from the values of the staff and leads to binding norms of behavior that the staff supports" (Hord, 1998, p. 5). At the beginning of the work with HU and using the new curriculum, teachers had to write campus plans and develop their own vision. Each morning, the principal would share the vision statement during the flag salute. The students were *docents* to visitors who came to the school, and would recite the school's vision to them. Hord and Rutherford (1998) elaborate, "One teacher notes, 'we all believed in our vision because we all had something to do with developing it'" (p. 5). A fundamental characteristic of a vision is to

incorporate student learning. Teachers at Cottonwood Creek have a selfless attitude about serving kids (Hord & Rutherford, 1998).

Another characteristic of a professional learning community is to have supportive conditions. This is a value that Cottonwood Creek staff came to uphold in their beliefs. Cottonwood Creek was fortunate to have the extra funding and grants from the state at HU to compensate the teaching staff for their preparation time. This funding also paid for student enrichment activities to allow teachers release time to work together across grade levels to do planning (Hord & Rutherford, 1998).

Shared personal practice is another characteristic of a professional learning community that Cottonwood Creek has made its own. Teachers visited each other's classrooms to learn from each other and provide useful feedback. This allowed the teaching practice to become more transparent, elucidating trust, respect, and community. According to Hord and Rutherford (1998), "In an environment of this kind teachers can share both their successes and their failures and are comfortable in debate, disagreement, and discussion" (p. 7).

There were significant student achievement leaps made by the new collaborative program. These gains occurred from 1991-1996, well after the new model was adopted and the new curriculum was cohesive among the teaching staff. Hord and Rutherford further account, "In 1991, the school, as indicated by the state's assessment of basic skills, was ranked in the lowest quartile of schools in the school district" (p. 8). Five years following this base measurement, "In the spring 1996 tests, the school had moved to the top quartile of the districts' 65 elementary schools" (Hord & Rutherford, 1998, p. 8). The teachers became more effective in their classrooms by the collaborative

structure, and came together as working as a unit to see improvements in student achievement (Hord & Rutherford, 1998).

Professional learning drove by values*: *White Rock State High School, Queensland, Australia. Professional learning communities can be very powerful in school reform. One instance where the professional learning community built on values already exhibited by a school is in Queensland, Australia, which involved a change process called IDEAS (Innovative Design for Enhancing Achievement in Schools; Andrews & Lewis, 2002).

White Rock State High School (SHS) used Innovative Design for Enhancing Achievement in Schools to revitalize the school. White Rock SHS is a secondary school with 400 students, 37 teachers, and is located in a rural community in Southern Queensland. The town is geographically isolated, has low unemployment, and has a tendency for parents to send their children to boarding school from secondary education. The IDEAS process was used to implement an organizational learning program, which was facilitated by an internal and external facilitator, moved the organization through phases: diagnostic inventory scanning, envisioning, auctioning, and sustaining (Andrews & Lewis, 2002). Stoll and Louis (2007) explain, "The IDEAS process engages teachers in sharing purpose and developing identity (p. 132).

The first stage of the process was to collect data and used those findings as a diagnostic inventories scan. The instrument used in this stage was from the IDEAS Research-based Framework (RBF) and surveyed teachers, parents, and students. This instrument measured their perceptions of how successfully the school was operating in

regards to both student achievement and a "range of contributory elements" (Andrews & Lewis, 2002, p. 6).

The data indicated that teachers perceived themselves as being undervalued in the community. There was an issue with conflicts not being resolved in the process of the current resolution procedure, there was a lack of agreement about what constituted excellent teaching, there was no unifying vision, and there was a perceived lack of cohesiveness in the school as a whole (Andrews & Lewis, 2002).

The first action after the data was collected and analyzed was to have a staff workshop conducted by an external facilitator. The goal of the workshop was to have the staff develop a definition of teaching excellence, and how excellence in the classroom appeared. From this exercise, resistance was met by some of the faculty members. There was so much resistance that some of the faculty members left at the end of the school year. However, one group emerged as a group who wanted to enact change. This group volunteered to work as an action group and to facilitate the process of developing the vision statement and vision plan for the upcoming school year. This group was entitled the IDEAS Group, and later became the IDEAS School Management Team (Andrews & Lewis, 2002).

The IDEAS process uses a research-based framework. The framework requires that the organization reimage itself, loosening former traditional concepts of teachers, students, and learning. A new image of teaching and learning emerged with teachers seeing themselves as collaborative professionals in a community with collective decision making and shared leadership. The image of the administrative leaders changed to the

principal being a strategic leader (Andrews & Lewis, 2002). Ailwood and Follers (2002) account that;

> High quality pedagogy depends on the professional capacities of teachers; however, this capacity intersects with a variety of other issues in teachers' lives. It is, therefore, important to point out that we are discussing a model of professional learning and practice, which is not necessarily one of friendship. (p. 15)

The IDEAS School Management Team had a set of working values or norms. They were: no blame, mutual trust, and support and collaboration. The IDEAS School Management Team was not constructed to have a range of representation among the faculty. They were ten volunteers. They did have diversity in their beliefs, backgrounds, and a mixture of experiences of both youth and maturity (Andrews & Lewis, 2002).

The IDEAS process also facilitated conversations on the schools mission, vision, values, and goals. Dufour et al. (2008) is explicit on these discussions. In the study using the IDEAS process, the school's teachers struggled to gain consensus on these commonalities. However, with the discussions, this brought shared understanding of the mission, vision, values, and goals of the school (Stoll & Louis, 2007).

For the remainder of the school year in 1998, the IDEAS Group continued to develop the vision statement and action plan 1999. The school year ended with the group finishing the final draft of the vision statement and plan. The plan had benchmarks for faculty individual learning. Individual learning included focus on classroom practice, participating in professional dialogue, and reflecting on one's own teaching practice. Another part of the action plan was sharing and deliberation. Faculty members were

asked to reconcile their different views and conflicts. This process was advocated through professional dialogue and helped build a type of cohesiveness where all views were valued (Andrews & Lewis, 2002).

The IDEAS process resulted in the school transitioning into a professional learning community. As a result of the IDEAS Group, the faculty developed a collective learning which grew out of shared purpose, shared experiences, and professional dialoguing. In addition, the newly formed PLC developed a school-wide pedagogy (SWP), which is an agreed set of principles of classroom practices that take into account the distinctive needs of each student and is grounded in educational theory (Stoll & Louis, 2007).

IDEAS is based on four principles that distinguish it from most other school revitalization approaches:

1. It assumes equivalence of teacher leadership and administrator leadership in school development processes. Strategic leadership is viewed as the role of the principal, while pedagogical leadership is seen as a professional responsibility of teachers. This relationship has been described by Crowther et al. (2000) as *parallel leadership*.

2. School revitalization is viewed as a multi-dimensional process, encompassing the development of a shared vision, the creation of a shared approach to pedagogy and school-wide operational planning. It is through the creation of a contextualized and explicitly agreed approach to pedagogy, aligned with the school vision that significant improvement in student learning outcomes is made possible.

3. The management structures include an IDEAS school management team, a

    facilitator from within the school and access to external (university) consultants.

4. Schools manage their own timeline and resources, with maximum   flexibility

    assured. (Andrews & Lewis, 2002, p. 208)

The IDEAS Group had a different perspective in the implementation phase than

the rest of the faculty. The faculty members outside of the IDEAS Group were

interviewed, and their perspectives revealed a range, and could be placed into five

groups. The five groups are presented in the following paragraph, with an example of

how each group feels.

Andrews and Lewis (2002) account the different groups, beginning with *Group 1*

B*usy with Other Things,* "I have been heavily involved in curriculum development in my

area and have not had an interest or time to be involved. However, even though I am

busy, I still have the right to be informed and am interested to know what is going on" (p.

246). Andrews and Lewis (2002) state that *Group 2 Don't Know Much About All This*

has commentary that indicate that information was given out at staff meetings and

workshops, but this information was disconnected. Typically, teachers would indicate

that "You would hear something and then not hear about it again for quite a while. While

it was mentioned quite a bit . . . unless you're directly involved in it, it doesn't affect you

too much" (p. 246). *Group 3: I am Doing a Great Job,* indicates that these teachers

believe that they are already doing a great job, "…and we should get on with teaching

kids in classrooms" (Andrews & Lewis, 2002, p. 246). These teachers would like to see

less *innovation* and more energy consolidating what we have already got and may

confirm that it is "what I have been doing for years" (p. 246). Teachers in this group are

supportive of change but consider they are already doing what "is being suggested" (p. 246) and are "incredibly busy, so I have not got time anyway to write programs that way" (p. 246). Andrews and Lewis (2002) go on to note about *Group 4: Feeling Excluded from the Inner Club.* This perspective suggests confusion about how one actually got to be part of the inner group and, particularly in the initial stages, feelings of exclusion, ". . . until a pupil-free day in June, it seemed like secret business" (Andrews & Lewis, 2002, p. 247). *Group 5: Those Who Appreciate the Work and Want to Know More* are the most evolved group with the change according to Andrews and Lewis (2002). The authors go on to note, that the teachers are interested in what has been produced as a way of viewing their own practice from a different perspective: "[I've noticed a] gradual change in the culture of the school, more willingness to talk about change because people are out there trying different things – more of a culture of . . . looking at doing something more to improve student outcomes" (p. 247).

The internal and external facilitators were integral in assisting White Rock SHS transitioning into a learning community. Another key aspect in the transition was the idea of shared leadership. This made all parties involved responsible for the transition and gave everyone ownership. Reimaging the roles was another key factor in the successful transition.

From this case study, several success factors were identified in the change process that yielded sustainable change. The IDEAS process used professional conversation strategies and then embedded them into the school's vision and SWP. Through the conversations in creating the school's vision, the teachers developed a shared understanding (Stoll & Louis, 2007).

Incorporating the PLC principles: Central Middle School. Central Middle

School is located in a large southeastern school district, serving predominately white,

middle-class students. This case study aims to identify the relationship between the

professional learning community activities and teacher improvement. To measure this,

the survey content and data analysis protocol were taken from the Teacher Survey as part

of the national evaluation of the Eisenhower Professional Development Program

(Graham, 2007).

In the 2005 school year, Central Middle School was a first-year school. There

were 662 students who attended the school and 44 teachers on the faculty. Of the 44

teachers, 24 of them were considered to be core academic teachers. Teachers involved in

the professional learning community only belonged to the subjects: language arts, social

studies, math or science. The teachers were paired in a two-person team that shared

common students of a different subject. For example, a social studies and language arts

teachers were paired up and math and science teachers were paired up. These were the

cross-curricular teams. However, the majority of time allocated for professional learning

community teams was for teachers to meet with their same subject team (Graham, 2007).

Another important factor in the interworking of this professional learning

community was that Central Middle School was a brand new school. This meant that the

principal hired all of the teachers from scratch. This allowed the principal to choose to

hire those teachers who worked best in a collaborative setting and had an interest and

commitment to the PLC principles. Prior to opening its first year, staff members engaged

in a number of activities to generate collaboration among the staff. Some of the activities

included personality typing, team building exercises, developing the school's mission

statement. Staff members also worked in grade-level teams to develop norms,

expectations, student discipline policies, scheduling, and grading expectations. All of

these things would be consistent by grade level (Graham, 2007).

After the 2005 school year was finished, 20 of the 24 core teachers were still

working at the school. The surveys that were conducted, 15 of them were completed and

returned. Graham (2007) identified outcomes for teacher development:

The Teacher Activity Survey provided results on the extent to which Garet et al.'s

(1999) professional development features were evident in professional learning

community activities and the overall relationship between professional

development features and teaching outcomes. Data analysis focused on four of

Garet et al.'s identified professional development features: (a) collective

participation, (b) content focus, (c) active learning, and (d) coherence (activity

type and duration were consistent throughout the school, and were therefore not

included in the analysis). Of the four professional development features analyzed,

three—content focus, active learning, and coherence—exhibited a positive

relationship to changes in teachers' knowledge and skills and changes in teaching

practices… This suggests that, as the extent to which each of these three

professional development features was increasingly evident in professional

learning community activities, teachers indicated increasing levels of change in

their knowledge, skills, and practices. (p. 6)

Overall, faculty members reported moderate levels of change in their teaching

practices as a result of the professional learning community activities. Interestingly

enough, the seventh grade teachers reported the highest amount of change in their

teaching practices. The eighth grade teachers had a remarkably low scoring in their perception of change in teaching practices.   During interviews, it was noted that the eighth grade teacher group causally collaborated and haphazardly shared instructional materials (Graham, 2007).

An extremely interesting point to make in this case study is students rarely were spoken about in PLC meetings. The focus of the meetings was teaching and not learning. According to Graham (2007), "It's really about teaching—what and how are we going to teach—but it's not about student learning…I think people have the intention of focusing on student learning , but really they focus on how they teach—I have yet to hear people talk about how many students have learned a concept…" (p. 8). Very little time was devoted to identifying struggling students and how to re-teach them. Rarely, conversations would include which teaching strategies proved to be most successful in promoting student learning or teaching a core concept (Graham, 2007).

Many of the teachers found comfort in the support system that the PLC provided. Teachers felt that they were growing as professionals. They valued the collaboration and time to share ideas with others. However, being deliberate in data collection and targeting struggling students was evidently missing in this professional learning community (Graham, 2007).

Revisiting the issues with professional learning communities. According to Dufour et al. (2008), when they originally wrote *Professional Learning Communities at Work: Best Practices for Enhancing Student Achievement* (Dufour & Eaker, 1998), they lacked the insights for the necessary change to take place of moving from a tradition school model to a collaborative one. The first book lacked the understanding of the

complexities of school improvement, which most schools used to implement their PLC (DuFour et al., 2008).

According to Stoll and Louis (2007), "If professional learning communities are to realize their potential, more finely nuanced understanding is needed of the development processes (p. 77). Stoll and Louis (2007) suggest that certain elements be embedded in the change process during the transition phase. It is suggested that classroom problems be normalized in dialogue among teaching professionals. By normalizing problems in the classroom practice discussions promote growth, reflection, and analysis, which generates teacher learning. Artifacts are used to shape instructional and professional practices in the professional learning community. Cultural shifts must take place when implementing a professional learning community. Dialogue is essential in the professional learning community and can be extremely powerful when coupled with PLC assessments and progress. Finally, the values of the school help promote the early development of a PLC (Stoll & Louis, 2007).

Normalizing problems of classroom practice. Stoll and Louis (2007) found in their study that PLCs were confronted with a practical dilemma, "deep, sustained conversations among teachers about matters of teaching and learning remain uncommon, even among groups that might reasonably be seen as professional communities committed to instructional improvement" (p. 79). Stoll and Louis (2007) highlight the fact that researchers have only found few cases where actual dialogue among teachers where the boundaries of professional practice are being pushed occurred. In the study, teacher learning occurred when the teaching team took collective responsibility for the problem in the classroom. When teachers engage in unpacking problems of practice, two

things occur, first individual professional learning takes place, and second, collective

capacity for improvement is supplied and in-depth conversations emerge about the

teaching practice (Stoll & Louis, 2007).

Senge (2006) reiterates this type of dialoguing,

In dialogue, a group explores complex difficult issues from any points of view.

Individuals suspend their assumptions but they communicate their assumptions

freely. The result is a free exploration that brings to the surface the full depth of

people's experience and thought, and yet can move beyond their individual views.

(p. 224)

By dialoguing in a group, this allows the presenter to observe their own thoughts.

Even more so, they are able to observe the collective nature of thought. In doing so, the

group can begin to correct the incoherence in their thinking. As a result, common

meaning transpires. As this exercise progresses, it moves from being familiar to being

normalized (Senge, 1990).

Use of artifacts. School leaders can influence teaching and learning practice by

the use of artifacts (Stoll & Louis, 2007). Artifacts are defined as being visual products

of the group. This can include, but not limited to the group's environment, language,

published lists of values, observable rituals and ceremonies. Artifacts help depict and

reinforce espoused beliefs and values (Schein, 2004). Artifacts are another type of data

that is found in varying degrees in every organization. Artifacts, as described by Schein

(2004) are the "visible organizational structures and processes [which are sometimes]

hard to decipher" (p. 26). Artifacts can take the form of documents, physical space, or

physical objects with special meaning. In schools, artifacts can include any entity

designed to influence a teacher's practice. Leaders can build influence and adapt artifacts to reinforce the school's transformation into a professional learning community. In schools, artifacts can include: roles or positions, daily schedules, faculty meetings, and meeting agendas to shape instructional practice (Stoll & Louis, 2007).

Stoll and Louis (2007) suggest sequencing the artifacts to create and maintain the professional learning community. Three stages are recommended into moving a traditional school into a professional learning community. Stage 1 artifacts are used to initiate conversations centered on reducing the isolating effects as a result of the loose coupling system of the school culture. Before school meetings are a recommendation from the study, for teachers to dialogue about the benefits of collaborating within peer groups to stretch their boundaries of their professional practice. Other artifacts can include informational pamphlets on the change process. In any case, the stage 1 artifacts are used to catalyze the change efforts (Stoll & Louis, 2007).

Stage 2 artifacts are used by leaders to focus the newly formed professional learning community into data reflection and problem solving. Discussions centered on curriculum design, pacing guides, or pedagogical expertise. These activities build on the artifacts from Stage 1. Instructional goals are also defined and subsequently measured. The goal of stage 2 artifacts is to develop a system where professionals engage in discussions using collaborative expertise (Stoll & Louis, 2007).

Stage 3 artifacts require leaders and teachers to commit to common instructional frameworks. This stage asks teachers and school leaders to allocate resources to maintain the process. This can include using the collective goals in the school improvement plans,

reflecting the goals of the teachers in the master schedule, or supporting an array of instructional programs that can facilitate instructional practice (Stoll & Louis, 2007).

By using these three stages, the use of artifacts maintains, facilitates, and perpetuates the values and goals of the newly emerged PLC.

Ingrained in the culture. Culture in an organization refers to the organization's values, beliefs, and behaviors. It is the specific set of values and norms, both implicit and explicit, which are shared by the people and the separate sub-groups in an organization. These factors control the way both the individuals and the groups interact with each other and with the stakeholders who are outside the organization (Dufour et al., 2008).

In Dufour et al. (2008), *Revisiting Professional Learning Communities at Work: New Insights for Improving Schools,* the authors argue that not only do structural changes are required to be made from moving a traditional school to a PLC, but the most important changes are in the school's culture,

> Even a cursory review of literature on the change process indicates that
> meaningful, substantive, sustainable improvement can occur in an organization
> only if those improvements become anchored in the culture of the organization:
> *the assumptions, beliefs, values, expectations and habits that constitute the norm*
> *for the organization.* (Dufour et al., 2008, p. 90)

School cultures proved a double feedback loop; educators shape the school's culture, while the school culture shapes the educators. Schein (2004) described culture as "the assumptions we don't see" (p. 21). These cultural norms are so engrained into the organization, it shapes how people think, feel, and act (Schein, 2004). Educators, being so immersed in their school cultures, often find it difficult to stray from their assumptions

to actually examine their practices from a critical prospective (DuFour et al., 2008).   As

Barth (2001) reiterates,

>The school's culture dictates, in no uncertain terms, "the way we do things around
>
>here." Ultimately, a school's culture has far more influence on life and learning
>
>in the schoolhouse than the state department of education, the superintendent, the
>
>school board, or even the principal can ever have…The culture is the historically
>
>transmitted pattern of meaning that wields astonishing power in shaping what
>
>people think and how they act. (pp. 7-8)

Norms. Collaborative teams establish a set of norms for their operation (Schein,

2004). Dufour et al. (1998) suggest example norms include: we will articulate our

specific commitments to the team and will fulfill those commitments, we will work

toward consensus, we will value, solicit, and consider the input of each team member, we

seek to understand one another by articulating and investigating reasoning behind our

respective positions, we will attend all meetings, and we will support a decision once

there is a consensus for it (DuFour & Eaker, 1998).

District leadership and cultural change. Generally, educational researchers have

observed and reported that change initiatives using a top-down approach does not solicit

buy-in among the teaching staff and does not develop a strong professional learning

community. Instead, it has been reported that stronger PLCs are yielded from teacher

leadership.

Stoll and Louis (2007) report of case studies where the top-down, comprehensive

change initiative resulted in dividing teachers, and driving some to leave. The authors

state that if teachers are not angered, or dispirited by the district initiatives, they subtly resist the change by creating their own interpretations of how they will work.

In contrast to preceding research of bottom-up change will lead the school into a more predominantly focused professional learning community; emerging literature indicates the role of the district is extremely important. According to Stoll and Luis (2007), "District culture affects students' perceptions of their school's culture, teachers' willingness to change their practices and engage in organizational learning, and principal leadership during change processes" (p. 111).

Dialogue about professional practice. As educators seek to provide supportive environments for student learning, their engagement in professional dialogue will be imperative to question their current practices and to create a shared understanding. Creating a shared understanding is the key to maintaining and implementing professional learning communities.

Creating professional learning communities: The beginning actions necessary to implement a PLC. According to Hord (1997), research has provided evidence that schools that become professional learning communities benefit their students. However, Leo & Cowan (2000) from the Southwest Educational Development Laboratory, attest that the literature falls short of how to create professional learning communities. As they go on to state, "What is missing from the literature, however, is the answer to these questions: How is a PLC created? What are the beginning actions schools can take to create a PLC?" (p. 2).

The SEDL sought answers to these questions, and in response, created a project entitled the Creating Communities of Continuous Inquiry and Improvement (CCCII).

There were two groups in this project, Co-Developers and the participating schools. The Co-Developers were comprised of university faculty and researchers and other staff from state agencies and education consults. The participating schools voluntarily opted into this program. The SEDL staff trained the Co-Developers on how to conduct the professional learning community facilitation.

The data was collected in story form from the Co-Developers when they reported to the SEDL. In addition, "the Co-Developers also documented actions that the school staff were already taking and structures that were already in place that were supporting the development of the five dimensions (as defined by Hord, 1997) of a PLC" (Leo & Cowan, 2000, p. 3). The Co-Developers also measured how much the principal had already distributed the leadership among the teachers, and how teachers were supported in taking on leadership roles. Leo and Cowan (2000) noted that schools that already had a culture of shared leadership had an easier time created professional learning communities at their school sites and experienced less resistance than schools that did not have a system of distributed leadership already in place.

Collective decision making is another principle tied into shared leadership, supportive conditions, and collective learning (Hord, 1997) of professional learning communities. Most schools across the nation already have a decision making body, which typically includes a teacher representative, PTA representatives, the administration, and parents and community members. Typically, this governing body is called the School Site Council. The Co-Developers used this avenue of organizational structure for planning and implementing improvement initiatives. In cases where this type of organizational structure did not exist, Co-Developers facilitated the creation of

these bodies and assisted the school in clarifying the new roles and responsibilities (Besendorfer, 2008; Leo & Cowan, 2000).

The study found varying degrees of shared vision statements. In a small portion of the schools that were studied, a shared vision already exists amongst the staff. At these schools, there were steps taken to ensure the vision was shared. At other schools, the principal asked the Co-Developers to conduct the staff through writing a common vision and at another school, the principal asked the Co-Developer to do a values alignment workshop. Often, when new staff are hired on, they may feel as though the shared vision does not include them:

> The principal reasoned that the school's vision was something that those that were
> there from the beginning certainly bought into (it was OUR vision), but the new
> staff needed to discuss that vision and have an opportunity to mold it to their own.
> She asked a middle school expert to present the middle school philosophy to the
> staff and to discuss young adolescent development. She then engaged the staff in
> a discussion of how well the school's current goals and procedures fit with this
> "vision" for our middle school. (Leo & Cowan, 2000, p. 7).

The anticipation is that one commonality from this study that may be present in this present study is there will be a varying degree of shared visions at each school. When correlated with the Stages of Concern Questionnaire, will the stages of concern of teachers be higher when there is a strong, shared vision of the school that is revisited and even rewritten each year?

In collective learning, Leo and Cowan's (2000) study also found interesting results from the Co-Developers. One Co-Developer led the faculty in a "faculty study"

(p. 10) where the teachers learned about brain-based learning and constructivist teaching. At other schools, one principal sent a few teachers to a conference or workshop, and upon the return of those teachers, they were then responsible for leading the staff through the same professional development that they went through. Another Co-Developer led a focus group of teachers to develop themes of school improvement. This focus team was responsible for interviewing their fellow teachers and report back to the focus group. The focus group model provided structure for learning to take place (Leo & Cowan, 2000).

The principle of supportive conditions contains two types of conditions, those that are structural and those that are collegial relationships. Structurally, this study found those grade-level teams, leadership councils, and other committee structures assisted in collective learning and collective decision making within the school staff. Communication would also fall under the structural supportive conditions. The Co-Developers noted that newsletters were a good way for the principal to communicate to the teachers about the school. One principal in particular, felt that communication was only one way, therefore creating time in faculty meetings to solicit ideas from the staff on how they would prefer to do things was considerably valuable.

Time for collaboration is another structural supportive condition and is a critical component of a PLC (Bransford et al., 2006; Leo & Cowan, 2000). At some school sites, this collaboration and collective decision-making time was not valued by the school district, therefore, negotiating for this kind of time was a challenge with the school board. Leo and Cowan (2000) go on to state, "Negotiation of time is tricky because nobody in the decision-making roles of the school district feels that they have a way of providing time for teachers to work together" (p. 12). Other Co-Developers also reported this same

distain toward allocating time for teacher collaboration at other schools. Furthermore, Leo and Cowan (2000) elaborate, "…The lack of time for teachers to meet and collaborate about new strategies and their continuing work was a serious issue that limited their professional growth" (p. 12).

The Co-Developers observed several instances where time was allocated for collaboration; however, the teachers did not value collaboration. In addition, the structures were not put into place for teachers to know how to collaborate. One of the Co-Developers noted:

> The teachers did not know what to do with their learning community time. As primarily sequential thinkers, this ambiguity was causing some concern and resentment. They would tell me: "Why should I come and stare at my colleagues when I could be working on my lessons?" The structure for collective learning was there but the framework which to work was not. (Leo & Cowan, 2000, p. 13)

Supportive conditions also include collegial relationships among the teaching staff. The Co-Developers cited the personal qualities of the principals at the schools as being a larger contributor of building relationships among the school staff. The Co-Developers were responsible for investigating collegial relationships at finding the factors that contributed to the outcome, but also facilitating the formation of collegial relationships (Leo & Cowan, 2000).

Shared personal practice is the last principle that Hord (1997) states for a professional learning community. This is also accounted for by Leo and Cowan (2000):

> Research indicates that teacher interaction within a formalized structure for collegial coaching is a powerful contributor to professional learning communities.

In such interactions, teachers may visit other teachers' classrooms on a regular

basis to provide encouragement and feedback on new instructional practices. As

"peers helping peers", teachers build a culture of mutual respect and

trustworthiness for both personal and total school improvement. (p. 14)

It has often been observed that shared personal practice is often the final principle

adopted by a transitioning professional learning community. Another important note

about professional learning communities and having a shared personal practice, it is more

common for school staff to informally "…share successes, frustrations, and solutions

with their colleagues" than in a formal setting with the "…intent to improve and change

their own classroom practice" (p. 14). According to the Co-Developers as cited in Leo

and Cowan (2000), there are two categories of using formalized procedures for sharing

personal practice, "…(a) prerequisites for professional sharing, and (b) determining ways

to share" (p. 14). Leo and Cowan (2000) go on to state:

The fact that this domain is usually the last to develop indicates that preexisting

conditions need to be in place before school staffs can be expected to share what

is traditionally the private domain of teachers—their instructional practices. (p.

14)

The prerequisite for professional sharing involves a foundation of trust amongst

the teaching staff. Educators do view examining one's personal practice in order to

increase professional growth as risky. One Co-Developer accounts:

The initial discussion of shared practice was very tentative. While a few of the

leadership team members expressed a need for this, they also stated that this

happened rarely within the school culture. The leadership team believed that

more trust and collaboration would have to be built before moving into this

attribute. (Leo & Cowan, 2000, p. 15)

The principals played an integral role in establishing expectations for shared

personal practice. The Co-Developers noted several ways in which this could be done.

For more private teachers, Co-Developers reported that principals suggested that those

teachers videotape their lessons and to watch them at the end of the day and reflect on

them. Other teachers had the suggestion of showing those videotapes to their colleagues

for feedback and reflection. Other teachers were able to observe each member in their

subject-area department to provide feedback for the teacher. At other schools, different

grade-level teachers would observe each other for articulation purposes (Leo & Cowan,

2000).

This is a study provides vast insights into the creation and implementation of

professional learning communities. However, rarely are schools provided with the

outside consultancy when moving from a traditional school model to a collaborative one.

This is a deficiency in the literature, and provides a compelling reason for this present

study to add to the literature that already exists. By studying the *beginning actions* that

schools have already done and finding the effectiveness of these actions that yield

sustainable and successful professional learning communities, this can provide future

reformists, school leaders, and teachers with the tools to close the achievement gap. The

following section provides the literature on how change is measured in schools and how

these instruments will be applied in this study.

Measuring Change

Most organizational change efforts fail. Many times they fall into several pitfalls during the implementation process. Organizations have been changing more rapidly over the past two decades than ever before. With the recent down turn in the economy, more organizations are being re-strategized, downsized; merging with other organizations or the organization is renewing its efforts and organizational culture. As a result from these efforts, more organizations will be pushed to reduce costs, improve quality of their products and service, and improve conditions for employees while they are at work (Kotter, 1996).

Collaborative action research. Collaborative action research, also known as CAR, is experiencing and increase in use. Much like action research, this model uses an innovation, and then data collection regularly along with discussions to determine if the particular innovation is working toward the desired outcome (Bequette, 2010). Particularly, this change model has seen an increase in schools. As more studies emerge about professional learning communities, it is becoming apparent that a successful creation and implementation is imperative if the program is going to succeed. According to Fullan, Bennet, and Rolheiser-Bennet (1990), "four key aspects of teacher-as-learner are technical repertoire, reflective practice, research and collaboration…Rarely have all four received attention in the same setting (p. 15)." The goal of using CAR is to have the teachers engage in dialogue among its members. It is through the dialoguing process that commonality and divergent viewpoints emerge. They also begin to refine itself as deeper insight and clarity is sought among the collective understanding (Senge, 1990).

In a case study, one school used CAR to implement a professional learning community in its school. The staff development effort in this study required collaboration among all of its members. The culture aspired to knowledge-centered in addition to being teacher-centered. As Brogan (1999) has noted, "Collaboration works best when there are caring relationships among colleagues from different workplace cultures" (p. 1). Hord (1997) suggests that five dimensions must be present in order for productive collaboration, they are: including beginning processes, communication, resources and ownership, requirements and characteristics, leadership and control, and rewards. If those elements are not present, as well as trust, respect, open communication, the activity is not collaboration, but rather exploitation (Fullan, 2001). In the study, the first step was to share one's personal story with their collaborative group. This helped create a climate of trust and respect (Balach & Szymanski, 2003).

During this study, problems were addressed during the CAR process. However, they were addressed and dealt with. This process proved to be an effective manner to implement professional learning communities (Balach & Szymanski, 2003).

Appreciative Inquiry as a problem solving approach. Appreciative Inquire or AI is a systems theory that was adopted from early Action Research theorists David Coopperrider and Sureshe Srivastava in the 1980s. It takes the traditional problem solving model which identifies the gaps or the faults of an organization and switches the focus from the problem or what is missing to the strengths and what is working well (Jackson, 2006). It builds organizations around what works and opens the door to the possibilities because it is not an exercise that is completed when one problem is solved.

It is a way of looking at the future of an organization, the possibilities that it holds and then builds a plan to achieve those goals (Cooperrider & Srivastva, 1987).

AI is a methodology for managing change, it is

…the cooperative search for the best in people, their organizations, and the world around them. It involves systematic discovery of what gives a system "life" when it is most effective and capable….AI involves the art and practice of asking questions that strengthen a system's capacity to heighten positive potential… (Cooperrider & Whitney, 2005, p. 4)

With any change or analysis of an organization, questions are asked. The language that we choose to use to analyze an organization shapes our perception of the organization (Cooperrider & Whitney, 2005). We have a choice. We can choose to ask questions that turn the groups' attention on the *gaps* of an organization or we can choose to ask questions that turn a group's attention to the positive attributes and positive areas that are working well.

The Eight-Stage change process. According to Kotter (1996), there are eight stages that an organization must go through in order to sustain the change. The stages include (a) establishing a sense of urgency (b) creating a guiding coalition, (c) developing a vision and a strategy, (d) communicating the change vision (e) empowering broad-base action, (f) generating short-term wins, (g) consolidating change and producing more gains, and (h) anchoring the change into the culture (Kotter, 1996). For successful change to take place, no matter how large the change effort is, the sequence of these steps is important. Skipping even a single step or getting too far ahead without a solid base always creates problems (Kotter, 1996).

Double-loop learning. Looking at data allows for organizations to focus on specific trends, notice and analyze outlying information, look at results and projections objectively, and plan systematically. Incorporating a process that allows for looking at data encourages Argyris' concept of "double-loop" thinking. Looking at numbers and trends is not enough. Further questions need to be asked to uncover the whys behind the results (Argyris, 1977). Although the business world has incorporated the use of data for quite some time, it is a trend that is slowly moving into the world of education.

In double loop learning, basic assumptions are confronted and positions are challenged in a public manner. This allows the school to espouse norms, incongruities of values, and objectives with open confrontation. In the confrontation, an opposing idea is offered for comparison. According to Argyris (1994) "This in turn, should increase the amount of successful experience with double loop learning. People would then raise their aspirations about the quality and magnitude of change their organization can take" (p. 124).

Leadership versus management. According to Bennis and Nanus (1985), "Managers are people who do things right and leaders are people who do the right thing" (p. 21). Fullan (2003) depicts the difference between leadership and management is leadership is needed for problems that do not have an easy answer. Leaders are not the saviors that we often seek in crises, but those who make us face and challenge problems where there is no painless solution. Managers are often bombarded with decisions needed to coordinate activities; administer human and material resources, and handle the daily mundane tasks. The skills of a manager make possible the work of an organization

because they ensure that what is done is in accord with the organization's policies and procedures.

The talents of a leader ensure that the work of the organization is what it needs to be and the vision is being fulfilled. Leaders facilitate the identification of organizational goals. They initiate the development of a vision of what their organization is about. Bennis and Nanus (1985) go on to state, "Management controls, arranges, does things right; leadership unleashes energy, sets the vision so we do the right thing" (p. 21).

In order to be a successful school principal, supervising people in an organization should find themselves to be both good managers and good leaders. As Duttweiler and Hord (1987) stated, "the research shows that in addition to being accomplished administrators who develop and implement sound policies, procedures, and practices, effective administrators are also leaders who shape the school's culture by creating and articulating a vision, winning support for it, and inspiring others to attain it" (p. 65).

Ineffective leadership. Likewise, there are several leadership mistakes involving organizational culture that can lead an organization to its demise. A leader can allow too much complacence, fail to create a powerful guiding coalition, underestimate and under communicate the organization's vision, and fail to create and celebrate short term wins (Dufour et al., 2008; Kotter, 1999). Each one of these has a detrimental effect on the culture of an organization (Schein, 2004); however, it can be transformed into a positive culture with the correct change and reframing (Bolman & Deal, 2003). Each step towards creating a productive culture leads to a successful organization (Schein, 2004).

Leadership necessary for professional learning communities. Bullough and Baugh (2008) stated extremely carefully the attributes of a leader, which is necessary in

order to establish a highly functioning professional learning community. Bullough and Baugh (2008) go on to state, "Principals and teachers alike need help with reconsidering established assumptions about power and authority so that leadership becomes more widely distributed and shared" (p. 292). Shared leadership becomes embraced with those with authoritative leadership are accessible, inspiring, and valuable. Bullough and Baugh (2008) suggested that principals who lead PLCs should belong to a Principal's Academy, which can provide the principals with support as leadership is distributed.

The leadership of the school is necessary in ensuring that the school is a highly functional professional learning community. Leaders of a professional learning community must clarify the vision for the member of the school on a daily basis. The following section clarifies the characteristics of a highly effective organization, which can be applied to a school and a professional learning community (Perry, 1997).

Highly effective organizations. High performing organizations lead the way in innovation and excellence. According to Jamrog, Vickers, Overbolt, and Morrison (2008), "High performance companies are the role models of the organizational world" (p. 30). They know the secret to success and often outperform their peers time after time.

Why do some organizations perform better than others? It is important for leaders to understand the reasons so that they can apply the same lessons to their own companies (Jamrog et al., 2008; Sharma & Starik, 2004; Spring, 2005). Identifying cultural factors and discerning their worthiness is important in understanding why some organizations perform better than others. Every company has cultural traits that shape decision-making patterns and influence behavior.

High performing organizations have deeply engrained cultures that comprise the

company's way of life. Every company has cultural traits that shape decision-making patterns and influence behavior. These traits are usually passed down from generation to generation, often conveyed through customs, symbols, and value systems (Bolman & Deal, 2003).

High performing organizations employ certain cultural factors that make them superior to their lower performing counterparts. The following cultural traits are necessary for high performing organizations to maintain an elevated level of success:

1. *Consensus and Collective Decision Making*- Consensus is generally defined as concurrence between the members of a faction, but it can have different meanings. It can refer to decision-making, but also to how the organization works on a daily basis, otherwise known as consistency.

2. *Base Actions on Evidence*- There are two distinct forms of basing actions on evidence. The first takes a look at performance data and its effectiveness, and the other examines cultural artifacts that represent or resemble the organization.

3. *Collaboration*- Collaboration is bringing people together, whether within an organization or throughout two or more organizations. Elements of collaboration include trust, safe learning environment, effective teaming and groups, purpose for collaboration, training, and using time appropriately.

4. *Effective Communication*- The most important skills for a leader to possess are speaking and communicating effectively. Managers must take time to clarify the issues by communicating a unifying message to the whole organization. Several types of communication exist. Structural conveys facts and information; human resource is used to exchange information, needs, and feelings; political employs influence and

manipulation, and symbolic utilizes storytelling.

5. *Celebrating, Ceremonies, and Rituals*- Celebration is a way to communicate an organization's values. It is used to increase morale, improve performance, and recognize employees. Progress and success of an organization are also celebrated to ensure the mission and purpose of the organization is valued.

6. *Create Organizational Buy-In*- Commitment of employees, not compliance, is essential for organizational success. Creating buy-in gains understanding, commitment, and action in support of goals. Buy-in is accomplished with an objective, storyline, target message, supporting evidence, and call to action.

7. *Managing and Maintaining High Performing Employees*- High performing organizations treat their employees well, all the while cultivating workers who treat the company well. Employee happiness must be embedded in the firm's culture, creating an environment of loyalty, cohesiveness, and adaptability.

8. *Shared Vision*- Creating a shared vision is vital to an organization's success. Determination, commitment, and an open mind are required to cultivate a shared vision. Collective development of a common vision is a sign of a high performing organization. A shared vision is created when the members of an organization see the greater good as opposed to individual needs.

Assessment of these cultural factors is important in maintaining a high performing organization. No matter how well an organization runs, it is necessary to continuously evaluate and strive for improvement. Without this passion to improve, organizations are unlikely to remain high performers (Jamrog et al., 2008).

Celebrating, ceremonies, and rituals. Ceremonies and rituals provide a predictable factor among organizations (Bolman & Deal, 2008). According to Bolman and Deal (2008), the difference between a ritual and a ceremony is elusive. The difference between them is a ritual occurs more on a daily basis and a ceremony is reserved for more of the momentous and episodic occasions.

At BMW, rituals are a way of life. The company focuses on building bonds with a diverse group of employees, connecting their hearts with the company's soul. By doing this, BMW is able to pool better ideas for their products. BMW values innovative ideas, and from that they have created a culture that reflects the company's bottom line. BMW has grown to become the world's largest premium carmaker, passing Mercedes (Bolman & Deal, 2008).

Nordstrom has a unique commitment to customer service that has brought them to the top of the market. Nordstrom's commitment of customer service has by reinforced by a storewide ritual. New employees are introduced to the company's values in the initial employee orientation. At the orientation, employees engage in role-plays and scenarios that they may encounter while dealing with customers (Bolman & Deal, 2008).

Nordstrom also engages their employees in periodic ceremonies. In the summer, the company sponsors a family picnic and during the holiday season they have Christmas dance parties. The company also has monthly meetings to increase the customer service. During these monthly meetings, customer letters of appreciation are read to the employees and positive achievements are recognized while the honorees are cheered on by their co-workers (Bolman & Deal, 2008).

These tribal aspects of the modern organization emphasize the importance of symbols, which reduce ambiguity and add meaning to the work (Bolman & Deal, 2008). From the symbols, rituals, ceremonies, and celebrations reinforce the beliefs, values, and practices of the organization. From these symbols, rituals, and ceremonies, the organization's vision and values are communicated to new employees and reinforced by veteran employees (Bolman & Deal, 2008).

In developing professional learning communities, it is important to have celebrations, ceremonies, and rituals. Ceremonies and rituals assist in ensuring the new values and beliefs that the school has adopted when implementing professional learning communities are anchored in the culture (Kotter, 1996). Blankstein, Houston, and Cole (2008) suggest that mini-celebrations should be dotted on the calendar. Celebrations indicate to the members of the school what actions the school values. They also suggest that at every staff meeting beginning with "Good News" (p. 10), where the faculty shares the good news that goes on in their personal and professional lives. Large-scale celebrations are also important. The authors note of one district that celebrated each school that made accreditation or AYP with a "pinnacle award" (p. 10), where the ceremony was televised.

Consensus and collective decision making. The universal term of consensus means a general agreement among all of the members of a group; however, for different organizations, consensus can hold several different meanings (Gust, 1998). In organizations, there are several ways to make decisions and also define and measure an organization's degree of consensus. Not only restricted to decision-making, consensus can also refer to the daily workings of the organization (Williams, 1993). In this case,

consensus has the meaning of consistency. There is an expectation of each member of the organization and how each member governs one's self. From this, the terms cultural consensus and social consensus are derived (Gust, 1998).

Cultural consensus. Cultural consensus occurs when members of an organization agree on a set of shared values and perceived goals. The extent to which organizational values are shared among employees (cultural consensus) is another important aspect to keep in mind when considering organizational characteristics that lead to a positive organizational culture. It is suggested that a leader can create buy-in by maintaining cultural consensus, which determines the homogeneity or heterogeneity of the organizational culture (Waldman & Yammarino, 1999). Members of the organization will be more willing to buy-in and commit to the leader if the leader's vision is based on the values and moral justifications that are acceptable to the employees (King & Anderson, 1990). If the employees do not support the leader's viewpoint, divergent and perhaps deviant sub-cultures may arise in the organization, increasing the heterogeneity of the organizational culture (Waldman & Yammarino, 1999). Homogeneity in an organization's culture can also diminish creativity and innovation, but if the values center on these entities, that obstacle may be reduced (Jaskyte, 2004). Albeit, power and influence also govern the matter in which decisions are made, case in point, the more members of the organization who agree with the decision, the higher the degree of cultural collectiveness (Jaskyte, 2004).

Social consensus. In today's pluralistic world, where once entities appeared to be black and white, ethical issues are grayer. Social consensus is now more difficult to cultivate and foster, unlike the traditional democratic or hierarchal means of making

decisions. These days in organizations, there are various social groupings, alliances, and communities that create tension and frustration when social consensus is sought. The strength of an organization's culture can be measured by the group's degree of consensus (Habermas, 1996).

The term consensus does not mean unity; nor does it mean capitulating, compromising, or giving-in. It means seeing things from another person's perspective. Members engage in moral argumentation, and they are allowed to freely express their point of view without judgment (Habermas, 1996). In an organization where this type of discussion is not valued, often the resolution of the conflict is negotiated. Compromise is the *second best* solution to a problem (Habermas, 1996). Although compromise may be an easier manner in which to come to a conclusion on a problem, engaging in the process of argumentation is more effective in the long term than any compromised solution.

The argumentation process. In order to engage in the process of argumentation, groups must have established norms. The group must agree to enter the process of dialogical interchange and reciprocal search (Habermas, 1996). The participants in the discussion convey their convictions in a safe environment where there is no coercion from other group members. The language must also be neutral, and participants are able to rationalize their positions in the matter. The contributions to the dialogue must be appreciated, and this process should be viewed as an asset to the organization rather than negative or destructive (Habermas, 1996). From this procedure, the shared practice of establishing a *we-perspective* can be reached (Habermas, 1996).

The final component is deciding who should participate in the dialogue. The participants should be anyone who has a position of personal interest, or are personally

affected by the outcome of the decision. In this dialogue participants are equal in their position (Habermas, 1996). According to McLaughlin and Phillips (1991), those faculties that can come together to build consensus, and decide to agree upon the actions required by the resolution of the conflict, must follow through with the implementation.

To analyze an organization's culture on the degree of their cultural consensus, an ANTHROPA program can be used (Borgatti, 1992). This technique was developed in cognitive anthropology, and assesses the amount of agreement among individuals on their view of cultural knowledge (Jaskyte, 2004). This assessment provides two estimates of the organizational culture. First, it estimates the cultural consensus or the degree to which group members share the same set of values. Second, it estimates the content to which those values are shared among the members of the organization (Jaskyte, 2004).

These estimates are obtained by a set of scores for seven value dimensions: Innovation, Outcome Orientation, Attention to Detail, Aggressiveness, Team Orientation, Stability, and People Orientation (Jaskyte, 2004). Individuals rate each one of these dimensions, and then their responses are averaged. From the weighted averages, bivariate correlations are calculated between organizational culture and transformational leadership subscales in order to explore the relationships between leadership and organizational culture (Jaskyte, 2004).

Ineffective communication. Insufficient attention to communication has been cited as one of the most common causes of the failure of change initiatives (Kotter, 1996). In poor performing schools, there is the complaint of not knowing what is expected of educators' performance or what educators can expect of the system (Hord & Sommers, 2008).

Shared vision. Building a shared vision within an organization results from concerted effort on the part of all participants. A shared vision emerges when the leader has a strong vision, conveys it clearly and provides time and a safe space for all participants to communicate effectively and arrive at that vision. If a leader desires to have a shared vision within an organization yet the organization scores low on this cultural trait, the following recommendations should be considered. The leader needs to make sure that his vision has been communicated clearly and often to all members of the organization. He needs to make sure that he has allowed for individuals to have their own personal vision for the organization, as "shared visions emerge from personal visions" (Senge, 1990, p. 113). A shared vision might begin with the ideas and guidance of the leader, but at some point the leader must allow for input from all levels. According to Senge (1990), a true shared-vision reflects all of the parts of the whole, and is something that everyone can share in and feel good about. If the organization is having trouble arriving at a shared vision, the leader needs to assess the amount of trust that the members of the organization have for him. If members do not trust the leader it will be impossible to create a shared vision. In cases where trust is low, a leader can begin working on his emotional intelligence in an effort to appeal on a personal level to members of the organization. If trust already exists, the leader might want to look at enhancing the emotional intelligence of the group. Druskat and Wolff (2001) proclaim that groups can achieve almost anything when they have achieved emotional intelligence. A group with high emotional intelligence should be able to come together to reach a shared vision.

Assessing organizational culture is a multidimensional process. "A company's values and philosophy must align with its strategies, which then must align with performance metrics and leadership approaches" (Jamrog et al., 2008, p. 35) Cultural factors affecting high performing organizations will most likely remain similar, but the ways in which companies exhibit those factors will change.

Creating buy-in. According to Kotter and Cohen (2002) "Communicate change visions and strategies effectively so as to create both understanding and a gut-level buy-in" (p. 101). During organizational change employees become prone to anxiety. Change naturally brings about anxiety. Heartfelt conversations alleviate anxiety. The employees may not necessarily agree with the changes the organization is undergoing. Communicating in a simple and genuine way will help employees accept the reality. "Through conversation and dialogue, individual appreciation becomes collective appreciation, individual will evolves into group will, and individual vision becomes a cooperative or shared vision for the organization" (Cooperrider, Whitney, Stavros, & Fry, 2003, p. 6). Addressing the truth about the current situation is done through two-way communication. The leader should not be defensive during dialogue; remaining calm shows the leader believes in the change vision. Appreciative Inquiry is a collaborative effort to bring out the best in each other and our organizations (Cooperrider et al., 2003). Inner dialogue is a visual imagery that is shared through appreciative inquiry dialogue. The communicating positive imagery fosters upbeat, collaborative outlook for change.

Cultural factors such as consensus and collective decision making; basing actions on evidence; collaboration; effective communication; celebrating, ceremonies, and rituals; creating buy-in; managing and maintaining high performing employees; and

shared vision are essential for high performing, value creating organization. These factors

provide the groundwork for a deeply engrained culture that creates highly successful

organizations.

Maintaining a high performing organization will require companies to adapt and

change with the times. According to Jamrog et al. (2008) "Organizational leaders will

also need to adapt to new theories and understandings of high performance, staying

abreast of the research in the field" (p. 35). Bolman and Deal (2008) discuss many

different types of leaders. The structural leader is an analyst and architect; the human

resource leader is a catalyst and servant; the political leader is an advocate and negotiator;

the symbolic leader is a prophet and poet. An ideal leader would combine multiple styles

into their leadership approach. According to Bolman and Deal (2008) "Wise leaders

understand their own strengths, work to expand them, and build diverse teams that can

offer an organization leadership in all four modes: structural, political, human resource,

and symbolic" (p. 372).

High performing organizations must continuously assess their organization and

adapt to the changing times. Leaders of these organizations need to stay abreast of

current practices to ensure that their organizations stay on the cutting edge.

CBAM. The Concerns Based Adoption Model (CBAM) has been used to

evaluate the effectiveness of professional development endeavors. Loucks-Horsley and

Hergert (1985) propose seven development stages in adopting an innovation as indicated

by the concerns expressed by the adopter. In a study conducted by Webb, Robertson, and

Fluck (2005),

A community of practice is a group of people sharing a body of knowledge (in these case studies, about teaching and learning and ICT) engaged with each other as members of a (professional) learning community focusing on the successful use of (in class) practices. Individual members participate in such learning communities in collaborative ways that involve the negotiation of meaning around activities and experiences (Wenger, 2000; 2002). A group of colleagues functioning at Stages Six and Seven of the CBAM is consistent with being a community of practice. (p. 3)

Summary and How Research Questions are Related to the Literature

There are a number of theorists who suggest change in the school system needs to be anchored to data, collaboration, and cohesiveness. Professional development is necessary to assist teachers in changing their classroom practice. Having schools move into the collaborative system of professional learning communities is one way to address the achievement gap.

The case studies reported show that there are different challenges a professional learning community would face as they implement the new collaboration system. In addition, the case studies showed that there were documented improvements in the school's culture, whether it was from staff interactions and trust or student achievement.

Research has shed light on the connection between professional development and student achievement. Literature may support disregarding teacher reports of use of new innovations, while it supports using quantitative measures to compare levels of teacher learning to student achievement. Teacher attitudes, beliefs and knowledge may be positively linked to changes in pedagogy and student achievement. Sustained change in

teacher practice can be promoted by employing a variety of research-based concepts during professional development. California's inquiry into the effectiveness of AB466 indicates teacher reports of changes in knowledge and practice, but falls short of answering questions regarding any changes to student achievement.

Creating Communities of Continuous Inquiry and Improvement was a program directed by Shirley M. Hord at the Southwest Educational Development Laboratory (SEDL) and federal funded. The study took place from 1995-2000. The study included urban, suburban, urban, private and public schools with a wide variety of socio-economic backgrounds. The goal of the study was to identify where the schools stood in their development of a professional learning community. Fullan's (1985) three phases of change provided a structure for the researchers to measure.

> …many proponents eulogize (professional learning communities) potential power to build capacity and transform schools, but there are still too few schools that know how to start—or if they are already well along the road to developing professional learning communities, how to inject further energy into their efforts. (Stoll & Louis, 2007, p. 1)

Communication structures are vital to a well-functioning professional learning community. Schools have a variety of structures to promote information sharing and communication (Hord & Sommers, 2008).

Deficiencies in the Past Literature and Significance of this Study

Despite an increase interest in professional learning communities, it is surprising that there is little research on the implementation phase, which yields authentic professional learning communities. It is especially surprising, that there is little research

on professional learning communities in general that are from the perspectives of the teachers. One aspect of the professional learning community system that this study will touch on is how teachers use power to interact strategically with school principals and what this means descriptively and conceptually. Professional learning communities require an aspect of shared leadership. This study will illustrate how shared leadership is cultivated and what implementation factors played a role in it.

A dissertation study out of Tarleton State University did study the implementation level of professional learning communities and correlated that measure to student achievement. The study entitle An Analysis of the Relationship of Professional Learning Community Implementation in Texas High Schools and Student Achievement (Johnson-Estes, 2009) used and author-designed instrument called the Organizational Structure Self-Assessment (OSSA) to measure the level of implementation and then correlate that data to Texas state test scores. The study measured implementation using four criteria the interaction of PLC domains: common belief system, continuous improvement, collaboration and sustainability. The study found no significant findings between each of these PLC domains and student achievement. Johnson-Estes (2009) also noted, "While there are reasons to be cautious as with any type of change, the results of this study should not cause schools to give up on the professional learning community model for school reform" (p. 66). Johnson-Estes (2009) also recommended for future studies that measuring implementation of a professional learning community should be done at the elementary or middle school level since those cultures were more conducive to PLCs than high schools. The study's population only included high schools. The author also noted that school size might be another affecting factor in this study since larger schools

have more funds to allocate toward teacher development than smaller schools. In addition, the author also recommends for future studies that the minimum number of years a PLC should be implemented is around 2-3 and suggested up until that point that student achievement would not necessarily be affected by the PLC.

Furthermore, in this study, the Johnson-Estes (2009) noted, "A social consideration would be teachers' comprehension and willingness to implement the mission, vision, and beliefs of the professional learning community if their own personal beliefs differ from that of the school" (p. 67). This does provide cause for several of the research questions of this present study. For example, the correlation between the Levels of Use interview protocol and the Authentic Professional Learning Community Cultural Assessment will elucidate the reasons why teachers only have adopted the innovation at a certain level. In addition, this research question will look at if there is a high level of use of the professional learning community among the staff then is there a relationship if that professional learning community is authentic. I would make the claim that if there is an authentic professional learning community with a high level of usage then the personal vision, values, and beliefs of the individual teachers do coincide with those of the school. Moreover, if proper implementation strategies were taken as measure by the PLC Change Assessment, then there should be a high level of use, which is also an indication that the individuals' and the organization's vision, values, and beliefs match.

In another dissertation study out of New York University entitle Teacher Conversation and Community: What Matters in Small Learning Communities and Inquiry-Based High School Reform, also looked at what factors are critical for student success in reform endeavors (Barrett, 2010). This was a case study, with one subject at

the high school level. This study looked at the reform initiative of an SLC or small

learning community, which is analogous to professional learning communities and does

provide some key insights for this present study. The study specifically looked at what

were the new social and organizational contexts of small learning communities at the

high school, what professional conversations emerged, and what outcomes occur when

teachers dialogue about instructions, or how Barret (2010) stated this research question,

"What happens if and when teachers talk about instruction? How do teachers 'go public'

when the persistence of privacy is so dominant?" (p. 23). Teachers met three times a

week with each other to discuss the achievement of their students. Although, teachers

found themselves on unfamiliar footing of engaging into inquiry of their work, the

student outcomes did increase (Barret, 2010).

Barret (2010) suggests for further research that cultural norms be analyzed. Since

this particular study was done at the early beginnings of the implementation process and

"Meaningful change is rarely automatic…" (p. 230). It would be interesting to measure

whether or not the new norm of inquiry into one's professional practice was cemented

into the long-term culture.

In another dissertation study from the University of Maryland, the study analyzed

the implementation of professional learning communities in elementary schools. The

study, entitled: *An Analysis of One School District's Implementation of Professional

Learning Communities in its Elementary Schools* (Smith, 2009), focused solely on one

school district. The problem that this study investigated one school district's plan to

implement professional learning communities into elementary schools as a means to meet

the needs of the changing demographics that the school district was experiencing. The problem statement can be summarized:

> Over the five years of introduction and implementation of the professional learning community concept, there has been no systemic study to analyze the extent to which the program implementation in elementary schools as perceived by the principal and teacher leaders has sustained a culture of PLC as was intended by the school system. (Smith, 2009, p. 15)

This study used a mixed-method study approach to ascertain the extent to which PLCs were implemented successfully in schools. The researcher used the static-group comparison strategy to compare two different groups in an effort to confirm, cross validate, and to corroborate the findings within a single study. This study used both interviews and a published instrument called the Professional Learning Community Assessment (PLCA), which measures a professional learning community on the five principles that Hord (1997) defined (as cited in Smith, 2009).

The study's findings were interesting. There was a lack of shared leadership among the professional learning communities in the schools between the teachers and the principal. Principals needed more training on how to lead within a professional learning community. Early training for the leadership team at each professional learning community was valuable for the successful implementation of the PLCs. High-functioning professional learning communities had the attribute that they embraced all five principles as measured by the PLCA (Smith, 2009).

The author suggested many recommendations for further research. The first recommendation is to examine the forces that have led to the school district adopting

professional learning communities as a reform measure. Another recommendation is to examine a principal's readiness for leading and operating a school as a professional learning community. An outstanding recommendation is before the implementation phase, have the school district conduct a case study of the blue ribbon schools in that district to ascertain the positive attributes of that school and implement them into the professional learning community implementation at other schools. A comparison study could be done. Finally, compare a professional learning community school that has met their AYP and one that has not to provide insight into specific leadership behaviors.

The significance of this study. There are several deficiencies in the literature. How are professional learning communities created? Are the ones that exist examples of exemplar professional learning communities, or can something be done in the planning stages to ensure authentic professional learning communities emerge? Schmoker as cited in Joyce (2004) stated:

> I'd like to see the dream of professional communities of inquiry work out well this time around. And for that to happen, we need to pay attention both to the idea of schools in which adults study their practice and to the ways of creating that condition. (p. 77)

This study does aim to elucidate several recommendations for further research where the previous studies leave off. This study includes fifteen schools of all grade levels, AYP scores, and time of implementation of PLC. There will be demographic data that is attached to each of the findings that are ascertained from each of the instruments.

Cultural norms will be measured with the use of the Authentic Professional Learning Community Cultural Assessment, and the Stages of Concern Questionnaire will

measure the degree of implementation of these norms. By doing a correlation of these

two instruments will measure one of Barret's (2009) suggestions of how well adopted are

the new norms of inquiry in a teacher's professional practice.

Conclusion

The five theorists summarized in the literature review provide insights into the

future of school reform and make a case for professional learning communities. Marzano

gives us leadership insights for leading second-order change, of the 21 responsibilities of

leadership; this change only involves 7 of them (Marzano et al., 2005). They are the

following: Knowledge of Curriculum, Instruction, and Assessment, Optimizer,

Intellectual Stimulation, Change Agent, Monitoring/Evaluation, Flexibility, and

Ideals/Beliefs (Marzano et al., 2005, p. 116). These leadership qualities provided the

literature foundation of the leadership principles used in the creation of the PLC Change

Assessment.

Schmoker (1999) seems to have the most realistic view on professional learning

communities with both, the benefits of the system as well as the pitfalls. Schmoker

(1999) attributes teacher isolation as being a big contributor to low student achievement.

It must be acknowledged that teachers would perform better and be more effective if they

worked in focused, supportive teams. He also noted that teachers realized the

ramifications of their work environments. Teacher growth cannot grow when teachers

are hermetically sealed off in classrooms inhibited professional growth of the educators.

Not only is collaboration key to school improvement, collaboration must take on an

action research methodology. If school improvement is the goal, then working in isolated

environments is countering that effort and in essence, cutting the lifeline of useful

information that can be shared among professional educators. In addition to collaboration and teamwork, Schmoker (1999) recommends that schools and collaborative teams set goals for themselves and their students.

Schmoker (1999) identified three key components to increasing student achievement. First, by having teachers and administrators set goals for teachers, students and the school. Second, by having teachers working collaboratively in content teams, and third, keeping track of student-achievement, schools can begin to address the education shortfall. According to Schmoker (1999), there is a tacit reason for not collecting more data. That reason is fear; the fear of revealing strengths, weaknesses, failures, and success of the school or district and providing a telling illustration of the students that it serves. A school district must adopt the value of measuring and analyzing data, and making changes to the system based on that data.

Fullan is insistent on system-wide reforms, from the classroom level to the state if education is going to see a change in how it educates its students. Fullan is also insistent on data-driven decision-making and changing instructional practice based on data and collaboration. According to Fullan (2001), restructuring alone does not yield sustainable change. The school must be recultured. Having a culture that appreciates change is difficult because human nature perpetuates to consistency.

According to Resnick (1995), schools could be structured where a system elucidates effort-created ability and would serve American students more effectively. By creating effort-based schools, the problem of instruction not meeting the needs of students can be addressed and very well could be the answer to school reform. By creating effort-based schools with high academic rigor and a thinking curriculum, student

achievement will increase. American education is founded on the assumption that aptitude is an innate trait and not learned. In essence, that effort and aptitude are independent of each other and the U.S. school system is based on that notion. However, the possibility that effort can create ability has not been entertained. Therefore, our school system is an essence a selection process in itself, distinguishing those who are naturally able from the less able and selecting programs for students with those natural talents (Resnick, 1995).

Hanushek (2007) provides the most divergent theory on school reform. However, Hanushek (2007) focuses on the teacher inside the classroom as the most pivotal role in student achievement. Rather than focus on building a system that asks educators to collaborate, reflect, and constantly analyze their teaching practice in an effort to improve their teaching strategy, he proposes changing the requirements and ultimately the pay-scale of the education sector. However, with his proposal, Hanushek (2007) is agreeing with the other four theorists that the way to affect change in student achievement is by the teacher.

Hanushek (2007) has identified that high-quality instruction stemming from teacher preparation and ability is the most influential component to school reform, however he proposes that the change must occur with teacher salaries and working conditions. The present policies do not ensure that quality teachers are recruited or retained in the profession. Hanushek presents the matter that how can school reform occur, the achievement gap be closed, or American students be prepared to compete in the global economy if the compensation package for teachers that works against that (Hanushek, 2007)?

The case studies provide an interesting introspection into the implementation of professional learning communities. A variety of cases were presented, representing a diversity of situations. One of the common outcomes from these case studies was that a new culture was formed after the implementation was complete. In some cases, the resulting culture was not advantageous for student achievement and teacher morale. At that same school, it was reported that the focus of the PLC meetings was on teaching and not learning. Very little time was devoted to identifying struggling students and how to re-teach them. Rarely, conversations would include which teaching strategies proved to be most successful in promoting student learning or teaching a core concept (Graham, 2007). This concept was used in the creation of the Authentic Professional Learning Community Cultural Assessment. Struggling students should be mentioned during meetings, and results must be discussed.

Certain elements must be embedded in the change process during the transition phase of moving a school into a professional learning community. There are four concepts that must take place during the transition stage: (a) it is suggested that classroom problems be normalized in dialogue among teaching professionals; by normalizing problems in the classroom practice discussions promote growth, reflection, and analysis, which generates teacher learning; (b) artifacts are used to shape instructional and professional practices in the professional learning community; (c) cultural shifts must take place when implementing a professional learning community; (d) dialogue is essential in the professional learning community and can be extremely powerful when coupled with PLC assessments and progress. Along with these four concepts, the existing values of the school help promote the early development of a PLC (Stoll &

Louis, 2007). These four traits are ascertained in the PLC Change Assessment along with leadership principles needed for change.

As more studies emerge about professional learning communities, it is becoming apparent that a successful creation and implementation is imperative if the program is going to succeed. It is important to note that there are four key principles of teachers-as-learners, which are being a technical repertoire, being reflective in practice, engaging in research and engaging in collaboration. Rarely have all four are present in the same setting (Fullan et al., 1990)

Therefore, the culture must change from one of teaching, to one of learning. The promises of professional learning communities are idealistic and utopian. How can these promises of the ideology become entrenched into a school culture, where the school makes those promises of PLCs a reality? For one, this cultural shift is created from trust and effort. Collaboration works best when there are caring relationships among colleagues from different workplace cultures. Hord (1997) suggests that five dimensions must be present in order for productive collaboration, they are: including beginning processes, communication, resources and ownership, requirements and characteristics, leadership and control, and rewards. If those elements are not present, as well as trust, respect, open communication, the activity is not collaboration, but rather exploitation (Fullan, 2001). Sharing personal experiences, values and visions is one way that has been cited to create a climate of trust and respect (Balach & Szymanski, 2003).

As stated in Chapter 1, the No Child Left Behind Act of 2001(NCLB, 2002), which is a federal legislation that has pressurized the school environment significantly to improve student achievement and to close the achievement gap. Since this legislation has

set the goal of having every child in the United States perform at grade level on state benchmark tests by the end of the 2014 school year, administrators and teachers must change their practice in order to adhere to the federal guidelines. As a result of the pressure, schools are asked to reflect on their teaching practices to improve student achievement in their classrooms.

Teacher learning is one way to affect teacher practice. However, traditional professional development in the field of education has been inadequate to change teacher practice. Instead, schools must provide teachers with ongoing, reflective, and collaborative systems to ultimately change the way teachers teach.

Research has shown there is a direct proportion to teaching quality and student learning. In addition, teaching quality improves when teachers engage in continuous reflection, professional learning, and development. Long-term school reform is needed and is tied to teacher learning. However, teacher learning and professional development for teachers seems to be falling short for what is needed to change teacher practice. The gap exists because teachers do not have the resources or opportunity to develop the skill sets that they need (Haycock & Jerald, 2001).

Teachers and the teaching profession have been lacking in viewing themselves as professionals with the leeway to invent, adapt, and improve their teaching practice (Schmoker, 2006). Hiebrert and Stigler (2004) as cited in Schmoker (2006) view that teacher professionalism is at stake: Rather than teachers delving into their own inquiry on how to making teaching and learning more effective, teachers wait for *experts* to provide these tools for them.

As a result of the increasingly high demands to reach higher standards of student proficiency, and operating the school is very complex, that a single leader cannot accomplish this task alone (Hord, 2004). Shared leadership and collective decision making is another way schools can begin to address where their shortcomings are. Professional learning communities inherently provide schools with an avenue of having shared leadership and collective decision making as a school begins to adopt these values.

Shared personal practice is another hallmark of professional learning communities and the goal of teacher collaboration. Shared personal practice involves teachers observing lessons in other classrooms. Fullan (2005) discussed at one school where the school leadership team created a teacher-mentoring program where the leadership team observed, provided feedback, and resources to assist in motivating instructional and equitable practices. Having shared personal practice is essential to a successful professional learning community.

Since designing and implementing the PLC model in schools is a proposed solution to meeting the demands of changing demographics, increased legislative pressure, meeting the needs of all students, and closing the achievement gap, examining how schools implement professional learning communities is a benefit for other schools. This study allowed an introspection of just that. In addition, the results highlighted from this study will provide other schools and districts with more knowledge on how to implement teacher collaboration systems and professional learning communities.

Chapter 3: Methodology

This chapter discusses the proposed methods, data collection procedures, and data analyzing methods to answer the research question. This section also discusses the use of instrumentation, validity and reliability of the instrument and data collection procedures as well as consideration for maintaining confidentiality while data is being collected. The topics included in here are as follows: restatement of the purpose of the study, research design, setting for the study, participants, instrumentation, variables in the study, data collection procedures, and data analysis. Each of these sections is presented separately.

Introduction

An approach that has gained momentum and notoriety as a school improvement initiative is the creation and implementation of professional learning communities (PLCs) (Andrews & Lewis, 2002; DuFour, 2004; DuFour, et al., 2008; Hord, 1998; 2004; Newmann & Wehlage, 1995). Educational policy makers have called for schools to restructure into PLCs, reallocating from top down decision making of principals embracing teachers for a high level of involvement in school decisions (Hoerr, 1996, Louis & Kruse, 1995). The schools in which this study was conducted implemented the professional learning community (PLC) program for at least 3 years. This study is based on research that suggests that PLCs could be a strategy for closing the achievement gap. However, a better comprehension of how the PLC attributes have been implemented throughout schools is needed.

Restatement of the Purpose

Schools and districts embark on the change process with the expectation to increase student achievement and classroom practice. Often, schools introduce new

programs and innovations, technology, curricula expecting the change to result in

positive student outcomes (Hord & Sommers, 2008). The purpose of this study is to

identify which factors in the change process or what Leo and Cowan (2000) refer to as,

"beginning actions" (p. 6) of a professional learning community in a K-12 school that

yields a sustainable and authentic PLC. Sustainable for the purpose of this study is

defined as teachers having enough information during the implementation that they have

a high degree of concerns on how PLCs will affect their teaching practice. In addition,

sustainable is also defined as teachers having a high degree of usage of the PLC in their

teaching practice. Another purpose of this study is to assess the extent to which the PLC

program has been fully implemented in schools throughout Southern California and the

Southwest Region, and whether that implementation has sustained a culture of

professional learning communities. The results of this study will be used to inform

district leaders, school policy makers, school leaders, educators, and community

members on the progress of professional learning communities, and ascertaining the steps

needed to cultivate authentic professional learning communities. The selection of schools

and participant recruitment are more fully discussed in the Research Design and

Procedures sections.

Research Methodology

For this research study, the data were collected using a mixed-methods approach

that included both quantitative and qualitative methodologies. The method chosen to

evaluate the implementation of PLCs in schools was the use of the Concerns-Based

Adoption Model (CBAM), which will be further explained in the Instrumentation section.

The data were gathered through the use of survey and individual interviews of teachers to answer the research questions.

The first phase of this research focused on quantitative data collection methods. According to Gall, Gall, & Borg (2003), "Survey is useful when a researcher wants to collect data from a sample that has been selected to represent a population to which the data can be generalized" (p. 223). For this study, three surveys were used were used to measure teacher perceptions of behaviors, and actions of their own practice, the school leaders, their colleagues, and team leaders to evaluate successful implementation and the authenticity of the PLC.

The second phase of the research study focused on qualitative data collection methods. This sure of data collection included individual interviews to measure the level of use of the PLC in teacher's practice. The interviews were held over the telephone and were selected randomly of the surveyed population. Ten percent of the survey population was selected for an interview.

Research Questions

1. What factors in the change process affect a school in moving into an authentic professional learning community based on the five principles: shared beliefs and values, shared and supportive leadership, collective learning, supportive conditions, and shared personal practice?

2. What is the relationship if any between the teacher's Stages of Concern questionnaire and the PLC Change Assessment that the school used during the implementation phase of the professional learning community?

3a. What is the relationship if any between the Level of Use interview protocol and the specific change attributes identified by the PLC Change Assessment that the school used during the implementation phase of the professional learning community?

3b. In addition, what is the relationship if any between the Level of Use interview protocol and Authentic Professional Learning Community Cultural Assessment?

4. What is the relationship if any between the change attributes identified by the PLC Change Assessment and the Authentic Professional Learning Community Cultural Assessment?

Research Design

The conceptual framework of Shirely Hord (1997), Richard DuFour (2004), and Michael Schmoker (2006) guide this research project. Hord (1997) identified five domains of PLCs. According to Hord (1997), these domains—shared vision, shared and supportive leadership, collective learning, supportive conditions, and shared personal practice—are important in the creation and sustainment of the PLC, where the principal is the key to creating and sustain the PLC. Information on the surveys and interview protocol for this study is discussed in detail I the instrumentation section of the chapter.

This dissertation is a nonexperimental design, used to explore how the change process has occurred in implementing a professional learning community (PLC). The data collection methods used in this research design includes three surveys as the primary data collection (SoC, PLC Change Assessment, and an Authentic Professional Learning Community Culture Assessment) as well as an interview protocol as the secondary data collection method (LoU Interview Protocol).

Table 1

Summary of Research Questions and Instruments Used

Research Question	Instrument
What factors in the change process affect a school in moving into an authentic professional learning community based on the five principles: shared beliefs and values, shared and supportive leadership, collective learning, supportive conditions, and shared personal practice?	PLC Change Assessment
What is the relationship if any between the teacher's Stages of Concern questionnaire and the PLC Change Assessment that the school used during the implementation phase of the professional learning community?	Stage of Concern Questionnaire PLC Change Assessment
(a) What is the relationship if any between the Level of Use interview protocol and the specific change attributes identified by the PLC Change Assessment that the school used during the implementation phase of the professional learning community?	LoU Interview Protocol PLC Change Assessment
(b) In addition, what is the relationship if any between the Level of Use interview protocol and Authentic Professional Learning Community Cultural Assessment?	LoU Interview Protocol Authentic Professional Learning Community Cultural Assessment
What is the relationship if any between the change attributes identified by the PLC Change Assessment and the Authentic Professional Learning Community Cultural Assessment?	PLC Change Assessment Authentic Professional Learning Community Cultural Assessment

This study examines the relationship between the identified factors in the change

process to the characteristics of an authentic professional learning community culture

without any direct manipulation of conditions that are experiences, which makes the use of a nonexperimental design appropriate. Independent variables are not manipulated and no treatment or intervention is provided to the participants.

As a result of this study being of a nonexperimental design, it is not subject to the same threats to internal and external validity as those with an experimental research design. However, there are uncontrolled extraneous variables that could affect the outcomes of this study. Examples of such threats include teacher unions and involvement of a teacher in the professional learning community. In most school districts, participation of a teacher in a professional learning community is not written in the labor contract, therefore resulting in different responses from teachers in school districts. Other factors that will be controlled for in the analysis phase include, size of school district, size of school, and years the PLC has existed.

This mixed-methods study was designed to investigate the extent to which PLCs were implemented in schools. Accordingly, data analyses were quantitative and qualitative in nature. As Gall et al. (2003) suggested that qualitative research is traditionally used to investigate themes, patterns, and relationships of the sample population.

More specifically, this dissertation study uses a mixed-method design, with most of the weight of the study being quantitative. The mixed-methods approach to this study is used sequentially, which is an explanatory design. The quantitative data are collected first, and from the analyses, qualitative data are then gathered to elucidate the quantitative findings. McMillan and Schumacher (2006) reaffirm the design of this study:

How mixed-method designs are used can vary considerably, depending on the

weight given to each approach and when each is used. It is common, for instance,

to use methods sequentially. In an explanatory design, which may be the most

common type, quantitative data are collected first and, depending on the results,

qualitative data are gathered second to elucidate, elaborate on, or explain the

quantitative findings. Typically, the main thrust of the study is quantitative, and

the qualitative results are secondary. (p. 28)

Quantitative approach to data gathering. In the quantitative data gathering of

this study, an ex post facto design is used to explore possible causal relationships among

identified factors in the implementation process of a professional learning community in

a K-12 school and student achievement. The three surveys instruments will be used in

the quantitative portion of this mixed-methods study. The first survey is the Stages of

Concern (SoC) Questionnaire, and measures the level of concern a faculty member has

about a particular innovation. For this study, the innovation is a Professional Learning

Community. The second survey is the PLC Change Assessment, and it measures the

structures that were put into place during the change process of the PLC. Both

instruments are described in detail further on in the Instrumentation section of this

study's methodology. Data analyses use a hierarchical regression to determine if a

relationship exists between the change attributes of the PLC in the change process and the

Stages of Concern score and Level of Use score. The Change Assessment calculates a

raw score for how structured a change effort was during the implementation phase. The

raw scores generated from all participating faculty will be averaged, yielding a Change

Assessment Score. Student economic status, language proficiency and instructional

expenditures are controlled in order to partial out extraneous effects of these variables. A

correlation coefficient is calculated for the SoC and Change Assessment to find a

correlation of levels of concerns teachers have with structures in the planned change. In

addition, a correlation coefficient is calculated for the Authentic PLC Cultural

Assessment and the PLC Change Assessment to find a correlation of structures in the

planned change and PLC authenticity. The third question that will be address is if the

PLC has been embedded into the school's culture and the school has taken on the

assumptions of a learning organization. A survey will be disseminated using a Likert

scale, assessing the elements of a learning organization among the members of the

school. An interview will follow up the survey to elaborate on the survey findings.

Qualitative approach to data gathering. The interview protocol used in the

qualitative portion of this mixed-methods design uses a Level of Use (LoU) protocol.

This protocol is described in detail in Interview section of Data Sources. The LoU

ascertains behaviors that are demonstrated in regards to the innovation. From the LoU

interview protocol, a level is generated (0-6) on how much a teacher is using the

innovation. According to George, Hall, & Uchiyama (2000), teachers who score higher

on the LoU in regard to the use of the innovation, have higher student achievement

scores. From this portion of the study, a correlation coefficient will be calculated for the

LoU and the Change Assessment. A correlation coefficient will also be calculated for

LoU interview results, which will be in the form of an ordinate number level and Change

Assessment Score.

In addition to this study being an explanatory-nonexperimental design, there are

also other parameters that must be defined in this study. A portion of this study uses a

correlational design and the other portion of this study is ex post facto. There are

quantitative and qualitative elements in both of these designs.

     Correlational design of this study. A portion of this study uses a bivariate

correlational design for a portion of the quantitative data analysis. These variables that

are selected for this portion of the study may not bear any casual relationships, however,

"The variables are selected because theory, research, or experience suggests that they

may be related" (McMillan & Schumacher, 2006, p. 222). This is a bivariate

correlational study because only two variables will be correlated at a time.

     The correlational design will be used for Level of Use interview protocol and the

Authentic Professional Learning Community Cultural Assessment. Both of the scores

from these instruments are independent variables, and a correlation coefficient will be

calculated for them. A correlation coefficient will be calculated for Stages of Concern

Questionnaire and the PLC Change Assessment. The inferences of the findings for each

of these correlations will be further explained in Table 9.

Table 2

Correlational Design

Research Question		Instrument 1	Instrument 2	Statistical Analysis
3b	What is the relationship if any between the Level of Use interview protocol and Authentic Professional Learning Community Cultural Assessment?	Level of Use	Authentic PLC Cultural Assessment	Correlation Coefficient

     Ex post facto design. The purpose of the ex post facto design for the following

research questions is to investigate whether or one or more pre-existing conditions has

possibly caused the subsequent differences in the group of schools. An ex post facto

design is used to explore the following research questions:

Research Question 1. What factors in the change process affect a school in moving

into an authentic professional learning community based on the five principles:

shared beliefs and values, shared and supportive leadership, collective learning,

supportive conditions, and shared personal practice?

Research Question 2. What is the relationship if any between the teacher's Stages of

Concern questionnaire and the PLC Change Assessment that the school used during

the implementation phase of the professional learning community?

Research Question 3a. What is the relationship if any between the Level of Use

interview protocol and the specific change attributes identified by the PLC Change

Assessment that the school used during the implementation phase of the professional

learning community?

Research Question 4. What is the relationship if any between the change attributes

identified by the PLC Change Assessment and the Authentic Professional Learning

Community Cultural Assessment?

The rationale for the use of an ex post facto design to explore these research questions is

the literature suggests that there is a causal relationship between the variables.

In this particular research design, an ex post facto design is the most effective for

ascertaining the results of the study and making inferences. The conditions of this study

have already occurred ("ex post facto is Latin for 'after the fact'"; McMillan &

Schumacher, 2006, p. 241). Figure 1 shows the cause and effect between the variables in

the research question.

Independent Variable	Observed Outcome (Dependent Variable)

Research Question 2

| PLC Change Assessment Score | → | Stages of Concern Questionnaire Score | The effect of the beginning actions a school takes to implement a PLC (measured by the PLC Change Assessment) will indicate which beginning actions yield a school where teachers are concern on how the PLC will affect teaching practice (measured by the SoC Questionnaire). |

Research Question 3a

| PLC Change Assessment Score | → | Level of Use | The effect of the beginning actions a school takes to implement a PLC (measured by the PLC Change Assessment) will indicate which beginning actions yield a school where teachers use the PLC in their teaching practice (measured by the Level of Use interview protocol). |

Research Question 4

| PLC Change Assessment Score | → | Authentic Professional Learning Community Cultural Assessment Score | The effect of the beginning actions a school takes to implement a PLC (measured by the PLC Change Assessment) will indicate which beginning actions yield a school that has a culturally authentic PLC (measured by the Authentic Professional Learning Community Cultural |

Figure 1. Causal relationships between research question factors identifying the independent and dependent variable.

In the investigation of the relationships of these variables, which are measured by the instruments, the effects of the independent variable on the dependent variable will be explored.

The design of this study is done in a way that will yield results that will convey the details of implementing professional learning communities in schools. An exploration on how instrumentation plays a role in this study follows.

Instrumentation

There are three survey instruments used in the quantitative portion of this study. The first is the SoC (Stages of Concern Questionnaire) developed by George, Hall and Stiegelbauer (2006) and is part of the Concerns-Based Adoption Model (CBAM). The CBAM is a conceptual framework with tools and strategies to assess change on both the emotional side and behavioral side (Hord & Sommers, 2008). The second instrument used is the Change Assessment created by the author based on the literature review. The third instrument is the Authentic PLC Assessment, which is created by the author based on the literature review. A description on the development of both of the instruments created by author follows accordingly.

The fourth instrument is the use of the Level of Use (LoU) Interview Protocol. The LoU is also part of the CBAM. Both, the SoC Questionnaire and LoU Interview Protocol were purchased from the Southwest Education Development Laboratory. Software and measuring handbooks were included in the purchase.

Quantitative instruments. The quantitative instruments are used to gather data from a large data set of approximately seventy-five participants from approximately

fifteen schools. All of the quantitative instruments use a Likert-type scale. Reliability

and validity concerns will be addressed in further sections.

    Stages of Concern Questionnaire (SoC). This instrument will gain insight to

where concerns are focused among faculty when asked about a change process that

occurred at their school. Concerns are important to access during a change initiative

because they can bring to light where teachers' focus is during the change process. In

this study, the SoC was used to determine the placement of teachers and administrators

on the seven stages of concern that were experienced while implementing the

professional learning community (George, Hall, & Stiegelbauer, 2006**)**. The seven stages

of concern are presented below.

    Stage 6 is where impact is occurring in the change initiative. Stage 6 is titled

Refocusing, and states, "The individual focuses on exploring ways to reap more universal

benefits from the innovation, including the possibility of making major changes to its or

replacing it with a more powerful alternative" (George et al., 2006, p. 8). Stage 6 is the

highest stage.

    Stage 5 is where impact is taking place in the change initiative. Stage 5 is titled

Collaboration and is where, "The individual focuses on coordinating and cooperating

with others regarding use of the innovation" (George et al., 2006, p. 8). Stage 5 is the

second highest stage a teacher or school can be in.

    Stage 4 is the lowest stage where impact is still taking place. Stage 4 is entitled

Consequences, and this is where "The individual focuses on the innovation's impact on

students in his or her immediate sphere of influence. Considerations include the

relevance of the innovation for students; the evaluation of student outcomes, including

performance and competencies; and the changes needed to improve student outcomes"
(George et al., 2006, p. 8). Stage 4 is the third highest stage.

Stage 3 is where teachers engage in doing tasks. George et al. (2006) call Stage 3
the Management stage, where "The individual focuses on the processes and tasks of using
the innovation and the best use of information and resources. Issues related to efficiency,
organizing, managing and scheduling dominate" (p. 8). The teachers are simply doing
tasks and not having a big impact on the change initiative.

Stage 2 is where personal concerns are measured. Stage 2 is considered to be in
the self-impact level. Stage 2 is titled Personal, and is where "The individual is uncertain
about the demands of the innovation, his or her adequacy to meet those demands, and/or
his or her role with the innovation. The individual is analyzing his or her relationship to
the reward structure of the organization, determining his or her part in decision making,
and considering potential conflicts with existing structures or personal commitment.
Concerns also might involve the financial or status implications of the program for the
individual and his or her colleagues" (George et al., 2006, p. 8).

Stage 1 is in the self-impact level. Stage 1 is titled Informational, because the
teacher is acquiring information in this stage. George et al. (2006) state, "The individual
indicates a general awareness of the innovation and interest in learning more details about
it. The individual does not seem to be worried about him or herself in relation to the
innovation. Any interest is in impersonal, substantive aspects of the innovation, such as
its general characteristics, effects, and requirements for use" (p. 8).

Stage 0 is the lowest of all of the stages. It is in the self-impact level and is titled Unconcerned. George et al. (2006) state, "The individual indicates little concern about or involvement with the innovation" (p. 8).

The questionnaire is comprised of 35 questions for the seven stages of concern (Stage 0-Stage 06). There are five questions for each stage that are randomly distributed throughout the SoC questionnaire. The 35 statements on the SoC questionnaire are rated using an 8-point likert-type scale, which vary from irrelevant (0-1), not true of me now (2-3), somewhat true of me now (4-5), and very true of me now (6-7). For each stage, the five items are added together to make a total score for that stage. The range of a possible score for a stage can be from 0 (where the participant rated 0 for each of the five statements) to 35 (where the participant chose 7 as the rating for each of the items in that stage). The higher the score for a stage, the greater concern the participant has about the innovation. Lower scores indicate less concern. This was done in accordance with the SOC user's manual (George et al., 2006).

Development of the author-created, quantitative instruments. The principal investigator assembled a team of experts with substantial knowledge of school policy, culture, and human resources to assist in the development of these instruments. In addition, relevant issues concerning professional learning communities and teacher collaboration was acquired through focus groups, seminars, and workshops at state-wide teacher conferences where teachers were solicited for the feedback on these issues and concerns. The survey questions were developed in part from three types of information, descriptive, behavioral, and preferential. This preliminary information was generated in a group setting where issues and problems of relevance to the study were debated,

discussed, and refined openly and constructively. After the preliminary data of gathering relevant issues and concerns with professional learning communities and teacher collaboration was assembled, the data was synthesized and presented to a focus group.

The focus group was a semi-structured discussion among individuals who were deemed to have knowledge and interest in the issues associated with professional learning communities and teacher collaboration. The focus group entered a roundtable discussion virtually, using Google Apps and Skype. This format accommodated educators and administrators nation-wide and without sacrificing necessary interactions to obtain quality feedback. The information was presented using Google Apps, where all of the participants had access to the gathered information, and Skype was used for a free-flowing discussion with the relevant issues concerning teacher collaboration and professional learning communities. After the discussion, the outcome was that there was a substantial understanding of the important topics of teacher collaboration and professional learning communities and draft questionnaire was created.

The draft questionnaire of the survey instruments was piloted as a pretest to assess the following critical factors: questionnaire clarity, questionnaire comprehension, and questionnaire acceptability. The pilot of this study was done on a small scale since statistical accuracy was not important at this point. The purpose of this stage in the instrument development was to construct a quality questionnaire that would be understood at a variety of school cultures. Another pilot of the author-created instruments was conducted for reliability and validity issues. This is further explained in the Validity and Reliability Concerns section in this methodology section. After the instruments were created, the instruments were piloted for validity and reliability.

Once a consensus on the vocabulary and wording was reached, the instruments were finalized. Questions were revised as needed. The final instruments were drafted and prepared for implementation for the actual study using Survey Monkey. .

PLC Change Assessment. The PLC Change Assessment is designed by the author using change initiatives or "beginning actions" (Leo & Cowan 2000, p. 16) from the literature that yield effective learning communities. The PLC Change Assessment ascertains the structures that were put into place during the implementation phase of the PLC. This instrument uses a likert scale ranging from Strongly Disagree to Strongly Agree with the middle being Neither Agree nor Disagree. Simply, does the teacher agree or disagree with the statement. The PLC Change Assessment measures aspects identified with the change theorists when implementing professional learning communities and teacher collaboration systems. It measures leadership characteristics, normalizing classroom practice, use of artifacts to support cultural shifts and making cultural shifts, which are aspects in the implementation phase (Dufour et al., 2006; Dufour et al., 2008; Hord & Sommers, 2008; Leo & Cowan, 2000). This instrument is tied tightly to the literature and focuses on the "beginning actions" (p. 16) necessary to implement professional learning communities or teacher collaboration systems (Leo & Cowan, 2000).

A raw score is generated from the instrument from 0-125. A total score will be computed for the entire school and demographics will be controlled for during the data processing portion. Since the literature indicates that there is a causal relationship between "beginning actions" (Leo & Cowan, 2000, p. 16) and level of implementation, a regression analysis will be conducted between the PLC Change Assessment and the

aforementioned categories and the SoC Questionnaire, LoU, and the Authentic

Professional Learning Community Cultural Assessment. The raw score is used in the

regression analysis with LoU and SoC scores to find if there is a relationship among the

change factors and stages of concern a teacher has and the level of use the teacher

demonstrates.

  ***Authentic Professional Learning Community Cultural Assessment.** This*

instrument was created from the five principles of a professional learning community

created by Hord (2007). The five principles are: Shared beliefs, values, and vision,

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

personal practice. This instrument contains 50 questions, ten questions for each of the

five principles.

  A raw score is generated from the instrument from 0-250. A total score will be

computed for the entire school and demographics of the school will be controlled for and

reported during the data processing portion. The raw score is used in the regression

analysis with LoU and SoC scores to find if there is a relationship among the stages of

concern a teacher has and the level of use the teacher demonstrates.

  A correlation coefficient is calculated between the SoC Questionnaire and the

LoU interview protocol with the Authentic Professional Learning Community Cultural

Assessment. A regression analysis is conducted between the PLC Change Assessment

and the Authentic Professional Learning Community Cultural Assessment to determine

the effect of change factors in the implementation process on the authenticity of a

professional learning community.

Description of variables. The independent and dependent variables that are generated during the quantitative phase of this study are the scores from the three instruments, the SoC Questionnaire the PLC Change Assessment and the Authentic Professional Learning Community Cultural Assessment. The SoC Questionnaire measures emotions, beliefs, and attitudes of the teachers and administrators, indicating where the focus is of the teacher. The focus of the teacher does indicate how well the change process was communicated. Higher scores in the Stages 5 and 6 are indications that the change process was communicated effectively to the teachers and administrators.

The raw score computed for the Change Assessment is also an independent variable in this study. For the two instrument scores, a correlation coefficient is calculated to determine if a correlation exists between the types of structures in place during the change process and the stages of concern. A correlation coefficient is calculated for each of the stages of concern.

Qualitative instrumentation. This study uses the second part of the CBAM, which is an interview protocol entitle the Level of Use. This interview protocol is a qualitative instrument that uses standardized open-ended questions. The participants are asked the same questions in the same order, reducing interviewer flexibility, however, standardize wording of questions may constrain and limit the naturalness and revelency of the response.

Levels of Use. The Levels of Use (LoU) is an interview protocol used to measure behaviors. This protocol does not deal with emotions, beliefs, or attitudes. It also does not measure the quality of the innovation. This interview protocol is simply to assess to what degree is the innovation being used by teachers in an individual and group setting.

This interview protocol is a focused interview, where the interviewer is seeking specific examples of the interviewee's current behaviors. Rather than having participants merely self-assess their use of a particular construct, which does not provide enough reliable and valid data to draw conclusions from, participants are asked to provide specific examples of the current behavior, allowing the highly trained interviewer to assess their level of use. There are also probing questions for the interviewee to make sure that the reported behaviors are explained sufficiently for the rating purpose. The focused interview does use a branching technique to ask questions from a specific branch of the protocol. There are decision points between each of the levels of use, where the participant would have made a decision in order to get to the next level of use. The first question of the interview protocol does ask the participant if they are a user or nonuser of the innovation, or in this case, the professional learning community. There are three to five requirements to qualify as a user of the innovation (Hall et al., 2008).

Once it is established if the participant is a user or nonuser of the professional learning community, the appropriate branches are followed and all of the LoU questions must be asked. The LoU interviewer is trained heavily on the type of probing questions to elicit to assess where the participant fits on the LoU. Figure 2 depicts the interview protocol for the LoU.

161

Are you using PLCs? | LoU 0, I, II

Yes | **No**

What kinds of changes are you making in your use of the professional learning community?

Have you decided to use it and set a date to begin use?

Impact-Orientated LoU IVB, V, VI

User-Orientated

Yes

No

Noting Unusual

III | II

IV A

Are you coordinating your use of the professional learning community with other members, including another not in your original group of members?

No
LoU IVB, VI

Are you currently looking for information about the professional learning communities?

Yes

No

I | 0

Yes
LoU V, VI

Are you planning or exploring making major modifications or replacing the innovation?

No

IV B

Yes

VI

No

V

Figure 2. Branching chart describing the level of use and the question response to determine the level of use of the PLC.

Since the interview protocol asks for evidence of behavior or anecdotes, the interviews were audio-recorded using computer software and then transcribed. The analysis of the qualitative data will be further explained in the Data Collection Procedures and Data Analysis sections, which will follow.

Table 2 summarizes the research question, instrument used and statistical analyses. This table includes the five research questions throughout this study.

Table 2

Research Questions and Instrumentation

Research Question	Instrument	Statistical Analysis
1. What factors in the change process affect a school in moving into an authentic professional learning community based on the five principles: shared beliefs and values, shared and supportive leadership, collective learning, supportive conditions, and shared personal practice?	PLC Change Assessment	Descriptive Statistics
2. What is the relationship if any between the teacher's Stages of Concern questionnaire and the PLC Change Assessment that the school used during the implementation phase of the professional learning community?	Stages of Concern and PLC Change Assessment	Regression analysis
3a. What is the relationship if any between the Level of Use questionnaire and the specific change attributes identified by the Change Assessment that the school used during	Level of Use Interview protocol and PLC Change Assessment	Regression analysis

the implementation phase of the professional learning community?		
3b. What is the relationship if any between the Level of Use interview protocol and the Authentic Professional Learning Community Cultural Assessment?	Level of Use Interview protocol and Authentic Professional Learning Community Cultural Assessment	Pearson product-moment correlation coefficient
4. What is the relationship if any between the change attributes identified by the PLC Change Assessment and the Authentic Professional Learning Community Cultural Assessment?	PLC Change Assessment and Authentic Professional Learning Community Cultural Assessment	Regression analysis

Setting for the Study

Faculty from approximately 15 schools (elementary, middle, and high) are asked to participate in this dissertation study. The schools range in size from hundreds to thousands in student body; the schools serve varying levels of socio-economic students, and having varying API scores. The schools also vary in being private and parochial, charter, or public schools. The schools that were asked to participate in this study are all in Southern Nevada, Wisconsin, and Southern California. Among the large data set of faculty, there are varying degrees of years teachers have taught and teachers who are certified in the subject that they teach. Approximately 5 teachers will have to respond to participate from each school to have the school qualify for this study.

Participants. This study is on professional learning communities, however, a as a result of the *buzz term* of professional learning communities, several school leaders have implemented professional learning communities without using the term. For schools that fall into this category, the term professional learning community was

replaced by *teacher collaboration.* It is important to measure these schools and include them in the study because the school leaders are conscious of the growing trend and infamy that accompanies schools that *have adopted* or *doing PLCs*. Before teacher participants can be recruited for this study, their school must be determined to meet one of the following criteria:

- Professional learning communities is in the district improvement plan;
- teacher collaboration, data-driven decisions, and shared leadership are written in the district improvement plan;
- professional learning communities are written in the school improvement plan;
- teacher collaboration, data-driven decisions, and shared leadership are written in the school improvement plan;
- the school mission states that the school is a *professional learning community;*
- there is scheduled collaboration time on a weekly basis, which is a new addition to the schools calendar within the last three years.

The invited participants in this study who currently are participating in professional learning communities within their respective schools based on information provided by their school district's yearly initiatives.

Sampling method. Schools that are located in one of the mentioned counties and meet the above mentioned criteria at their school were asked to participate in this study. The school principal was contacted, and if permission was granted with a letter either by district email or district letterhead, teachers were sent an email to participate in the online survey. The email contained a link to the survey on survey monkey where

The subsequential LoU interview follow-up will be done with a random sample of those who chose to participate. The LoU sample will be random from those teachers and administrators who participated with the quantitative portion. This random sample of participants will be compiled by a computer-generated database done in MS Excel. Anyone of the participants who has submitted their quantitative data has an equal opportunity to participate in the follow-up interview. The number of participants in the LoU interview will be 10% of the quantitative participants.

Participant recruitment. Participants will be recruited with an email (see Appendix C), which will be an invitation to participate in the study (See also Human Subject Protection section). The email invitation will only be sent out, once consent from the school district is granted. The school districts of this study were not identified to maintain confidentiality. When the results are presented regarding the individual schools, the county where they reside in and a number will identify them.

Data Collection Procedures

This section describes the procedures of how the three instruments will be distributed to the participants. All participants are volunteering their time to take these instruments. Participants who volunteer to participate in this study will complete the quantitative portion first. The qualitative follow-up is given to the random 10% of the participants who completed their SoCQ and Change Assessment.

Quantitative data. The Stages of Concern Questionnaire (SoCQ) and Change Assessment will be taken online. Within the email invitation, will be a link to go to the respective websites. For the Change Assessment, Survey Monkey will be used to gather

the data for that instrument. School principals will forward this email to their teaching staff to participate in the survey.

The SoCQ will be taken online provided by the Southwestern Education Development Laboratory (SEDL). SEDL provides the SoCQ online, with a unique password and web site link that is sent out to survey participants. Subgroups can be defined, and will be by the school that each teacher works at. That is the only identifiable data collected for this study from the teacher. The school may be identified by other criteria, but the school's confidentiality will remain intact, only identifying the county of where the school resides.

Qualitative data. This portion of the study is given to 10% of the participants who completed their SoCQ and Change Assessment. The interviews will be conducted over the phone. A printed version of the questions will be emailed to the interviewee during the session. The interview will last approximately 25 minutes. With the permission of the interviewee, the interview will be recorded using a digital voice recorder. The interview will then be transcribed using voice recognition software. The interviewee will not be given an opportunity to review the transcript before the analysis takes place, however, they will be given the opportunity before the dissertation is published. After the interview data is analyzed, the preliminary results will be sent out to the interviewee to seek correction of any mistakes and to allow inclusion of further insights that may occur to the interviewee on review of the analysis. Any modifications at this point from the interviewee will be amended before the dissertation is published. Any analysis that needs to be amended as well will be done at that time also.

Subject Protections

Participants will be aware of their right not to participate. Participants will be

recruited once permission from the school district that they work for has given

permission. They will also be informed of their right to control any piece of information

either by directing that it remain anonymous or that it be omitted from the data set. Each

participant will be asked if the researcher has permission to audio tape his or her

responses when conducting the LoU Interview Protocol. If permission is not given, notes

will be taken in writing.

Risks and benefits. Other than the discomfort of volunteering time, participants

will not experience other discomforts. Participants will gain entering a reflection into

their role of a PLC, and how the PLC has affected their professional practice. Data from

their interview will be given to them. They will have a Stages of Concern profile

generated for them from the online software, which they can keep.

As discussed prior, this study appears to meet exempt status 45 CFR 46.101(b)(2)

according to the Pepperdine IRB Manual since the research activity involves survey

research with an adult population that is not a protected group; the survey neither asks for

information that can directly identify the participant nor will identifiers be used that link a

participant's identify to her or his data; the study neither presents more than a minimal

risk to the participants nor would disclosure of the data outside the study place the

participants at risk of criminal or civil liability or damage to their financial standing,

employability, or reputation; and no deception is used.

Informed consent. The Pepperdine IRB committee waived informed consent.

Participants will be allowed to review the results of the study before its publication to

ensure that their statements and overall views have been accurately represented for the interview portion. A secured emailed consent from each participant will be kept in a locking file cabinet for the duration of the study. Any of the electronic data, sent through email, will be deleted from the email server and kept in an encrypted file on the hard drive of a password-protected computer.

Confidentiality. The confidentiality of the participants will be maintained by presenting data in aggregate form so that no one participant could be identified by his or her responses. The proposed research activity involves survey research with an adult population that is not a protected group; the survey neither asks for information that can directly identify the participant nor will identifiers be used that link a participant's identity to her/his data; the study neither presents more than minimal risk to the participants now would disclosure of the data outside the study place the participants at risk of criminal/civil liability or damage to their financial standing, employability, or reputation; and no deception is used.

This study falls under the exemption at 45 CFR 46.101(b)(2) in the Pepperdine University IRB Manual, for research involving survey and interviews of teachers of schools where the study has been granted permission to recruit voluntary participants. This study falls under category (2) research involves the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or obseration of public behavior.

Information obtained by the surveys and interviews where human subjects will not be identified. The survey and follow up phone interview are anonymous. There will not be any disclosure of the human subjects' responses that could potentially place them

at risk of criminal or civil liability, or that would damange the subjects' financial

standings, employability or reputation. All of the surveys and interviews are confidential

and anyonymous.

Storage and destruction of data. Data will be kept in an encrypted file on the

hard drive of a password-protected computer. Once the publication of the study is done,

the data will be destroyed. Any email correspondence will be deleted from the email

server every 24 hours. Any hard copies of notes will be kept in a locking file cabinet.

Once the study is published, the data will be shredded.

Data is collected through survey monkey and through the SEDL purchased

electronic Stages of Concern Questionnaire, which was purchased by the principal

investigator. The raw data from both surveys is inputted directly into an NCSS database.

This is to ensure confidentiality and anonymity. Only the principal investigator will have

access to the data.

Validity and Reliability Concerns

Validity and reliability has been mentioned in the research design; however,

validity and reliability will be explicitly detailed here. This section will describe the

validity measures for the instruments and for research design of this study. This section

will also describe the reliability measures taken in the instruments and in the research

design. The Cronbach's Alphas, which measure instrument reliability, are reported in the

Validity and Reliability section of Chapter 4.

Validity. Validity is the proper interpretation and use of the information

gathered through a measurable instrument. The methods to validate the inferences from

the author-created instruments are presented in this section, and the data from the analysis

is presented in Chapter 4 under the section, Validity and Reliability. The SoC Questionnaire, which was validated from its authors, is briefly discussed in this section, however, the data from the analysis conducted when the instrument was created is presented in Chapter 4 under the section, Validity and Reliability. The purpose of the validity tests is to ensure that the instruments used in the way that they are proposed will answer the research questions.

SoC Questionnaire validity. According to George et al. (2006) "The questionnaire developers investigated the validity of the SoCQ by examining how scores on the seven Stages of Concern scales relate to one another and to other variables as concerns theory would suggest (Cronbach & Meehl outlined this strategy in 1955; p. 12). The SoCQ was validated by using intercorrelation matrices on interview data (see end of Chapter 3). The expected group differences and changes over time confirmed the judgments of concern of the interview data (George et al., 2006).

PLC Change Assessment and Authentic Professional Learning Community Cultural Assessment validity. To test content validity of the two author-created instruments used in this study, a panel of professional learning community experts, consisting of: teachers, administrators, educational coaches, and professors to determine the appropriateness of the instruments for measuring.

A pilot study was conducted of 14 educators from Los Angeles County 2 to ensure the completion of the instruments can be done within the prescribed number of minutes. The pilot study will also serve as a means to validate the two instruments. The pilot study was also used to do the statistical analysis, school profiles, and interpretations

of these tests. After the data was collected in, the researcher decided to include the pilot

study in the study because of its unique contributions to the findings.

In addition to the aforementioned validity protocols, a factor analysis was used.

For this purpose, a factor analysis was used to examine the internal structure of the

inventory. This is to elucidate the interrelations between the instruments and to ensure

consistency with the theory and intended use of the scores.

Reliability. Reliability refers to the consistency of measurement, which means to

what extent are the results similar over time with the same instrument. Reliability means

to what extent are the measures free from error. The scale for reliability coefficient is

from .00 to .99. The closer the coefficient is to .99, the higher the reliability of that

instrument. An acceptable range of reliability coefficients for an instrument is .70-.90

(McMillian & Schumacher, 2006).

Reliability of the SoCQ. The SoCQ has been tested for reliability using Cronbach

alpha coefficients (George et al., 2006) a measure of internal reliability for items with

scaled responses. Cronbach alphas measure inter-item reliability and consistency of the

survey instrument. According to Gall et al. (1999):

If a scale has a high alpha coefficient (typically, .60 or higher, with the highest

possible coefficient being 1.00), it means that individuals who respond in a certain

way to one item on the scale are likely to respond in the same way to the other

items on that scale. (p. 196)

Cronbach alphas were computed by the researcher on all five of the subscales of

the Authentic Professional Learning Community Cultural Assessment and the 4 sections

of the PLC Change Assessment. From the data gathered in this study, a Cronbach alpha

coefficient will be calculated to insure that internal consistency and stability are accounted for. The actual Cronbach Alphas are shown in Table 13 located in Chapter 4.

Reliability of the PLC Change Assessment and the Authentic Professional Learning Community Cultural Assessment. Both of the author-created instruments were tested for reliability the same way. In this section, the methodology is explained on how the instruments were found to be reliable, and then the data is provided in Chapter 4 under the Validity and Reliability section. Both instruments were given two types of reliability estimates. The reliability estimates are stability, and internal consistency.

Correlating scores from the same test obtained the coefficient of stability on two different occasions on a group of individuals. The group consisted of 12 educators whose data was not included in the results. These 12 educators were from two schools, and had a professional learning community. This was a *test-retest* procedure. The interval between the test and the retest was two weeks. Correlations were calculated between the test and the retest.

Internal consistency, the most common type of reliability, was calculated using the Cronbach alphas. The Cronbach alpha is generally the most appropriate type of reliability of survey research and other questionnaires were there is a scale or range of possible answers for each item (McMillan & Schumacher, 2006).

Data Analysis

The data analysis is divided by whether it falls into a quantitative category or a qualitative category. In addition, both types of data are used to either calculate a Pearson product moment or a regression analysis, which was explained in the Research Design section. The following section is divided into quantitative analysis and qualitative

analysis. In addition the quantitative section is divided based on whether it is part of the correlational design or the ex post facto design.

The data is collected using surveys will be done online. The data from the Change Assessment will be collected using Survey Monkey. Adding a total score for the entire instrument will score the data. Coding will be done for the free response questions. A number between 0-8 will be generated from this instrument. That number will be entered using SAS statistical analysis software for Windows. Each entry for the participant will have the demographic data from the SoCQ, the SoCQ score for each of the stages, and the Change Assessment score. The SoCQ data processing is done online, and a NCSS file is generated and imported into the existing spread sheet. For each stage, a score from 0-35 is generated.

Quantitative analysis. Each of the research questions is answered primarily by quantitative analysis. Qualitative analysis of the LoU interview protocol is used to elucidate the level of use of professional learning communities and is explained in the qualitative analysis section. A descriptive statistics are calculated for Research Question #1.

1. What factors in the change process affect a school in moving into an authentic professional learning community based on the five principles: shared beliefs and values, shared and supportive leadership, collective learning, supportive conditions, and shared personal practice?

This is used to measure the "beginning actions" (Leo & Cowan, 2000, p. 16) that were used by schools to implement professional learning communities or teacher collaboration systems.

Correlational design. Pearson Product Moment correlation coefficients were calculated for the following research questions:

Research Question 3b. What is the relationship, if any, between the Level of Use interview protocol and Authentic Professional Learning Community Cultural Assessment?

The Pearson Product Moment correlation coefficients describe the magnitude of the relationship between the level of use of the professional learning community, measured by the LoU interview protocol and the authenticity of the culture in a professional learning community, measured by the Authentic Professional Learning Community Assessment. Likewise, the SoC Questionnaire and the authenticity of the culture in a professional learning community calculated a Pearson Product Moment correlation coefficient for the stage of concern a teacher does the Authentic Professional Learning Community Assessment measure experiencing, measured. A correlation coefficient will be calculated for the entire Authentic Professional Learning Community Cultural Assessment and each of the five different domains with the SoC Questionnaire and the LoU interview protocol. The SoC Questionnaire and the LoU interview protocol both measure the level of implementation the professional learning community has undergone and within this test, correlates that to the authenticity of the culture in a professional learning community.

Ex post facto design. Ex post facto designs analyze the casual relationship between two factors. A regression analysis will be calculated for the research questions listed below.

Research Question 1. What factors in the change process affect a school in moving

into an authentic professional learning community based on the five principles:

shared beliefs and values, shared and supportive leadership, collective learning,

supportive conditions, and shared personal practice?

Research Question 2. What is the relationship if any between the teacher's Stages of

Concern questionnaire and the PLC Change Assessment that the school used during

the implementation phase of the professional learning community?

Research Question 3a. What is the relationship, if any, between the Level of Use

interview protocol and the specific change attributes identified by the PLC Change

Assessment that the school used during the implementation phase of the professional

learning community?

Research Question 4. What is the relationship, if any, between the change attributes

identified by the PLC Change Assessment and the authentic Professional Learning

Community Cultural Assessment?

A regression analysis is used to determine if there is a causal relationship between the

structures in place during the change process and the stages of concern as measured by

the SoC Questionnaire. A regression analysis is conducted between the PLC Change

Assessment Score for each category and the LoU. In addition, a regression analysis will

be calculated for the PLC Change Assessment and the Authentic Professional Learning

Community Cultural Assessment.

     Qualitative analysis. The qualitative analysis of the data will use transcriptions

from the LoU interview protocol to elucidate the quantitative findings. The following

will describe codes in the data that the principal investigator would expect to find, based

on the past literature and the creators of the LoU interview protocol. Some codes that

were not anticipated at the beginning of the study may be included. Codes may also be

included that are unusual; however, do provide conceptual interest to the readers. The

predominant method for the coding analysis is using predetermined codes; however,

emerging codes will be included. Please see Table 14 for a list of the predetermined

codes.

Table 4

Qualitative Codebook

Level of Use	Codes	
LoU 0 Nonuse	Knowledge Never Heard of It Not Considering Not Using Common Assessments	Does Not Talk to Colleagues May Recollect from Faculty Meeting Not Paying Attention
LoU I Orientation	Acquiring Information Attended a Workshop Not Decided	Thinking About it Talked to Department Chair Talked to Colleague
LoU II Preparation	Sharing Developing Common Assessments Spending Time PLC Time	Bought Books Found Websites Thinks will Use Use Next Term Teacher Collaboration Time
LoU III Mechanical Use	Assessing Some Common Assessments Have Worked Some Common Assessments Have Been Confusing to Students Has to Rework Those	Build New Ones for Up Coming Week Developed Common Assessment No Time to Use
LoU IVA Routine	Bank of Common Assessments Uses Appropriate Common Assessment as Goes Along	Is Important to Know What Students Understand Assessments Correlate with State Tests
LoU IVB Refinement	Planning Compiled Data Students Perform Low but Teacher Believes They Have Learned the Material	Change Teaching Practice Change Teaching Strategy Student-Focused Planning Reassessments

(continued)

Level of Use	Codes	
LoU IVB Refinement	Pattern	
LoU V Integration	Status Reporting Compare Students	Benchmarks Re-teaching in Lesson Plans
LoU VI Renewal	Performing Looking for Trends and Patterns in Student Data Student Understanding	Student Progress Class Profile

Procedures

This study used a mixed method approach to answer the research questions. Using an explanatory design, the main source for the collection of data was done using quantitative methods. The main data collection procedure was the survey method. The instruments included the Stages of Concern Questionnaire, the PLC Change Assessment (see Appendix A), and the Authentic Professional Learning Community Cultural Assessment (see Appendix B). Table 9 provides a summary of these instruments and the research question associated with each instrument and the statistical analysis used. The qualitative method used was interviews. The interviews were conducted using a protocol from the CBAM instruments called the Level of Use. The Stages of Concern is also an instrument from the CBAM.

The survey was emailed using Survey Monkey (see Appendix C) to teachers where schools granted permission for the study to take place. This survey was conducted during the spring semester, and a copy of the survey and the recruitment emails can be found in Appendices G and J. The identifiable information from the survey was an email address and the survey asked which school the teacher participant worked at. By the second week in June, all of the surveys had been collected, the requirement of collecting

data from 75 teachers from 15 different schools was met and the interviews began.

Through an MS Excel spreadsheet, twelve teachers were selected to participate in the

interview protocol and six agreed to participate. They were invited by email and if

agreed to participate, they were asked to email their phone number to the principal

researcher. From the participants initially asked to participate in the interview protocol,

50% responded and agreed to participate.

The interview protocol is entitled the Level of Use and measures the level of use

of the teacher collaboration system or the professional learning community of the

teachers who were interviewed. The interview protocol was used quantitatively and

qualitatively for analysis purposes. The Level of Use was used to generate an actual

numerical level, which represented to what extent the professional learning community,

or teacher collaboration system was being used. This numerical level was used in

calculating correlation coefficients and regression analyses.

The Level of Use interview protocol was also used in qualitative analysis. Table

4 provides a list of the code words. Themes were derived from the code words. Each of

the participants were called and asked the questions found from the LoU manual. For

each of the *Yes* responses, the teachers were asked to provide an example to illustrate

their response. The phone calls were made through Skype on the computer, and the

recording software was on the computer, which created an Mp3 audio file. The audio

files were transcribed. Then the transcriptions were coded twice and trends were derived.

Data Collection

The study was bounded to three states: California, Wisconsin Nevada, and

Wisconsin and different counties within those states. Professional learning communities

were filtered from these counties and then selected for this study. The PLCs that were

contacted and then subsequently agreed to participate in the study had a variety of

demographics, which will be outlined in detail in a proceeding section under

Demographic Data. At each of the school sites, the length of tenure the principal had

varied greatly, and does contribute to the results of this study. To qualify for this study, a

school must have had a PLC or teacher collaboration system that was implemented

within the last 3-5 years. Only teachers were surveyed for this study.

The data collection was primarily quantitative, and secondarily qualitative. The

quantitative data was distributed electronically using Survey Monkey and the SoC

Questionnaire from SEDL. When the SEDL's SoC Questionnaire expired, those

questions were inputted into Survey Monkey, combining the instruments. Survey

Monkey kept the responses confidential and anonymous to the principal investigator,

randomly selected 10% of the sampling population for their email address to contact

them for the phone interview.

The phone interview was done using Skype, so a recording could be made on the

computer as an Mp3 audio format. There were no names asked from the principal

investigator, only the school from where the participant worked at, the email, and

telephone number. A list of the questions was emailed to the teacher before the phone

interview so the teacher could review the interview questions. In the interview protocol,

for every *yes* response, the teacher was asked to provide an example to illustrate their

response. A transcription was created of the interviews from the recording and then the

transcriptions were coded to derive themes, which are explained in detail under

Qualitative Data Analysis.

Validity and Reliability

Instrumentation reliability has been calculated for all of the instruments and is presented in this section. The instruments belonging to the CBAM were calculated against each other to measure the individual instrument reliability. The CBAM reliability was calculated by the instrument creators and is presented in the following section. The validity and reliability for the SoC and the LoU are presented here; however, they were conducted by their own creators. The PLC Change Assessment and the Authentic Professional Learning Community Cultural Assessment were conducted by the researcher of this study and are present in this section as well.

Stages of Concern validity and reliability. In the development of the SoC Questionnaire, the subjects were first asked to respond to the questionnaire in an open-ended response format. This was developed in 1974 and the subjects were 27 professors who answered 195 questions. From the 195 questions, the creators of the instrument formulated 35 statements with a scale of eight responses. Then the 27 professors took the instrument again with the 35 statements. From those responses, four judges developed the seven stages of concerns. The independent ratings on the 27 open-ended statements had an estimated .59 reliability. The group consensus reliability was estimated at .84, which is based on estimates of judgmental consistency computed using a technique described by Ebel (1951; as cited in George et al., 2006).

The researchers than compared the rating scale to the free responses of the piloted study. They conducted a multiple regression to determine this relationship. The researchers used the raw scores on the seven stages of concern (0-6), the obtained a multiple regression of .58, which is not significant when using a .05 confidence interval.

With this information, the researchers felt that 27 subjects, the sample population did not have enough power or robustness to yield significance; therefore, relationships could be made despite the no significance of the relationship reported (George et al., 2006).

The validity of the SoC Questionnaire was tested in 1975 with a school district out of Austin, TX. The sample size was 161 teachers, and those teachers who scored in the extremes, level 2 and below or level 5 and higher were asked to give free responses to validate the instrument. With the interview questions carefully planned, and proper probes for insufficient responses, scores were calculated for their responses. In this case, ratings were being predicted for each Stage of Concern, rather than the overall Stages of Concern. Stages 1, 3, 4, and 6 had a multiple regression of more than .56, which is significant beyond the .05 alpha. Stages 0, 2, and 5 were predicted with a r^2 of .52, .50, .45 respectively, which are not significant at the .05 alpha level, however, they were consistently higher than the 1974 test. It is noted that perhaps this was not the best group to validate the instrument on; these teachers were overburdened with innovations, and anxious about district decisions, a limitation with this present study and the validation of the author-created instruments. In addition, it should also be noted with this validation of the SoC Questionnaire when compared to the LoU interview protocol, that 33% of the teachers who said they were using the program, were rated as nonusers, according to the Level of Use interview (George et al., 2006).

The reliability estimates (Cronbach's alphas) were also calculated for the SoC Questionnaire. During the validity and reliability studies, this particular study yielded lower estimates than those found with other sample teachers. The estimates ranged from .41 on Stage 5 and 6 to .69 on Stage 0 (see Table 15).

The alpha coefficient for Stage 0 = .69, Stage 1 = .56, Stage 2 = .52, Stage 3 = .62, Stage 4 = .54, Stage 5 = .41 and Stage 6 = .41. These are all very strong calculations of validity. Cronbach's alpha reliability coefficients and average scale scores for the 40 elementary teachers selected for the SoC Questionnaire validity study are compared with the eventual SoC Questionnaire Norm Group average scale, which had not been developed in 1974, when the validity study was conducted (George et al., 2006, p. 16). The creators of the Stages of Concern Questionnaire wanted to ensure that the tool would have a high internal reliability. These coefficients replicate the gradation of reliability among items on a scale in terms of overlapping variance. To calculate these coefficients, the formula used was a generalization of the Kuder-Richardson Formula 20 for dichotomous items (George et al., 2006). The sample size was 830, and used a stratified sample of teachers and professors in 1974. Two weeks later, the researchers sampled 171 of their 830 population and calculated correlations, which can be seen in Table 14. The percentage distribution of the highest Stage of Concern of the original sample of 830 can be seen in Table 18.

The internal reliability for the Stages of Concern Questionnaire were also extremely high. The alpha coefficient for Stage 0 = .64, Stage 1 = .78, Stage 2 = .83, Stage 3 = .75, Stage 4 = .76, Stage 5 = .82, and Stage 6 = .71.   This validation study looked at internal validity. 830 teachers and professors were sampled using the 35 statements in Fall 1974 (George et al., 2006).

The test-retest correlation of the Stages of Concern Questionnaire was again, very strong. The alpha coefficient for Stage 0 = .65, Stage 1 = .86, Stage 2 = .82, Stage 3 = .81, Stage 4 = .76, Stage 5 = .84, and Stage 6 = .71. Two weeks after their initial

completion of the SoC Questionnaire, 171 were sampled out of the 830, 132 completed the second survey. Correlation coefficients were calculated and are reported. 132 teachers and professors completed the instrument using the 35 statements in Fall 1974 (George, et al., 2006).

Percentages were calculated for the highest stages of concern. There are as follows: Stage 0 = 22%, Stage 1 = 12%, Stage 2 = 9%, Stage 3 = 13%, Stage 4 = 13%, Stage 5 = 20%, and Stage 6 = 11%. The percentile scores of the highest Stage of Concern from the 830 teachers and professors who were sampled using the 35 statements in Fall 1974 (George, et al., 2006). The highest percentage is in Stage 0.

The internal reliability of the SoC Questionnaire is extremely high, providing reliable estimates of future teacher samples. For all of the reliability and validity tests, there were high correlations. Therefore, this instrument is extremely reliable when inquiring about teachers' concerns about an innovation.

Level of Use validity and reliability. One of the recommended procedures to LoU reliability involves converting each LoU rating to a numeric value and then applying a traditional analysis for estimating Cronbach's alpha. Since there was only one researcher, the researcher scored the transcripts once with a numeric value, waiting two weeks and then scored those transcripts again. Cronbach's alphas from the reliability of the LoU are presented in Table 5.

Table 5

Cronbach's Alpha for LoU Reliability

Interview	Correlation with Total	Alpha if Deleted
Interview 1	.911	.989
Interview 2	.980	.985
Interview 3	1	1
Interview 4	.985	.989

(continued)

Interview 5	.980	.985
Interview 6	.985	.989

PLC Change Assessment and Authentic Professional Learning Community

Cultural Assessment validity and reliability. A panel of experts validated both, the

PLC and Authentic Professional Learning Community Cultural Assessment. The panel

consisted of a professor in the education department at National University, two teachers

who participate in PLCs at their schools and did not participate in this study, a principal,

and a student in the doctoral program at Pepperdine University. This committee provided

comments about wording the measurement statements, and overall, felt the instruments

were valid and measured authenticity of collaboration and change efforts.

Table 6 and 7 provide the test and retest data for the reliability test of the

instruments from the two schools. There was gap of two weeks between each test.

Cronbach's alphas were calculated between the two scores of each test.

Table 6

Cronbach Alphas for PLC Change Assessment Reliability

Subscale	No. of Items	Alpha Score
Subscale 1: Leadership Characteristics	8	.87
Subscale 2: Normalizing Classroom Practice	8	.87
Subscale 3: Use of Artifacts to Make Cultural Shifts	6	.91
Subscale 4: Making Cultural Shifts	3	.99

Table 7

Cronbach Alphas for Authentic Professional Learning Community Cultural Assessment

Reliability

Subscale	No. of Items	Alpha Score
Subscale 1: Shared and Supportive Leadership	10	.80
Subscale 2: Shared Values	10	.67

<div align="center">(continued)</div>

Subscale 3: Collective Learning	10	.80
Subscale 4: Supportive Conditions	10	.87
Subscale 5: Shared Personal Practice	10	.75

Demographic Data

It is extremely important to provide a demographic background of each school to facilitate the understanding of each school culture. Since there are 15 different school sites, there are 15 different scenarios where PLCs and teacher collaboration programs exist. This data helps complete that picture of the trends that are observed at each school site. This data was collected during the initial contact with the school to invite them to participate in this research study. Other data was accessed through the School Accountability Report Card (SARC) from the 2010 school year, a public document available on the Department of Education website.

Los Angeles County School 1. This school is an elementary school (K-5) located in Los Angeles County. This school has a traditional calendar of 180 school days, and has an API score of 911 points. This school has a student body of 437 people and 22 teachers. Los Angeles County School 1 serves from a number of different subgroups. In this school, 7.1% are African American, 0.2% are American Indian or Alaskan Native, 9.2% are Asian, 3.4% are Filipino, 28.1% are Hispanic or Latino, 0.0% are Pacific Islander, 39.8% are White, and 12.1% are Multiple or No Response. This school also met Adequate Yearly Progress (AYP) in both English Language Arts (ELA) and Math.

Los Angeles County School 2. This school is an elementary school (K-5) located in Los Angeles County. This school is a single-track, year-round school. This school earned a California distinguished School Award in 2004 and 2008, and is a Title I

school. Los Angeles County School 2 has 1080 students. One hundred percent of the students who attend this school receive free lunch, and 67% are English Language Learners. Los Angeles County School 2 does have an API of 768. In this school, 8.7% are African American, 0.1% are American Indian or Alaska Native, 6% Asian, 0.7% are Filipino, 82.4% of the students are Hispanic/Latino, 0.5% are Pacific Islander, 1.0% are White, and 0.7% are Multiple or No Response.

Los Angeles County School 3. Los Angeles County School 3 is a private elementary school in Bel Air and is a feeder school to a prominent Los Angeles private high school. As a result of private schools not required to provide their accountability data like public schools do, demographic and student achievement data cannot be reported. This school does serve students K-6, and is divided into a lower and upper school. The lower school consists of grades K-3, and the upper school consists of grades 4-6.

Rock County School 1. Rock County School 1 is located in southern Wisconsin. This school is an elementary school, serving students in K-5. Wisconsin's Department of Public Education reports the student achievement tests and demographic data differently than California. Wisconsin publishes School Performance Reports for each school and only achievement tests were available. Rock County School 1 has 295 students enrolled in its school. In reading, 61.5% of the third graders and 65.8% of the fourth graders were proficient or above in the 2010 school year. In language arts, only the fourth graders were assessed, and 63.2% of them were proficient or above. In mathematics, again the fourth grade was only assessed and 73.7% of the students scored proficient or above. In

science, 65% of the fourth graders scored proficient or higher. In social studies, 90% of the fourth graders scored proficient or higher.

Orange County School 1.   Orange County School 1 is an elementary school located in southern Orange County. This school serves 785 students from grades K-6 and is on a traditional calendar. This school has 32 teachers and has an API of 901 and has met adequate yearly progress (AYP). Of the 785 students enrolled, 1% are African American, 4% are Asian American/Pacific Islander, 11% are Hispanic/Latino, and 84% are White/European American. This school is a California Distinguished School.

Orange County School 2. Orange County School 2 is an intermediate school, serving 1,582 students in grades 7-8. It is on a traditional calendar. The principal has been at that school site since 2008. This school's API is 905 and has 62 teachers on its staff. Despite having an API score of 905, Orange County School 2 did not meet its AYP. This school met 19 out of the 21 criteria for yearly progress, and as a result of falling short in two areas, AYP was not met. However, this school is not a Program Improvement school (PI). Of the 1,582 students enrolled, 2% are African American, 9% are Asian American/Pacific Islander, 17% are Hispanic/Latino, and 72% are White/European American. Ten percent of the students qualify for a free or reduced lunch.

Clark County School 1. Clark County School 1 is a middle school serving grades 6-8. Of the 911 students enrolled, 2.5% are Asian/Pacific Islander, 71.7% are Hispanic, 13.7% are African American, and 11.4% are White. Clark County School 1 did meet the AYP criteria for the school year 2010.

Los Angeles County School 4. Los Angeles County School 4 is a middle school located in the northern part of Los Angeles County. This school has 1,531 student enrolled and serves grades 6-8. Of the students enrolled, 202% are African American, 10.19% are Asian, 3.33% are Filipino, 20.12% are Hispanic or Latino, .007% are Pacific Islander, 56.87% are White, 7.77% are Multiple or No Response, and 15% are English Learners. This school has an API of 831 and did not meet AYP, with not meeting participation rates in English-Language Arts and Mathematics, however, this school is not in PI. The principal has had a long tenure at this school.

Los Angeles County School 5. Los Angeles County School 5 is a high school (grades 9-12) located in the southern part of Los Angeles County. In this school, there are 2,234 students enrolled. This school has an API score of 830 for the 2010 school year and has met all the criteria for AYP. The demographics of the 2,234 students are broken down by the following: 2% are African American, 1% are American Indian or Alaska Native, 36% are Asian, 2% are Hawaiian/Other Pacific Islander, 12% are Hispanic/Latino, 5% are Multiple Ethnicities or No Response, and 44% are White. For the California High School Exit Exam for Grade 10, 95% passed in English-Language Arts and 93% passed in math. The principal has served tenure at this school for five years.

Los Angeles County School 6. Los Angeles County School 6 is a charter high school that has had its charter since 2001, it is a free public charter school, and it operates independent of a traditional school district. This school has 471 students enrolled and has 17 teachers on its staff. This school has an API score of 774; however, the AYP was not met in all subgroups. Of the students enrolled, 14% are African American, 8% are Asian

American/Pacific Islander, 73% are Hispanic/Latino, and 5% are White/European American. This school has a 96% graduation rate with 58% of tenth graders passing the California High School Exit Exam in English-Language Arts and 56% passing math.

Los Angeles County School 7. Los Angeles County School 7 is a high school, serving students in grades 8th-12th. The enrollment of the student body is 2,518 and is on a traditional school calendar. The school has an API of 821 for the 2010 school year, with a 22-point growth from the previous year. The school did meet the growth targets; however, the school did not meet this growth in all subgroup targets for API. In the federal accountability requirements measured by the Adequate Yearly Progress (AYP), the school met the test goals and subgroup test goals for the 2010 school year. In this school, the California High School Exit Exam (CAHSEE) pass rates are considered to be strong with 93% passed in math and 89% passed in English/language arts and have a graduation rate of 89.7% of the students. In the school, 1% are African American, 4% are Asian American/Pacific Islander, 67% are Hispanic/Latino, and 27% are White/European American/Other. In addition, 29% of the students receive a free or reduced lunch.

Los Angeles County School 8. Los Angeles County School 8 has an enrollment of 2,078 students and serves students in grades 9-12. Of the student body, 3.7% are African American, 0.87% are American Indian or Alaska Native, 41.5% are Asian, 3.9% are Filipino, 13.4% are Hispanic or Latino, 0.96% are Pacific Islander, and 0.77% are Multiple Ethnicity or No Response. This school has an API of 858 for the 2010 school year, with a 6 point increase from the previous year. Overall, this school did not meet its

AYP requirements, not meeting proficiency percentages in both math and English/Language Arts. This school has a 95% graduation rate.

Los Angeles County School 9. Los Angeles County School 9 is a high school, serving grades 9-12 and has an enrollment of 4,016 students. It has a traditional school calendar. This school has an API of 753 for the 2010 school year, with a 29 point increase from the previous year. This school met all of its API criteria in all tests in all subgroups. This school did not meet its AYP, with not meeting a high enough percentage of low-income students being proficient in English/Language Arts, however, this school is not in Program Improvement (PI). Of the 4,016 students, 4% are African American, 4% are Asian American/Pacific Islander, 81% are Hispanic/Latino, and 11% are White/European American/Other. In addition, 58% of the students are Low-income.

Los Angeles County School 10. Los Angeles County School 10 is a public charter high school that focuses on math, science, and technology to prepare student to attend a four-year university. This school serves students in 9-12th grade and admits students by an admission process. This school serves 518 students, which includes 3% receiving special education services, 22.4% qualify for English learning support, and 77.3% of the students qualify for free or reduced-priced meals. Of the 518 students, 0.4% are African American, 0.4% are Caucasian, and 99.2% are Hispanic or Latino. Overall, this school did not meet its AYP requirements, not having enough students proficient in English-Language Arts. However, the API growth requirement was met, having a score of 759 in the 2010 school year. This school is not in Program Improvement, however, the school district in which this school has its charter from is in PI Year 3, with 80% of its schools participating in the PI program.

Los Angeles County School 11. Los Angeles County School 10 is the high

school for Los Angeles County School 2. This school serves grades 9-12 and has a total

enrollment of 4,053 students. Of the 4,053 students, 23.5 are African American, 0.1%

are American Indian or Alaska Native, 4% are Asian, 2.3% are Filipino, 63.4% are

Hispanic or Latino, 3.4% are Pacific Islander, 2.6% are White, 0.3% are Multiple

Ethnicities/No Response, 83% are Socioeconomically Disadvantaged, 35% are English

Learners, and 9% are Students with Disabilities. The API score for this school is 612.

This school did not meet its AYP criteria overall, or for any of the tests or subgroups.

This school began Program Improvement in 2008 school year, and is currently in PI Year

3. The graduation rate for this high school is 78.6%. The professional development that

is included at this school for the teachers is extensive. Once a month, the staff engages in

a professional development of Looking At Student Work (LASW) activities. During this

time, the staff focuses on the Essential Elements of Effective Instruction, literacy

strategies, data analysis, and creating site and department professional development

plans. In addition, the School Accountability Report Card (SARC) also states that the

district level curriculum leaders assist in leading this work.

Los Angeles County School 12. Los Angeles County School 12 is a charter high

school and was created to address the rising global competitive environment for talent.

This school has an API of 650 in 2010. For the CAHSEE 2010 results, 81% passed in

English and 80% passed in math, outcompeting the surrounding schools in the area. The

SARC for this school could not be obtained. The data can be summarized in the

following table (see Table 8) for all of the schools.

Table 8

Summary of School Data

School Code	Grades Offered	Public, Private, or Charter	API (CA)	Met AYP	Length of Time PLC or Teacher Collaboration System has been in Place	Length of Time Current Principal has Served at the School
LA 1	Elementary School K-5	Public	911	Yes	3 years	8 years
LA 2	Elementary School K-5	Public	768	Yes	2 years	2 years
RC 1	Elementary School K-5	Public	-	No	4 years	4 years
LA 3	Elementary School K-5	Private	-	-	3 years	12 years
OC 1	Elementary School K-6	Public	901	Yes	4 years	7 years
OC 2	Intermediate School 7-8	Public	905	No	4 years	2 years
CC 1	Middle School	Public	-	Yes	3 years	8 years
LA 4	Middle School 6-8	Public	831	No	3 years	10 years
LA 5	High School 9-12	Public	830	Yes	6 years	2 years
LA 6	High School 9-12	Charter	774	No	3 years	5 years
LA 7	High School 9-12	Public	821	Yes	5 years	1 year
LA 8	High School 9-12	Public	858	No	6 years	8 years
LA 9	High School 9-12	Public	753	Yes	3 years	5 years
LA 10	High School 9-12	Public	759	No	3 years	5 years
LA 11	High School 9-12	Public	612	No	4 years	4 years 2 years*
LA 12	High School 9-12	Charter	650	**	6 years	6 years

Note. *Los Angeles County School 11 has two principals, ** indicates information was not available.

Correlation Coefficients

The researcher computed Pearson Product Moment correlation coefficients to describe the magnitude between the instruments in addressing the research questions. A

correlation coefficient can range from -1.00 to +1.00. The results are displayed in the following tables. In interpreting the data, the searcher used an established set of criteria to make judgments about the significance of the correlations (McMillan & Schumacher, 2006). If a correlation was between 0.0 and .30, it was considered to be a weak correlation; if the value fell between .31 and .70, the correlation is considered to be modest; and it the correlation value was .71 or above, it is considered to be a strong correlation (McMillan & Schumacher, 2006). The alpha level 0f .05 was used to identify those correlations that were statistically significant.

Each school is analyzed separately and then the entire sample population of teachers is analyzed to look at the difference between general trends and school sites. The data are presented with the applicable research question.

Correlation Analysis

The research questions using a correlation coefficient are: Research Question 3a. what is the relationship if any between the Level of Use interview protocol and Authentic Professional Learning Community Cultural Assessment? A correlation coefficient is used for these research questions because there was not any research available that indicated there was a causal relationship between the factors that these instruments measure.

Regression Analysis

Regression analyses were selected for a portion of this study because some of the factors had predictor variables and criterion variables. There procedures used to analyze these data types were bivariate regression analyses. A regression coefficient was calculated to determine the contribution of each variable on the criterion variable. In this

study, the predictor variable is the score from the PLC Change Assessment. The criterion

variables are the scores from the Authentic Professional Learning Community Cultural

Assessment, the teachers' level of use of the PLC (calculated by the LoU), and a

teacher's stage of concern (calculated by the SoC Questionnaire).

Research Questions and Statistical Hypothesis

The research questions and statistical hypotheses are presented in the following

chapter. Accompanying each research question and statistical hypotheses is a discussion

of the findings. The findings and trends will also be reported in Chapter 5.

Each of the research questions can be answered using quantitative methods, and

are strictly using the quantitative measurements during the data collection. However,

since this is a mixed-methods study, this section is followed by the qualitative findings to

elucidate the quantitative findings and trends.

For the quantitative research questions, statistical hypothesis testing was used

where if the null hypothesis is rejected, then the alternative hypothesis is expected to be

true. As a result of small sample sizes from several of the schools where data was

collected, statistical power is low. Statistical power is define as the probability that the

test will correctly reject the null hypothesis when it is false. It is important to discuss

statistical errors as a result of the small sample sizes from several of the schools. A Type

I error is rejecting a true null hypothesis. A Type II error is accepting a false null

hypothesis. Both probabilities of committing a Type I or Type II error can be lowered by

increasing the sample size of a population (n). For both the parametric and

nonparametric tests, an alpha of 5% is used as the criterion for rejection of the H_0.

Chapter 4: Findings

This chapter reports the findings of the study as derived from the aforementioned methodologies. This section will explain findings of this study, which used the quantitative analyses in relation to the research questions and the qualitative analyses where themes are identified in the implementation and sustainability of professional learning communities and teacher collaboration systems.

Findings

The following sections provide the research question, the data, and a brief discussion. Each of the research questions is answered using quantitative analyses. The quantitative analyses are followed by the qualitative analysis, which provides more insight.

Research question 1. What factors in the change process affect a school in moving into an authentic professional learning community based on the five principles: shared beliefs and values, shared and supportive leadership, collective learning, supportive conditions, and shared personal practice? This question is used to identify what *beginning actions* or the change factors a school employed to move from a traditional model to a collaborative system as defined by Hord's (1997) five principles of a professional learning community. This research question is descriptive in nature and does not use inferential statistics to analyze between groups, but rather to identify and summarize efforts used by school leaders to implement professional learning communities and teacher collaboration models. The purpose of this research question is to identify factors in the change process that were used to transform a school from

traditional practices to collaborative ones. Therefore, there are no independent variables;

simply, the summarized results from the PLC Change Assessment are presented.

Table 9

Summary of the PLC Change Assessment

	n	Leadership Characteristic		Normalizing Classroom Practice		Use of Artifacts		Making Cultural Shifts	
		M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
LAC School 1	20	28.2	5.29	28.2	6.45	20.8	3.28	11	0.66
LAC School 2	14	29.5	4.84	30.0	5.23	20.8	4.50	11.7	1.89
RC School 1	5	29	1.581	21	1.58	19	1.58	10	1.58
LAC School 3	5	25	1.581	34	1.58	22	1.58	10.8	1.30
OC School 1	5	29.6	2.408	21	1.58	18.4	2.40	10.8	1.30
OC School 2	5	27.2	5.35	28	2.34	18.6	2.79	11.4	1.34
LAC School 4	5	25.5	1.04	21.5	1.04	16.8	4.44	7.6	3.14
CC School 1	5	11.5	2.58	15.4	4.27	9.6	2.50	6.8	2.04
LAC School 5	5	25.4	1.14	21.6	0.54	18	1.74	9.2	2.38
LAC School 6	10	25.5	5.69	27.2	7.82	16.7	4.59	10.3	2.11
LAC School 7	13	26	5.01	38	4.37	23.4	3.86	12.1	0.56
LAC School 8	5	19.6	5.85	25.4	6.69	19.2	2.86	11.4	2.50
LAC School 9	5	26.6	5.85	32.2	7.52	22.8	5.01	11.4	2.59
LAC School 10	5	16.8	2.24	19.2	7.52	14.2	4.54	9.4	2.50
LAC School 11	5	11.2	4.08	24.2	7.52	18.8	5.01	10.4	2.38
LAC School 12	5	31.6	4.21	37.6	4.50	23.6	2.07	12.8	1.09
Total School Sample	117	25.2	6.84	27.8	7.90	19.5	4.78	10.6	2.55

Note. The variation in the sample size is a result of different schools supporting this study and finding it to be a worthwhile activity. The maximum response received from a school was 20 participants. The fewest, which was allowed in this study was five. The above columns present sample size indicated by *n,* μ indicates the mean of the sample and SD indicates the standard deviation of the sample.

Presented in the table above are the sample sizes, means of each of the change

factors used in implementing professional learning communities and teacher

collaboration systems for each of the schools surveyed. The total mean of Leadership

Characteristics is 25.2; with the highest means are from Orange County School 1of 29.6

and Los Angeles County School 2, both elementary schools and the lowest mean from

Los Angeles County School 11 of 11.2, which is a high school. The maximum a school

could score on this section is 35. Several of these attributes that were measured in this section of the PLC Change Assessment come from Marzano et al. (2005), where attributes of a leader effecting change were identified (see Appendix A).

For the change factor normalizing classroom practice, the total mean of the sample was 27.8. The highest school was Los Angeles County School 7 with a mean of 38. The lowest school was Clark County School 1. The Los Angeles school is a high school and the Clark County school is a middle school, in addition, both are in different years of PLC implementation (see Table 8). The total a school could score on this measurement was 45. The instrument's criteria for measuring this category is based on Stoll and Louis (2007) aspects of moving into a PLC and Dufour et al. (2008), where creating a common vision, mission, values, and goals are essential to moving a school into PLCs.

Use of artifacts to support the cultural shift is a key component in moving a school into a professional learning community (Stoll & Louis, 2007). In this category the total mean of the sample was 19.7, with the highest scoring school being Los Angeles County School 12 with a mean of 23.6, followed by Los Angeles County School 7 with a mean score of 23.4. The lowest scoring school for this category was Clark County School 1. Both of the two Los Angeles schools are high schools and the Clark County School is a middle school; however, Los Angeles County School 12 is a charter high school, where the other two schools are traditional public high schools. The most a school could score in this section was 30.

The last category in the PLC Change Assessment is making cultural shifts. The measurement of this section is based on the Cottonwood Creek case study (Hord, 1998),

which is summarized in Chapter 2 as well as Dufour et al. (2008) and Kotter's (1996) work on leading change. The total mean of the sample for this category is 10.6. The highest scoring school for this category is Los Angeles County School 12 with a mean of 12.8. The lowest scoring school is Clark County School 1 with a mean of 6.8. There was a maximum score of 15 for this category.

Research question 2. What is the relationship, if any, between the teacher's Stages of Concern Questionnaire and the PLC Change Assessment that the school used during the implementation phase of the professional learning community? This question is answered using a regression analysis. A regression analysis is used instead of a correlation analysis because there is evidence that suggests that there is a functional dependence between the two variables. In this research question, the PLC Change Assessment score is the independent variable and the Stages of Concern Questionnaire score is the dependent variable. Therefore, the PLC Change Assessment is a function of the magnitude of the SoC Questionnaire score. Since the SoC Questionnaire measures implementation, by scoring higher on the PLC Change Assessment, a school will have a higher implementation of their PLC or teacher collaboration system.

Statistical hypothesis 2. There is a direct, positive relationship between the stage of concern (measured by the SoC Questionnaire) a teacher has and the change attributes identified by the PLC Change Assessment. The null hypothesis (H_0) assumes that there is no relationship between the PLC Change Assessment and SoC Questionnaire scores. The alternative hypothesis (H_A) is that there is a relationship between the PLC Change Assessment and SoC Questionnaire scores. Each school was analyzed separately, resulting in findings specific to that school and is presented in the Table 24.

Table 10

Regression Analysis of SoC and PLC Change Assessment for Each School

School Code	*n*	*b*	*r²*	*p*	95% CI LL	95% CI UL
LAC School 1	20	0.00	0.00	1.00	-0.0379	0.0379
LAC School 2	14	0.0044	0.0013	0.8992	-0.0689	0.0777
LAC School 3	5	0.1081	0.0541	0.7067	-0.7228	0.9391
RC School 1	5	0.1579	0.7895	0.0439*	0.0081	0.3077
OC School 1	5	-0.394	0.6436	0.1024	-0.9345	0.1450
OC School 2	5	0.0599	0.0399	0.7473	-0.4797	0.5994
LAC School 4	6	0.0000	0.0000	1.0000	-0.1135	0.1135
CC School 1	5	0.2441	0.7276	0.0662	-0.0303	0.5185
LAC School 5	5	-0.021	0.0085	0.8825	-0.4541	0.4101
LAC School 6	10	0.0067	0.0038	0.8649	-0.0807	0.0940
LAC School 7	13	0.0203	0.0199	0.6456	-0.0743	0.1149
LAC School 8	5	-0.026	0.7226	0.0681	-0.0559	0.0036
LAC School 9	5	-0.017	0.6429	0.1027	-0.0406	0.0063
LAC School 10	5	-0.049	0.3516	0.2920	-0.1737	0.0743
LAC School 11	5	7.333	0.7125	0.0721	-1.2261	15.8928
LAC School 12	5	-0.037	0.0367	0.7575	-0.3946	6.8020
Total	117	-0.003	0.0033	0.5365	-0.0155	0.0081

Note. * Indicates where the hypothesis that the slope is zero is rejected. β indicates the slope of the regression analysis. LL means lower limit of the 95% confidence interval for the slope presented. UL means upper limit of the 95% confidence interval for the slope presented.

Overall, there is no relationship between the SoC Questionnaire and the PLC Change Assessment. The slope for the total sample population was -0.003, very slightly negative and an $r^2 = -0.0033$, however, this relationship is not statistically significant from zero. Therefore, the null hypothesis is accepted for this research question and no relationship between the stages of concern a teacher has about the impact of PLCs or teacher collaboration system on their daily practice was found.

With this analysis, only one school was found to have a direct positive relationship that was statistically significant and that was Rock County School 1, an elementary school in Wisconsin. The remainder of the schools as well as the total sample population did not have a relationship between the Stages of Concern Questionnaire and

the PLC Change Assessment that was statistically significant. In addition, several of the schools seem to have a negative relationship, however, none of these were found to be statistically significant.

The SoC Questionnaire is an interesting instrument and perhaps the findings are not exact. In cases where the implementation of the professional learning community or teacher collaboration system is relatively new, respondents are often frustrated by items that seem irrelevant to them (George et al., 2006). In addition, according to George et al. (2006), teachers tend to respond according to their generalized concerns about teaching rather than the specifics of a new implementation such as a PLC or teacher collaboration system. This may attribute to the inconsistencies found with this particular finding for this research question.

The findings are very interesting for this research question. A school profile of the Stages of Concern for each of the school can be found in the section titled Other Quantitative Analyses and to provide insight into this research question. Please refer to that section for a more in depth analysis of each school using the Stages of Concern.

Research question 3. (a) What is the relationship if any between the Level of Use interview protocol and the specific change attributes identified by the PLC Change Assessment that the school used during the implementation phase of the professional learning community? (b) In addition, what is the relationship if any between the Level of Use interview protocol and Authentic Professional Learning Community Cultural Assessment? Of the sample population, 10% of the sample was selected to participate in the interview portion of this study. The interview portion used an instrument purchased from SEDL, which is the second part of the CBAM of measuring implementation and it

is called the Level of Use (LoU). Of the 12 people selected to be interviewed of the 117

sample population, six people agreed to participate in the interview. The interview

protocol is a guided interview with predetermined questions and based on the

participant's responses generates a level of use.

 To answer these research questions, a regression and correlation analyses were

run for the randomly selected participants with the corresponding instrument. For the

LoU and PLC Change Assessment, a linear regression was run. This is because there is

evidence that supports a dependent relationship between these two measurements. If a

school scored higher on the PLC Change Assessment, then teachers will have a higher

level of use of the PLC. However, evidence does not support a dependent relationship

between a teacher's level of use and the authenticity of the PLC or teacher collaboration

system and the relationship was analyzed using a correlation.

 Since respondents were selected from various schools, the sample population who

participated in this instrument was treated as a whole rather than by each school, as the

previous research questions were treated. The findings are presented in the following

table, Table 25.

 Statistical hypothesis 3. For these research questions, a there are two sets of

statistical hypotheses: (a) there is a direct, positive relationship between the level of use a

teacher demonstrates and the change attributes identified by the PLC Change

Assessment. The null hypothesis (H_0) assumes that there is no relationship between the

PLC Change Assessment value and LoU scores. The alternative hypothesis (H_A) is that

there is a relationship between the Change Assessment value and LoU scores; (b) for the

second part of the question, there will be a direct, positive relationship between the level

of use a teacher demonstrates and Authentic Professional Learning Community Cultural

Assessment. The null hypothesis (H_0) assumes that there is no relationship between LoU

score and the score from the Authentic Professional Learning Community Cultural

Assessment. The alternative hypothesis (H_A) will be that there is a relationship between

LoU score and the score from the Authentic Professional Learning Community Cultural

Assessment.

Table 11

Level of Use and PLC Change Assessment Regression Analysis

				95% CI	
n	*b*	r^2	*p*	*LL*	*UL*
6	0.015	0.0022	0.9296	-0.3007	0.3218

Overall, there is no significant relationship between the change factors a school

can engage in to increase the level of use of the PLC or teacher collaboration system

based on this sample. A list of questions can be found in Appendix A, which shows the

probes used to gather this data. This data is analyzed qualitatively and the findings are

presented in the Qualitative Analysis of this chapter.

Table 12

Level of Use and Authentic Professional Learning Community Cultural Assessment

Correlation Analysis

			95% CI	
n	r	*p*	*LL*	*UL*
6	0.5899	0.2178	-0.0460	0.1481

Although, this correlation is not statistically significant, the factors do have a

moderately strong correlation coefficient. The correlation coefficient (*r*) is 0.5899,

indicating a positive relationship between the authenticity of a professional learning

community's culture and the level of use of the teachers. Therefore an increase/decrease in the authenticity of a professional learning community is associated with an increase or decrease in the level of use of the professional learning community.

There are underlying assumptions when performing a correlational analysis. It is assumed that Y values at each X are assumed to be from a normal, random population but also the X values at each Y are assumed to have from a random normal distribution. This sample population met these criteria.

Research question 4. What is the relationship if any between the change attributes identified by the PLC Change Assessment and the Authentic Professional Learning Community Cultural Assessment? This question is measuring teacher perceptions of the change process as the independent variable, which is measured by the PLC Change Assessment and the teachers' perceptions of the activities that they engage in are measured by the Authentic Professional Learning Community Cultural Assessment and are indications that the PLC or teacher collaboration system adopted by the school yields a community and school culture centered on collaboration and student results. There is an independent-dependent relationship between these two instruments, suggesting that there are *beginning actions* that can be done in the change process to yield a more authentic PLC or collaboration system. A multiple regression is run, with the dependent variable being the Authentic Professional Learning Community Cultural Assessment score and the multiple independent variables being the four categories of the PLC Change Assessment (Leadership Characteristics, Normalizing Classroom Practice, Using Artifacts to Make Cultural Shifts, and Making Cultural Shifts).

A multiple regression is the best fitting analysis of this data because of the factors and instruments used. This research question and statistical analysis is designed along with the instruments to have the authenticity of the collaborative culture be functionally dependent on the four change factors: Leadership Characteristics, Normalizing Classroom Practice, Using Artifacts to Make Cultural Shifts, and Making Cultural Shifts. As a result of there being one dependent variable (the result from the Authentic Professional Learning Community Cultural Assessment) and multiple independent factors (Leadership Characteristics, Normalizing Classroom Practice, Using Artifacts to Make Cultural Shifts, and Making Cultural Shifts), an analysis of which factor has the strongest relationship to the authenticity of the collaborative culture can be assessed.

Statistical hypothesis 4. There is a direct, positive relationship between the authentic PLC activities a teacher engages in and the change attributes identified by the Change Assessment. The null hypothesis (H_0) assumes that there is no relationship between the Change Assessment value and Authentic PLC scores. The alternative hypothesis (H_A) is that there is a relationship between the Change Assessment value and Authentic PLC scores. The findings are presented in the following tables with a discussion after them.

Table 13

Total Sample Population Multiple Regression Analysis of the PLC Assessment on the Authenticity of the PLC

					95% CI	
Change Factor	*n*	*b*	r^2	*p*	*LL*	*UL*
Leadership Characteristics	117	1.9363	0.1132	0.0000*	1.3377	2.5349
Normalizing Classroom Practice	117	0.0923	0.0002	0.7937	-0.6052	0.7898
Use of Artifacts	117	2.5279	0.0528	0.0000*	1.3838	3.6719

<div align="right">(continued)</div>

Change Factor	n	b	r^2	p	95% CI	
					LL	UL
Making Cultural Shifts	117	2.3951	0.0193	0.0093*	0.6026	4.1876
PLC Change Assessment	117	57.9886	0.6914	0.0000*	41.459	74.5179

Note. LL indicates the lower limit of the 95% confidence interval. UL indicates the upper limit of the 95% confidence interval. * indicates where the relationship between the change factor and the authenticity of the PLC was statistically significant.

The table above shows the total sample population and uses a multiple regression to analyze the relationship between each change factor and the authenticity of the collaborative culture in the learning community. All four factors do have a positive relationship to affecting the authenticity of the collaborative culture. Three out of the four change factors do have a relationship that is statistically significant from zero. The only relationship that is not statistically significant from zero is Normalizing Classroom Practice. Across the entire sample population, schools are not utilizing the strengths of the collaborative teams to have them design their own core values for each discipline. It also is indicated that benchmarks are not taken before a school moves into a PLC or teacher collaboration system to find the starting points and use those to measure gains and increases. Several of the items measured in this section of the PLC Change Assessment deal with the recommendations that Dufour et al. (1998) make in their *Getting Started: Reculturing Schools to Become Professional Learning Communities.* However, despite that change factor, the remaining three are having a significant impact on the authenticity of the collaborative cultures. Collaborative cultures are very interesting systems. Measuring them is a powerful tool to use to assist other schools in collaboration. Measuring collaborative cultures is unique to this study because few instruments ask these pertinent questions to find how groups of teachers collaborate. The following tables look at each separate school in the same analysis.

Table 14

Los Angeles County School 1 Multiple Regression Analysis of the PLC Change

Assessment on the Authenticity of the PLC

Change Factor	n	b	r^2	F	p	SP (5%)
Leadership Characteristics	20	0.1746	0.0016	0.055	0.8172	0.0556
Normalizing Classroom Practice	20	-0.1584	0.0015	0.051	0.8237	0.0552
Use of Artifacts	20	2.0277	0.0872	3.078	0.0998	0.3755
Making Cultural Shifts	20	3.5081	0.3030	10.694	0.0052*	0.8632
PLC Change Assessment	20	0.6917	0.3352	9.075	0.0075*	0.8129

Note. * Indicates where the relationship between the change factor and the authenticity of the PLC was statistically significant.

Overall, the combination of the four factors, indicated by the PLC Change

Assessment in the table above, when analyzed with the Authentic Professional Learning

Community Cultural Assessment is statistically significant from zero, indicating that

there is a strong relationship between the change factors employed by the school and the

authenticity of the school's collaborative culture. However, when analyzed separately,

using a multiple regression analysis, Making Cultural Shifts was the only change factor

that had a significant impact on the authenticity of the culture in this school.

The only factor that influenced the authenticity of the teacher collaboration

system at Los Angeles County School 1 was making cultural shifts. The making cultural

shifts change factor measured how values and views of the entire staff were

communicated vertically and horizontally in the school. This test performed how the

sharing and communicating of these values affects the learning community as a

community that values teacher collaboration, basing decisions on evidence, shared

leadership, supportive conditions, the use of data to drive instruction, and the discussion

of students in department or collaborative meetings. Since this is an elementary school,

the teams are organized by grade-levels.

Table 15

Los Angeles County School 2 Multiple Regression Analysis of the PLC Change

Assessment on the Authenticity of the PLC

Change Factor	n	b	r^2	F	p	SP (5%)
Leadership Characteristics	14	-0.4511	0.0072	0.080	0.7840	0.0574
Normalizing Classroom Practice	14	-0.1106	0.0003	0.006	0.9544	0.0503
Use of Artifacts	14	2.4283	0.111	1.223	0.2975	0.1679
Making Cultural Shifts	14	-1.2632	0.0032	0.036	0.8546	0.0533
PLC Change Assessment	14	0.3586	0.0566	0.720	0.4128	0.1225

Note. * Indicates where the relationship between the change factor and the authenticity of the PLC was statistically significant. **Indicates the F-Ratio was used instead of the T-Value.

Los Angeles County School 2 has three of the four factors having negative

regression coefficients and none of the regressions are statistically significant from zero.

Los Angeles County School 2 is the second largest sample from a school; therefore wide-

range and diverse views were assessed from this population. With 46 teachers total at

this school and 14 teachers were sampled, roughly 30% participated in the survey. From

this data, the four change factors do not have an effect on the authenticity of the

collaborative culture at this school.

Table 16

Los Angeles County School 3 Multiple Regression Analysis of the PLC Change

Assessment on the Authenticity of the PLC

Change Factor	n	b	r^2	F	p	SP (5%)
Leadership Characteristics	5	1.0000	0.7143	7.500	0.0714	0.4675

(continued)

Change Factor	n	b	r^2	F	p	SP (5%)
Normalizing Classroom Practice	5	0.3000	0.0643	0.206	0.6807	0.0626
Use of Artifacts	5	-0.3000	0.0643	0.206	0.6807	0.0626
Making Cultural Shifts	5	-0.1471	0.0105	0.032	0.8697	0.519
PLC Change Assessment	5	0.6081	0.3909	1.926	0.2594	0.1676

Note. * Indicates where the relationship between the change factor and the authenticity of the PLC was statistically significant.

Los Angeles County School 3 has two out of the four change factors with negative regression coefficients. None of the regressions are statistically significant from zero; therefore, the conclusion that can be made from this data is that none of the change factors have a direct effect on the authenticity of the culture at this school.

Table 17

Rock County School 1 Multiple Regression Analysis of the PLC Change Assessment on the Authenticity of the PLC

Change Factor	n	b	r^2	F	p	SP (5%)
Leadership Characteristics	5	2.4000	0.9931	432.000	0.0002*	1.0000
Normalizing Classroom Practice	5	2.4000	0.9931	432.00	0.0002*	1.0000
Use of Artifacts	5	2.4000	0.9931	432.00	0.0002*	1.0000
Making Cultural Shifts	5	2.1000	0.7603	9.518	0.0539	0.5538
PLC Change Assessment	5	1.1842	0.9188	33.939	0.0101*	0.9592

Note. * Indicates where the relationship between the change factor and the authenticity of the PLC was statistically significant.

At Rock County School 1, there are 3 out of the 4 change factors that have a direct effect on the authenticity of this school's collaborative culture. The change factor that did not have a regression statistically significant from zero is Making Cultural Shifts. The communication of values from the collaborative teams and the team leaders to the principal does not contribute to the authenticity of the collaborative culture at this school.

Communication pathways may be a hindrance at this school, where communication

upwards is lacking. Although the initial analysis does suggest this, more investigation

should be done with this school to find the exact pitfalls in making cultural shifts at this

school. However, Leadership Characteristics, Normalizing Classroom Practice and Use

of Artifacts do contribute to the authenticity of the collaborative culture at this school.

This indicated that the leader is knowledgeable about current curriculum and instruction,

the staff was involved in writing a common vision, and pacing guides were developed by

the collaborative teams to make instruction strategic, meaningful, and common among

the teachers.

Table 18

Orange County School 1 Multiple Regression Analysis of the PLC Change Assessment on the Authenticity of the PLC

Change Factor	n	b	r^2	F	p	SP (5%)
Leadership Characteristics	5	-0.1905	0.0039	2.667	0.2441	0.1658
Normalizing Classroom Practice	5	2.6476	0.3282	222.080	0.0045*	0.9541
Use of Artifacts	5	-1.4597	0.7380	5.689	0.1398	0.2801
Making Cultural Shifts	5	-0.8404	0.0717	0.553	0.5347	0.0753
PLC Change Assessment	5	1.1842	0.9188	33.939	0.0101*	0.9592

Note. * Indicates where the relationship between the change factor and the authenticity of the PLC was statistically significant.

Orange County School 1 has 3 out of the 4 change factors having a negative

regression coefficient. The positive change factor is Normalizing Classroom Practice and

does indicate that it has a moderate effect on the authenticity of the collaborative culture

at this school. Overall, the regression coefficient is positive and is statistically

significant, which indicated that the change efforts are contributing to the authenticity of

the collaborative culture. However, when analyzed individually, it is shown that

Normalizing Classroom Practice is the only change factor that is having a definite

positive effect on this school culture.

Table 19

Orange County School 2 Multiple Regression Analysis of the PLC Change Assessment on
the Authenticity of the PLC

Change Factor	n	b	r^2	F	p	SP (5%)
Leadership Characteristics	5	-8.8566	0.6180	20.62.027	0.0005*	1.000
Normalizing Classroom Practice	5	-1.5678	0.1011	337.157	0.0030*	1.000
Use of Artifacts	5	-5.0325	0.9249	791.655	0.0013*	1.000
Making Cultural Shifts	5	-1.6585	0.0232	19.842	0.0697	0.6389
PLC Change Assessmen	5	-1.7665	0.2476	0.987	0.3937	0.1105

Note. * Indicates where the relationship between the change factor and the authenticity of the PLC was statistically significant.

Orange County School 2 has all four-change factors having a negative regression

coefficient. Three of the four change factors are statistically significant from zero. This

indicated that the change factors that have been put into place to transform a traditional

school to a collaborative school are having a negative effect on this school's collaborative

culture. There is an inverse relationship with the leadership characteristics, the efforts to

normalize classroom practice, the use of artifacts, and efforts to make cultural shifts on

the collaborative culture at this school. These instruments are indicating that severe

interventions are needed to assist making the culture at this school a collaborative one.

This relationship also indicated that there is a misalignment with values between the

teaching staff and the school leaders. This relationship will be further explored in

Chapter 5 under the heading of Recommendations.

Table 20

Los Angeles County School 4 Multiple Regression Analysis of the PLC Change

Assessment on the Authenticity of the PLC

Change Factor	*n*	*b*	*r²*	*F*	*p*	*SP (5%)*
Leadership Characteristics	6	0.4667	0.0078	0.080	0.8851	0.0515
Normalizing Classroom Practice	6	-1.1333	0.0461	0.025	0.7281	0.0589
Use of Artifacts	6	0.3216	0.0624	0.659	0.4762	0.0904
Making Cultural Shifts	6	1.2972	0.5071	5.355	0.1036	0.3622
PLC Change Assessment	6	0.6115	0.4908	3.856	0.1210	0.3262

Note. * Indicates where the relationship between the change factor and the authenticity of the PLC was statistically significant.

In Los Angeles County School 4, none of the change factors have an impact on the authenticity of the collaborative culture that is statistically significant from zero. One of the regression coefficients is negative, however, not significant from zero. This indicated that the change efforts are not having an effect on the school's collaborative culture.

Table 21

Clark County School 1 Multiple Regression Analysis of the PLC Change Assessment on the Authenticity of the PLC

Change Factor	*n*	*b*	*r²*	*F*	*p*	*SP (5%)*
Leadership Characteristics	5	11.4328	0.9096	30.183	0.0119*	0.9400
Normalizing Classroom Practice	5	-0.5355	0.0055	0.016	0.9061	0.0510
Use of Artifacts	5	2.9841	0.0583	0.186	0.6957	0.0614
Making Cultural Shifts	5	-6.8095	0.2023	0.761	0.4473	0.0966
PLC Change Assessment	5	0.8976	0.0531	0.168	0.7091	0.0603

Note. * Indicates where the relationship between the change factor and the authenticity of the PLC was statistically significant.

Overall, the change factors at Clark County School 1 do not have an effect on the collaborative culture at this school. When analyzed individually, there is one change factor that does have a direct relationship to the authenticity of the collaborative culture that is statistically significant from zero. However, one of the qualitative informants was randomly selected from this school, and the analysis of their interview is contradictory to this quantitative analysis. It is important to note that the interview came from one teacher from this school; however, this informant was selected randomly to participate in the interview, which suggests that the information gathered may be a trend at this school. It is also important to note that two of the four change factors have a negative regression coefficient, although, there relationships are not statistically significant from zero.

Table 22

Los Angeles County School 5 Multiple Regression Analysis of the PLC Change Assessment on the Authenticity of the PLC

Change Factor	n	b	r^2	F	p	SP (5%)
Leadership Characteristics	5	-0.7308	0.0286	0.088	0.7858	0.0554
Normalizing Classroom Practice	5	3.1667	0.1238	0.424	0.5614	0.0760
Use of Artifacts	5	09.667	0.8652	19.260	0.0219*	0.8211
Making Cultural Shifts	5	1.1667	0.3193	1.407	0.3209	0.1361
PLC Change Assessment	5	0.6893	0.8056	12.434	0.0387*	0.6575

Note. * Indicates where the relationship between the change factor and the authenticity of the PLC was statistically significant.

Los Angeles County School 5 does have an overall relationship of change factors and the authenticity of the collaborative culture to have a direct positive relationship that

is statistically significant from zero. There is one of the change factors that has a negative regression coefficient, and that is Leadership Characteristics. One of the informants is from Los Angeles County School 5; however, there were no indications about the leadership that had presented itself in the interview. The analysis of this interview can be found in the Qualitative Analysis section. The Use of Artifacts change factor did have a direct positive relationship that was statistically significant from zero. All of the other change factors did not have a significant relationship.

Table 23

Los Angeles County School 6 Multiple Regression Analysis of the PLC Change Assessment on the Authenticity of the PLC

Change Factor	n	b	r^2	F	p	SP (5%)
Leadership Characteristics	10	1.4457	0.0221	0.740	0.4290	0.1089
Normalizing Classroom Practice	10	0.5742	0.0137	0.460	0.5276	0.0864
Use of Artifacts	10	1.0473	0.0091	0.304	0.6050	0.0740
Making Cultural Shifts	10	7.2398	0.2207	7.103	0.0417*	0.1089
PLC Change Assessment	10	20.5873	0.8510	7.137	0.0268*	0.7776

Note. * Indicates where the relationship between the change factor and the authenticity of the PLC was statistically significant.

Overall, the change efforts that Los Angeles County School 6 employed did have an effect on the authenticity of the collaborative culture. The change factor that had a direct positive relationship statistically significant from zero is Making Cultural Shifts. Making Cultural Shifts measures how values are communicated from the teaching staff to the school leader. Based on this assessment, pathways seem to be able to communicate the views and values of the teaching staff to the school leader by the use of a leadership team. Antidotal evidence from the survey stated that each department had a chair who

conveyed the views and values of each department to the school leader. However, other

antidotal evidence also indicated that the department chairs were not viewed as

department leaders among the teaching staff, but rather liaisons from the teachers to the

school leader. This system is not viewed as beneficial nor adverse, it seems to support

the culture of the school.

Table 24

Los Angeles County School 7 Multiple Regression Analysis of the PLC Change

Assessment on the Authenticity of the PLC

Change Factor	n	b	r^2	F	p	SP (5%)
Leadership Characteristics	13	1.5206	0.9362	4.358	0.0493*	0.4511
Normalizing Classroom Practice	13	1.2758	0.0214	0.996	0.3474	0.1429
Use of Artifacts	13	2.9203	0.0646	3.008	0.1211	0.3334
Making Cultural Shifts	13	2.9765	0.0311	1.446	0.2635	0.1860
PLC Change Assessment	13	1.5186	0.9076	107.9966	0.0000*	1.0000

Note. * Indicates where the relationship between the change factor and the authenticity of the PLC was statistically significant.

In Los Angeles County School 7, Leadership Characteristics are a strong

contributing change factor in the authenticity of the collaborative culture. All of the

change factors had a positive regression coefficient, but Leadership Characteristics was

the only change factor that had a relationship that was statistically significant from zero.

Overall, the combination of all four change factors does have a direct positive

relationship with the authenticity of the collaborative culture that is statistically

significant from zero and is strong relationship ($r^2 = 0.9076$). Demographic data indicates

that the principal is in his first year at that school. The PLC already existed before he

was named principal, and from this analysis, it shows that this PLC does have an

authentic collaborative culture in part to the principal's leadership.

Table 25

Los Angeles County School 8 Multiple Regression Analysis of the PLC Change

Assessment on the Authenticity of the PLC

Change Factor	*n*	*b*	r^2	*F*	*p*	*SP* (5%)
Leadership Characteristics	5	4.3265	0.9910	2996.267	0.0000*	1.0000
Normalizing Classroom Practice	5	3.7857	0.9990	2996.267	0.0000*	1.0000
Use of Artifacts	5	8.5732	0.9378	45.195	0.0067*	0.9874
Making Cultural Shifts	5	10.0952	0.9990	2996.267	0.0000*	1.0000
PLC Change Assessmer	5	1.4220	0.9998	16807.705	0.0000*	1.0000

Note. * Indicates where the relationship between the change factor and the authenticity of the PLC was statistically significant.

In Los Angeles County School 8, all of the change factors indicated that there was

a strong, direct relationship to the collaborative culture that was statistically significant

from zero. It is also important to note that this school does have the highest API score

among the high schools sample at 858 points. Although, the collaboration system does

not directly contribute to the API score, with a myriad of other contributing factors

effecting school's API scores, there may be a strong correlation with a school's API or

AYP score and the multiple regression analysis between the two instruments.

Table 26

Los Angeles County School 9 Multiple Regression Analysis of the PLC Change

Assessment on the Authenticity of the PLC

Change Factor	*n*	*b*	r^2	*F*	*p*	*SP* (5%)
Leadership Characteristics	5	4.7245	0.9862	214.727	0.0007*	.9984

(continued)

Change Factor	n	b	r²	F	p	SP (5%)
Normalizing Classroom Practice	5	3.6746	0.9862	214.727	0.0007*	.9984
Use of Artifacts	5	5.5119	0.9862	214.727	0.0007*	.9995
Making Cultural Shifts	5	11.0238	0.9862	214.727	0.0007*	.9984
PLC Change Assessment	5	1.32229	0.9862	214.727	0.0007*	1.0000

Note. * Indicates where the relationship between the change factor and the authenticity of the PLC was statistically significant.

Los Angeles County School 9 has all four of the change factors having a strong relationship to the authenticity of the collaborative culture at this school that is statistically significant from zero. From the demographic data, this school has had a PLC for a number of years, and may attribute to the high score on this assessment.

Table 27

Los Angeles County School 10 Multiple Regression Analysis of the PLC Change Assessment on the Authenticity of the PLC

Change Factor	n	b	r²	F	p	SP (5%)
Leadership Characteristics	5	7.3810	0.9995	6406.667	0.0000*	1.0000
Normalizing Classroom Practice	5	4.9206	0.9995	6406.667	0.0000*	1.0000
Use of Artifacts	5	8.1401	0.9986	2172.876	0.0000*	1.0000
Making Cultural Shifts	5	15.2381	0.9995	6406.667	0.0000*	1.0000
PLC Change Assessmer	5	1.8905	0.9999	46846.354	0.0000*	1.0000

Note. * Indicates where the relationship between the change factor and the authenticity of the PLC was statistically significant.

All of the change factors in Los Angeles County School 10 have a direct, positive relationship to the authenticity of the collaborative culture that is statistically significant from zero. Los Angeles County School 10 is a public charter school. Although it cannot be ascertained whether all four factors contribute to the culture of this school because it is a charter school, those findings would be interesting to know in further research.

Table 28

Los Angeles County School 11 Multiple Regression Analysis of the PLC Change

Assessment on the Authenticity of the PLC

Change Factor	n	b	r^2	F	p	SP (5%)
Leadership Characteristics	5	5.7365	0.9423	49.008	0.0060*	0.9916
Normalizing Classroom Practice	5	3.2063	0.9995	6120.600	0.0000*	1.0000
Use of Artifacts	5	4.8065	0.9995	6120.600	0.0000*	1.0000
Making Cultural Shifts	5	9.6190	0.9995	6120.600	0.0000*	1.0000
PLC Change Assessment	5	1.2680	0.9988	2584.266	0.0000*	1.0000

Note. * Indicates where the relationship between the change factor and the authenticity of the PLC was statistically significant.

In Los Angeles County School 11, all of the change factors have a relationship to the authenticity of collaborative culture of the school that is statistically significant from zero. One of the informants is from Los Angeles County School 11, and will provide further insight into the trends at this school in the qualitative section of this chapter. Although, some of the insights are contradictory to what is observed with these instruments.

Table 29

Los Angeles County School 12 Multiple Regression Analysis of the PLC Change

Assessment on the Authenticity of the PLC

Change Factor	n	b	r^2	F	p	SP (5%)
Leadership Characteristics	5	4.9663	0.8188	13.553	0.347*	0.6913
Normalizing Classroom Practice	5	5.0690	0.9728	107.152	0.0019*	1.0000
Use of Artifacts	5	-1.4186	0.0161	0.049	0.8387	0.0530

(continued)

Change Factor	n	b	r^2	F	p	SP (5%)
Making Cultural Shifts	5	20.1667	0.9102	30.397	0.0118*	0.9413
PLC Change Assessmer	5	2.559	0.9997	10276.959	0.0000*	1.0000

Note. * Indicates where the relationship between the change factor and the authenticity of the PLC was statistically significant.

Los Angeles County School 12 has three out of the four change factors as having a strong relationship to creating an authentic collaborative culture that is statistically significant from zero. The Use of Artifacts has a negative regression coefficient; however, it is not strong enough to have the relationship be statistically significant from zero. The other three change factors, Leadership Characteristics, Normalizing Classroom Practice, and Making Cultural Shifts do affect the authenticity of this collaborative culture. It is indicated from this assessment that the use of the artifacts is not supporting this collaborative culture, and recommendations would need to be made after further investigation of the actual artifacts that are used.

Other Quantitative Analyses

The Stages of Concern Questionnaire in measure implementation in schools is a very insightful instrument, which allows a more in depth analysis that goes deeper into the patterns and trends identified with the research questions in this study. The analysis done in this section is recommended for group data to have additional insight into the dynamics of concerns at each school. The analysis is called the First and Second Highest Stage score interpretation. The peak score is the first score analyzed, and the second score is also included to gain further insight into the school's concern level. The relationship between the two scores does provide additional awareness for how the change has affected the school. The first table presented below shows the mean for each of the scores at each stage. The following table shows the means converted to percentiles

using the table found furnished by the CBAM manual. When the mean scores are converted to percentiles, the highest and second highest percentile scores are identified for each school. In addition, profiles are generated, which provide a graphical representation of this analysis.

Table 30

Mean Raw Scores of Teachers at Each School

School Code	Stage 0	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
LAC School 1	14.25	11.25	19.67	11.67	15.50	13.80	15.60
LAC School 2	15.33	21.5	22.67	17.25	16.33	18.91	19.75
LAC School 3	7.44	3.78	17.8	24.4	13.8	15.6	26.50
RC School 1	17.22	19.33	12.44	22.80	11.25	15.5	24.20
OC School 1	17.50	27.50	15.60	9.89	16.60	29.00	24.20
OC School 2	15.22	13.89	15.67	15.50	10.44	16.67	21.67
LAC School 4	9.22	27.00	20.22	15.44	14.00	29.00	22.00
CC School 1	11.60	23.60	24.40	12.40	22.8	23.00	25.82
LAC School 5	15.44	17.50	27.50	15.50	16.00	26.50	19.50
LAC School 6	17.22	20.40	22.80	21.20	19.40	22.60	21.70
LAC School 7	11.67	15.50	14.25	11.25	19.67	18.25	13.916
LAC School 8	15.33	22.33	13.80	15.60	9.89	16.60	24.20
LAC School 9	10.00	19.8	13.00	8.00	17.89	16.00	12.00
LAC School 10	10.00	20.00	17.00	10.44	21.00	25.80	20.00
LAC School 11	9.44	17.00	17.40	6.00	17.89	28.00	14.00
LAC School 12	17.40	24.40	29.40	26.67	24.00	30.00	21.44

Once the seven raw scores have been obtained for each individual and then averaged for each school, the scores were then converted to a percentile for further interpretation. The percentiles are based on the responses of 830 individuals who completed the 35-item questionnaire in fall of 1974. The individuals were a carefully selected stratified sample as explained in the reliability and validity section of this chapter. This stratified sample also included both elementary schools and higher-education institutions, which had a range of experience with the innovation being measured at the time. The raw scores were converted to a percentile by using the SoC manual.

Table 31

Mean Raw Scores of Each Stage of Concern Converted to a Percentile

School Code	Stage 0	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
LAC School 1	81*	45	72**	43	19	25	47
LAC School 2	87*	80**	78	65	19	44	65
LAC School 3	37	23	67	88*	13	31	87**
RC School 1	94*	69	48	85**	8	31	81
OC School 1	96*	95**	59	34	21	84	81
OC School 2	87*	54	59	60	7	36	65**
LAC School 4	48	93	72	56	13	84	73
Clark County School 1	69	88*	85	47	43	59	87**
LAC School 5	94*	72	80**	80**	27	59	73
LAC School 6	94*	75	80	83	90**	59	73
LAC School 7	55	60*	57**	39	19	40	38
LAC School 8	87*	80	55	60	5	36	84**
LAC School 9	55	72*	57**	27	24	31	30
LAC School 10	55	72	63	39	33	76*	73**
LAC School 11	55	63	67**	18	24	80*	38
LAC School 12	93	90	93	95*	48	94**	73

Note. The * denotes the highest peak stage in that school, when averaged and the ** indicates the second highest peak stage at that school when averaged. An analysis of first and second highest stage scores is done in this chapter under the heading Other Analyses.

The percentile score indicates the relative intensity of the concern at each stage. The percentile scores are not absolute; instead they are relative to other stage scores for that individual.

Los Angeles County School 1. The first highest score in Los Angeles County School 1 is Stage 0 and followed by Stage 2. A peak at Stage 0 does not provide information about whether respondents are a user or nonuser of teacher collaboration, but it addresses the level of engagement for these teachers. With the peak being in Stage 0, at this school it is safe to interpret that the teachers are more concerned with other initiatives, tasks, and activities then with teacher collaboration. A second highest peak at Stage 2 indicates that the teachers have a great deal of *self-concerns*. Having a high

percentile in Stage 2 indicates ego-orientated questions and insecurities. These

respondents are concerned with status, rewards, and what effects teacher collaboration

might have on them.

      The following figure shows a graphical representation of the other four stages,

and what that indicates about this school and teacher collaboration. This type of analysis

is referred to as profile interpretation.
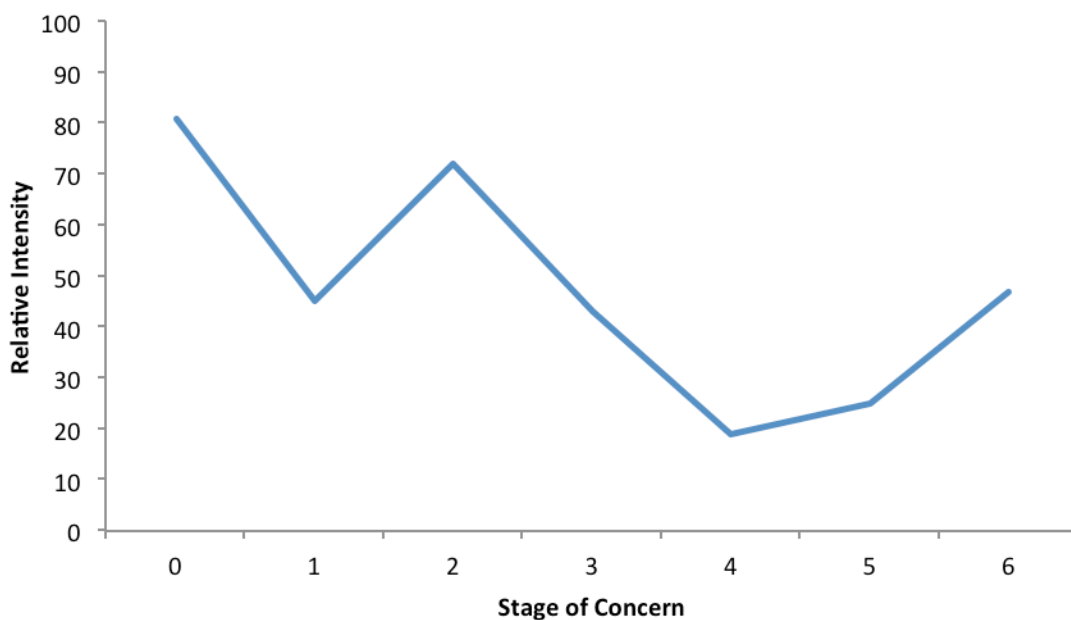
Figure 3. School profile of Los Angeles County School 1.

      Profile analysis is the richest and most frequently used method for interpretation

data from the SoC Questionnaire. This type of data can be analyzed using group or

individual data. Since the comparison is done among schools, and not within schools, the

average for each stage of concern was taken for each of the schools and graphed, which is

depicted above.

      The graph above is determined to be a negative one-two split. This occurs when

the Stage 2 score is higher than the Stage 1 score. This type of split depicts a group

where individuals have various degrees of doubt about potential resistance to teacher collaboration. When Stage 2 concerns override Stage 1 concerns, the concerns about a teacher collaboration effect on personal position or job security usually are greater than the desire to learn more about the innovation. Experience indicates that when general, nonthreatening attempts are made to discuss an innovation with a group with this profile, the high Stage 2 concerns are intensified and the Stage 1 concerns are further reduced. A group with this kind of profile probably will not be able to consider a proposed innovation objectively until their personal Stage 2 concerns are considerably reduced.

The tailing-up of Stage 6 on the typical nonuser profile provides additional information about the attitude of the respondents toward the teacher collaboration. When Stage 6 tails off or down at the end of a nonuser's curve, it typically means that the respondent does not have ideas that would potentially compete with the implemented innovation. When Stage 6 tails up, as it does in Figure, it is inferred that the respondents have ideas that have more merit than the proposed teacher collaboration innovation. This should be an indication of a warning that the respondents might be resistant to teacher collaboration, and with the increase in Stag 6 being severe; this should be heeded as an alarm.

Los Angeles County School 2. Using the highest and second highest peak analysis, Los Angeles County School 2 has a peak percentile score of Stage 0. This indicates that the degree of priority the respondents place on teacher collaboration.

Stage 0 indicates that there is a low interest in and engagement with teacher collaboration in relation to other tasks performed by a teacher. The higher the Stage 0 score, the more the respondents are indicating that there are a number of other initiatives,

tasks, and activities that are of concern for them. Teacher collaboration is not the only thing that the respondents are concerned about.

The second highest peak is in Stage 1. Doing a first and second highest stage score interpretation can assist in finding patterns and trends among group data. A second high score in Stage 1 indicates that the respondents are seeking more information about teacher collaboration. The respondents are not concerned with the details, and would rather have fundamental information about what teacher collaboration is, what it will do, and what its use will involve. Simply put, this stage does not measure how much knowledge or understanding the respondents have, it indicates whether they want to know more about teacher collaboration. Using the first and second highest stage score analysis, it can be interpreted that as a staff, Los Angeles County School 1 are concerned about other tasks than teacher collaboration. They are also interested in learning more about teacher collaboration.

The figure below describes the entire school profile, and provides a graphical interpretation of the concerns the teachers have at this school.
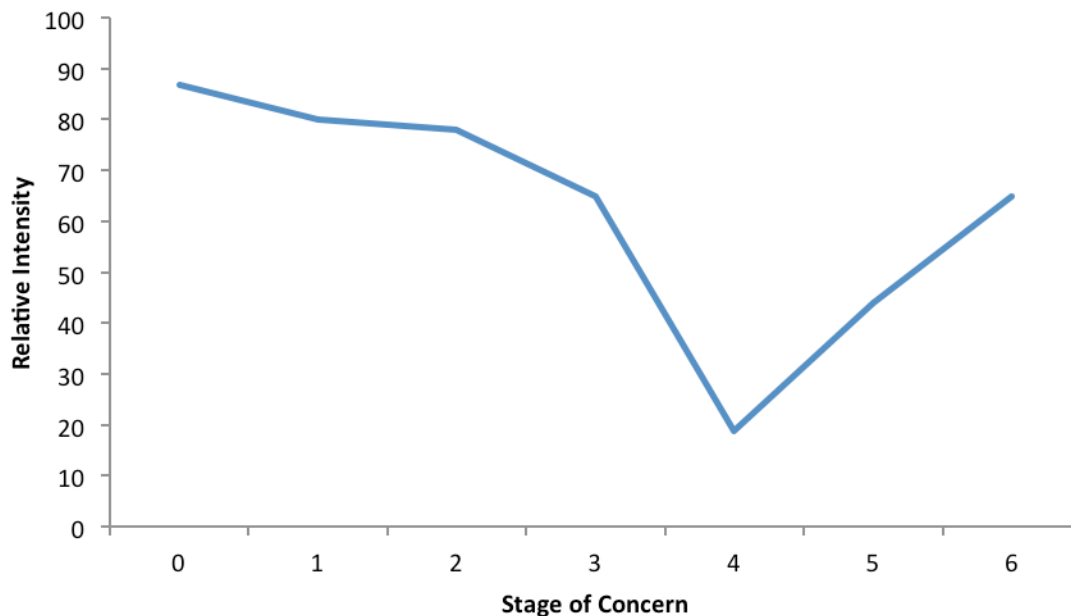
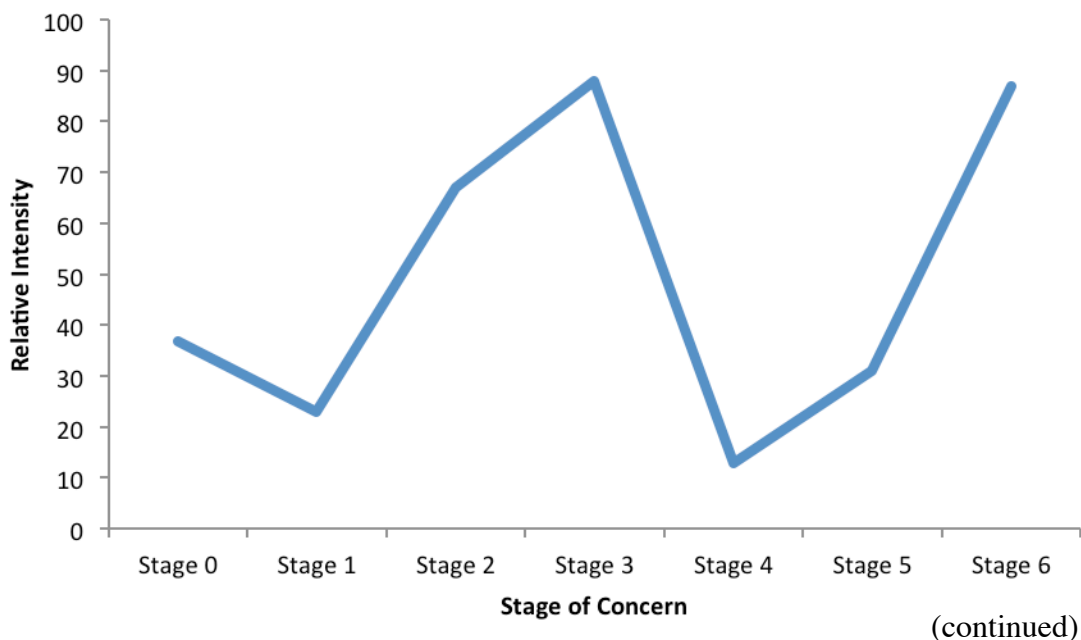*Figure 4*. School profile for Los Angeles County School 2.

Looking at the profile of Los Angeles School 2, the interpretation has greater

insight into the concerns of the teachers at this school. The peak comes in Stage 0-Stage

2, which indicates that this group of teachers is generally nonusers of teacher

collaboration. In addition to not being overly concerned about teacher collaboration, they

do not have significant managerial concerns (as a high score in Stage 3 would indicate),

nor are they concerned about the consequences for students or for collaborating with

others (low Stage 4 and 5 scores indicate).

The tailing-up of Stage 6 on the typical nonuser profile provides additional

information about the attitude of the respondents toward the teacher collaboration.

Again, Stage 6 tails up, as it does in Figure 4, it is inferred that the respondents have

ideas that have more merit than the proposed teacher collaboration innovation. This

should be an indication of a warning that the respondents might be resistant to teacher

collaboration, and with the increase in Stag 6 being severe; this should be heeded as an

alarm. This tail up interpretation of Stage 6 is only true when there are consistently high scores in Stages 0-2.

Los Angeles County School 3. Using the first and second highest stage scores interpretation to analyze Los Angeles County School 3, the peak high score is in Stage 3. A high Stage 3 score indicates intense concern about management, time, and logistical aspects of the teacher collaboration. The second highest stage score is Stage 6. Stage 6 deals with refocusing of the innovation and in this case, teacher collaboration.

Having a peak score in Stage 3 and a second highest peak score in Stage 6 is a common nonadjacent combination. Group data with this combination are concerned about management of teacher collaboration and have some ideas about how to change their use or the innovation itself. Rather than be trapped with their concerns about time, resources, and efficiency issues, they have ideas on how to remedy their concerns.


(continued)

Figure 5. School profile for Los Angeles County School 3.

This school profile is a typical single-peak user profile with a tailing-up at Stage 6. As stated in the previous analysis, the high Stage 3 indicates that this school has concerns about management issues. Since the surrounding stages are relatively low, this indicates that the concerns regarding management are relatively intense. The respondents are indicating a high level of concern about time, logistics, or other managerial problems related to teacher collaboration. The low Stage 4 indicates that the teachers are not concerned with students, and are slightly more concerned about working with others. The high Stage 6, indicates that these teachers have solutions to the issues that they have concerns about.

Rock County School 1. Using the first and second highest stage scores interpretation, the peak score is in Stage 0. Having a peak score in Stage 0, indicates that the members at this school have a low engagement to teacher collaboration in relation to other tasks at the school and in teaching in general. The second highest score is in Stage 3. This indicates that the teachers have concerns about management, time, and resource allocation in association with teacher collaboration. It can be interpreted that the concerns coming from Stage 3 are resulting the teachers being preoccupied with faucets of teaching and issues with that school.

Below, the figure depicts the school profile, and the interpretation follows.
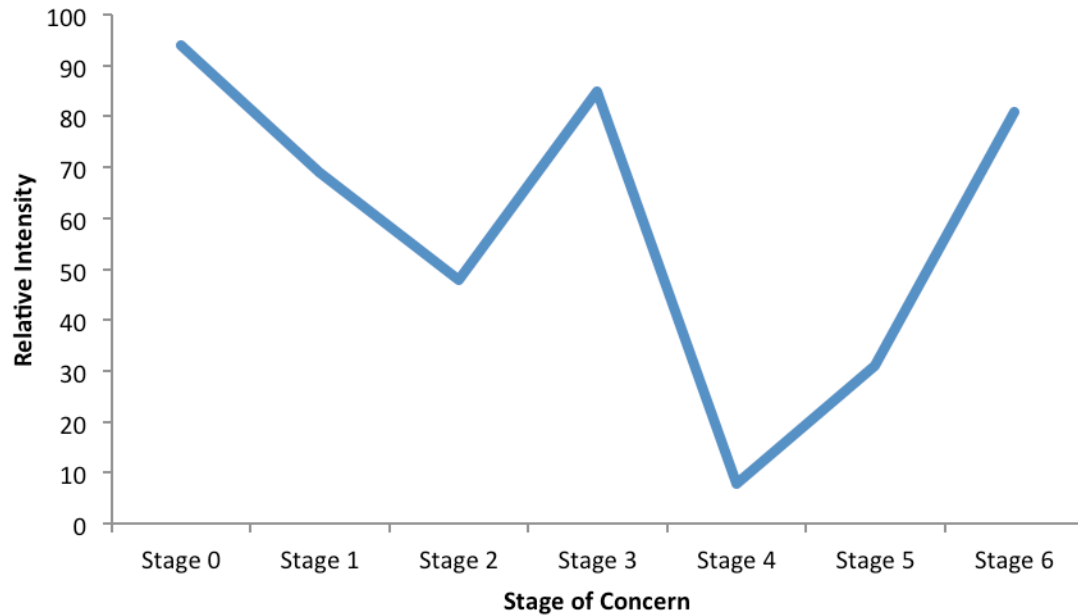
Figure 6. School Profile for Rock County School 1.

This graphical representation of the average scores for each stage does have a similar

pattern to Los Angeles School 1. However, where the second peak was in Los Angeles

School 1 was at Stage 2, this one is at Stage 3. Whereas, this school does show a nonuser

profile, however, the secondary concerns are resulting from management issues and not

personal issues like Los Angeles School 1. The high Stage 6 indicates that the teachers

have ideas that they view as having more merit than the proposed teacher collaboration.

Since there is a relatively intense peak at Stage 3, it can be inferred that both high scores

in Stage 0 and Stage 6 result from the concerns in Stage 3, which are dealing with

managerial issues.

Orange County School 1. Using the first and second highest stage scores

interpretation, there are several insights that can be made about Orange County School 1.

Orange County School 1 does follow much of the same attributes as Los Angeles School

2. Both have first and second highest scores in Stage 0 and Stage 1 respectively. This

indicates that teachers do not place a high importance on teacher collaboration. A high

Stage 1 indicates that the respondents are lacking information regarding teacher

collaboration. These teachers are concerned about the fundamental information about

teacher collaboration, and the structure and function it plays in their daily activities. The

figure below depicts a graphical representation of the school profile.
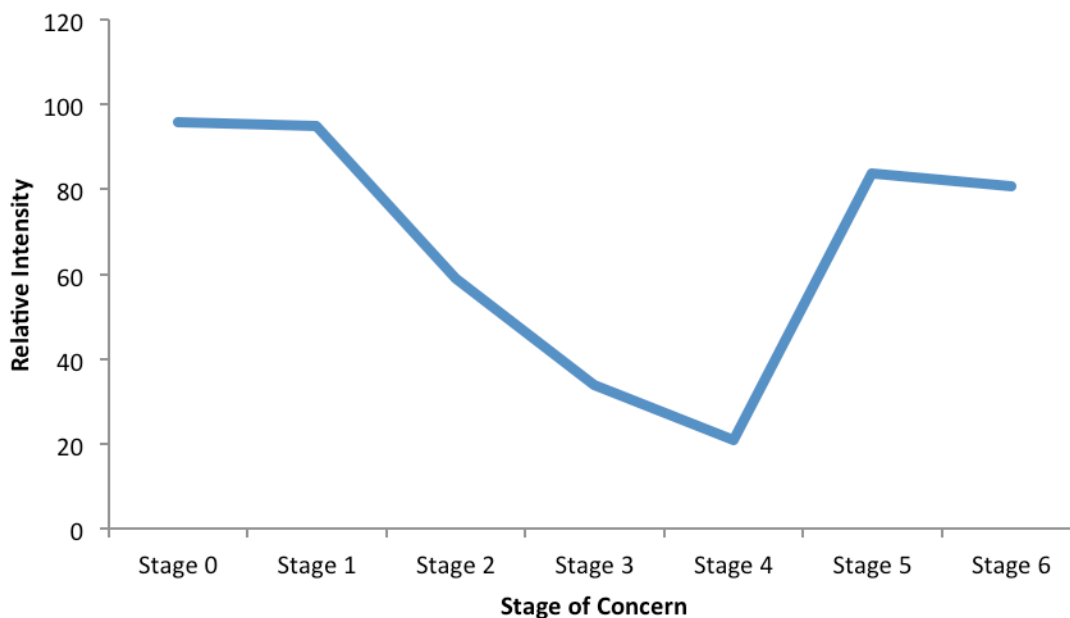
Figure 7. School Profile for Orange County School 1.

With Stage 0 and Stage 1 being very close, and these scores are the highest among all of

the stages, this school is indicating that they are nonusers. The increase in Stage 5 and

then Stage 6 indicates that the teachers do have concerns in collaborating with each other

and have competing ideas that they view as having more merit. Overall, the teachers at

this school are interested in learning more about teacher collaboration. Low score in

Stage 4 indicates that the teachers at this school do not have concerns about the impact on

teacher collaboration on the students, not do they have strong management concerns.

Orange County School 2. Using the first and second highest stage score

interpretation, the stages fall in an unlikely combination. The highest is Stage 0 and the

second highest is Stage 6. This combination indicates that the teachers are interested in

learning more about teacher collaboration, but the respondents are indicating that there

are a number of other initiatives, tasks, and activities that are of concern to them. This is

consistent with the second highest Score in Stage 6, indicating that there are other

competing ideas that appear to be a better fit to the teachers at this school. The figure

below depicts the school profile.
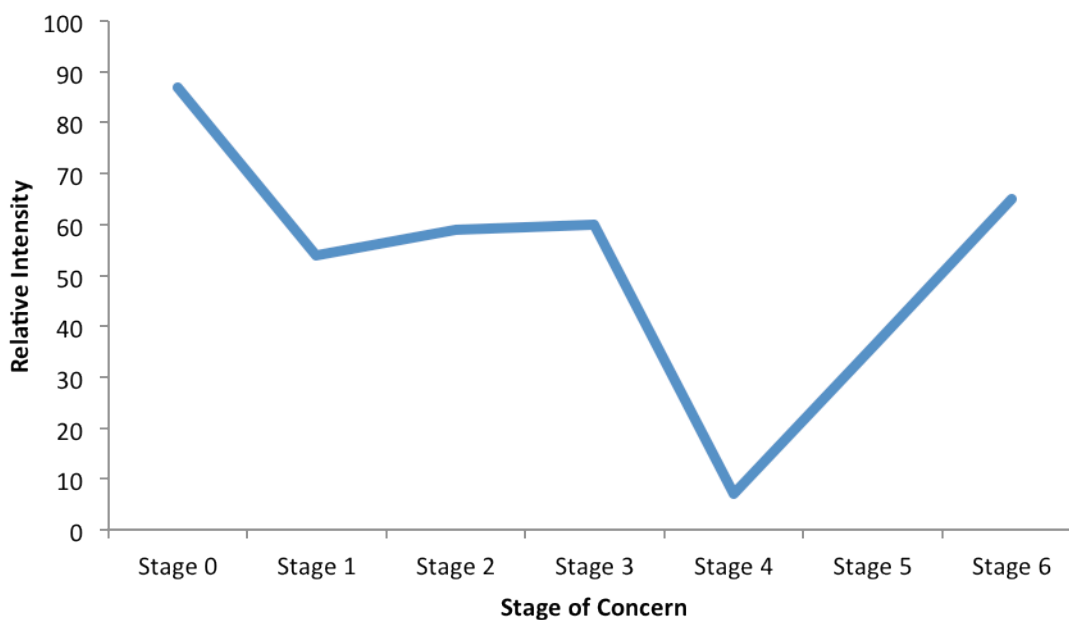
Figure 8. School Profile for Orange County School 2.

Beside the highest and second highest scores, there is a slight increase in Stage 2 from

Stage 1. This potentially could indicate that the teachers might have doubt about teacher

collaboration and potentially could resist the endeavor. There is also an increase in Stage 3, which does indicate some management concerns. Among the respondents, there are relatively no concerns in regarding the impact of teacher collaboration on students. Then there is the increase at Stage 5 and then finally Stage 6. Stage 5 is not as high as the other stages, therefore, it does not raise a red flag that the respondents have concerns with collaborating with each other. Finally, Stage 6 indicates that the teachers have concerns about competing interventions for the school.

Los Angeles County School 4. Using the first and second highest stage score interpretation, greater insights into the teacher's concerns can be assessed.   The peak score for this school is in Stage 1. Stage 1 represents that respondents would like to know more about teacher collaboration. The score in this stage does not indicate how much knowledge or understanding respondents have. It indicates whether they want to know more. A second highest peak in Stage 5 indicates that the teachers have concerns about collaboration with each other. The graph below provides the school profile.
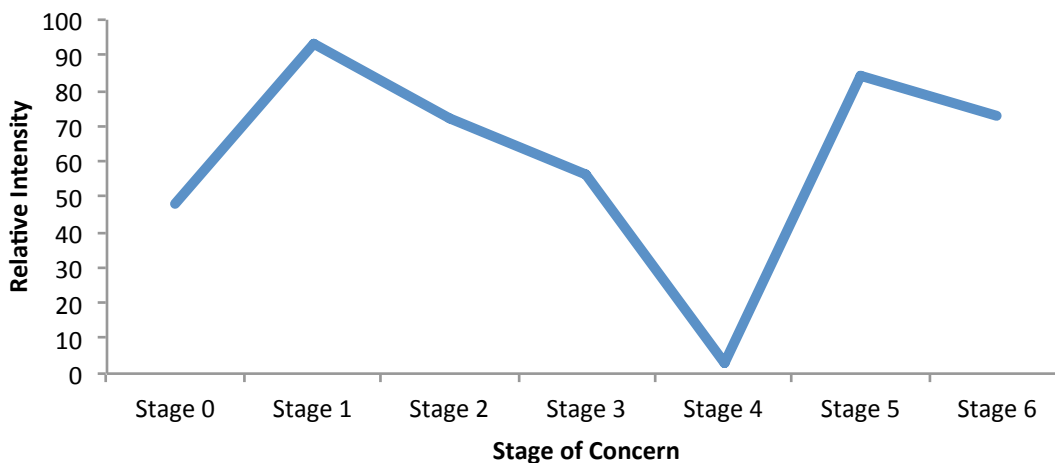
Figure 9. School Profile for Los Angeles County School 4.

With a high peak at Stage 1, the teachers on the staff would like to know more about teacher collaboration. With the second highest peak in Stage 5, this indicates that the respondents are very interested in working with their colleagues. This, combined with a very low Stage 4 indicates the lack of concerns about the direct effects of teacher collaboration on students. Stage 6 is high, which also indicates that the respondents have ideas that would either drastically alter or completely replace the teacher collaboration system that has been implemented.

Clark County School 1. Using the first and second highest stage score interpretation, greater insights into the teacher's concerns can be assessed. Clark County School 1 has an unusual combination of having a peak score in Stage 1 and a second highest score in Stage 6. Stage 1 is an indication that the teachers would like more information about teacher collaboration. Stage 6 is that they have competing ideas or recommendations about teacher collaboration. Below, the graphical depiction of the school profile is presented, providing more insights into the teacher's concerns at this school.
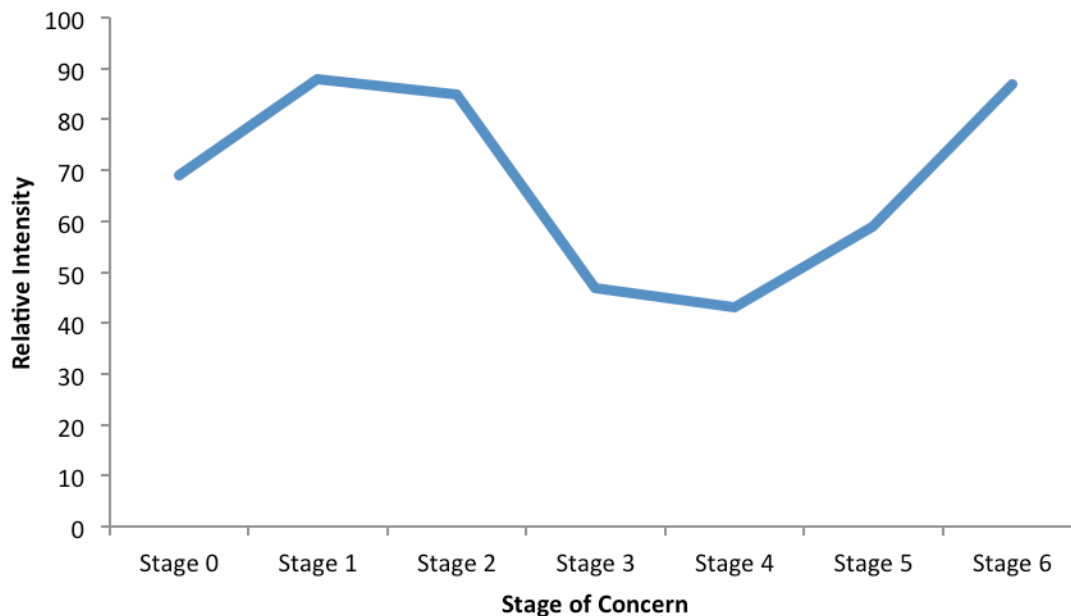
Figure 10. School Profile for Clark County School 1.

This is the typical nonuser profile, with the peak being at Stage 1 and Stage 2 being very close. The relationship between Stage 1 and Stage 2 is beneficial because Stage 2 is lower than Stage 1, indicating that the teaching staff does not fear their status, job, or position in regard to teacher collaboration. There are little concerns regarding the management in relation to teacher collaboration, although, one of the informants who participated in the interview did discuss at length the management issues at this school. In Stage 4 and Stage 5, there are slight concerns in regard to impact on students and little interest in teacher collaboration. The informant does enlighten more about that finding. In addition, the second highest peak is in Stage 6, which indicates that the teachers have some other ideas in regard to teacher collaboration, or would rather do away with the system all together. The findings stemming from Clark County School 1 are not of a cohesive culture, and will be further explained in the qualitative analysis.

Los Angeles County School 5. Using the first and second highest stage score interpretation, greater insights into the teacher's concerns can be assessed. The highest peak is at Stage 0, which indicates that the teachers have other concerns than teacher collaboration. For the second highest peak, there is a tie between Stage 2 and Stage 3. The second highest peak in Stage 2 indicates personal concerns with teacher collaboration. Stage 3 indicates that there are concerns about managerial issues, such as time, resources, and logistics of teacher collaboration. The school profile is provided below, which gives greater insight into the teacher concerns at this school.
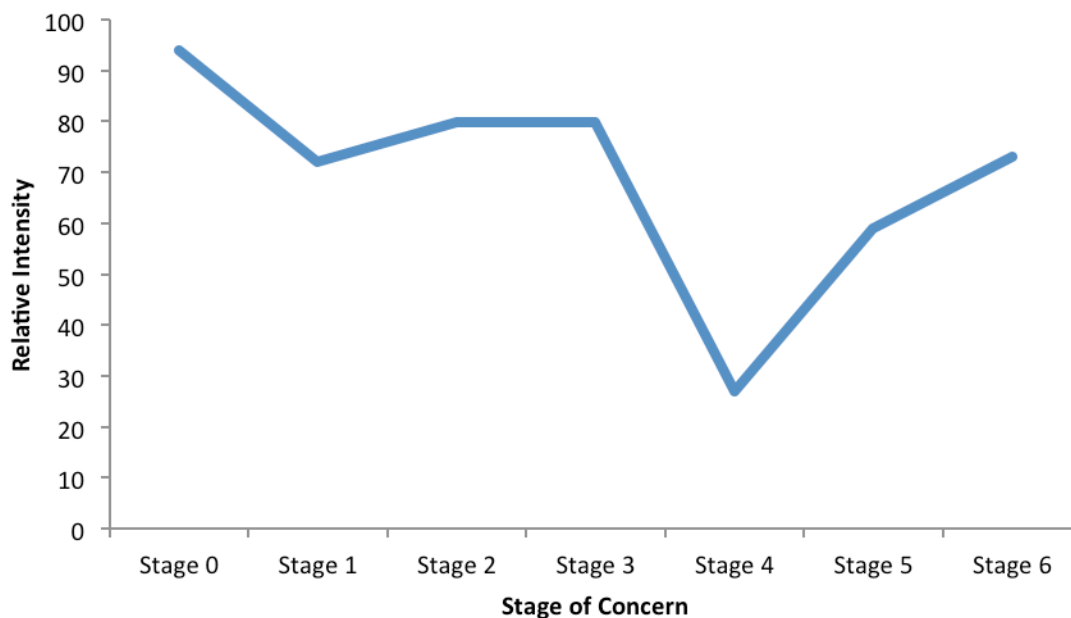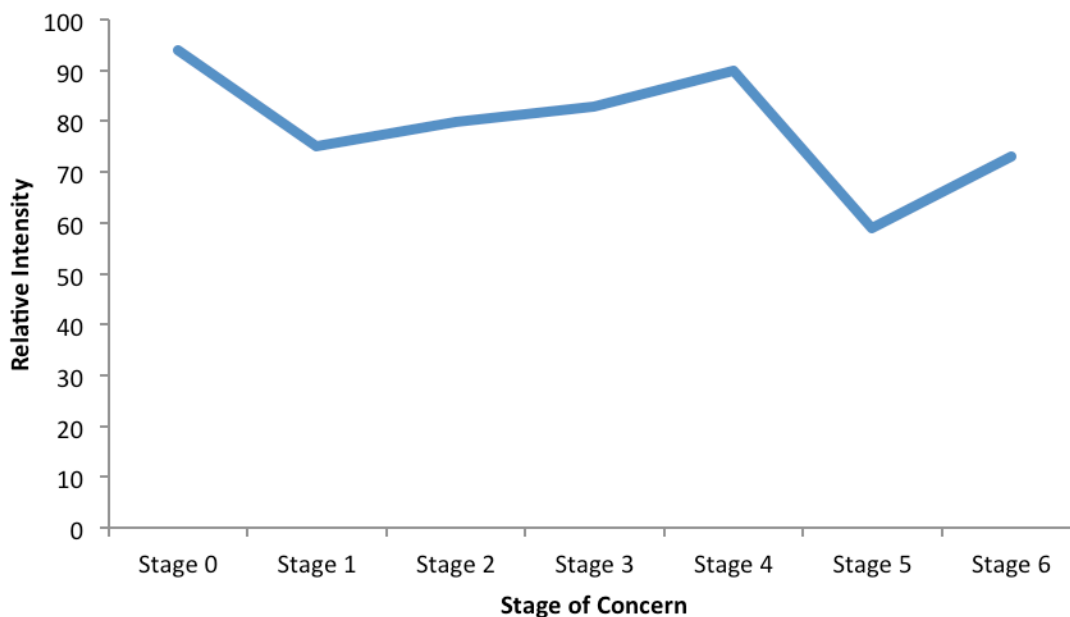

Figure 11. School Profile for Los Angeles County School 5.

Los Angeles County School 5 is demonstrating the negative one-two split, when Stage 2 is higher than Stage 1. When Stage 2 concerns override Stage 1 concerns, the concerns about an innovation's effect on position or job security are usually greater than to learn more about teacher collaboration. Then there is the tail-up pattern at Stage 6.

This indicates that the respondents have ideas that they see as having more merit than teacher collaboration. Again, this should be viewed as a warning to the proposed initiative of teacher collaboration.

   Los Angeles County School 6. Using the first and second highest stage score interpretation, greater insights into the teacher's concerns can be assessed.   There is a unique combination with the first and second highest peak at this school. The highest score is in Stage 0, which indicates that there are concerns about other issues with teaching at this school than teacher collaboration. The second highest peak is in Stage 4, which indicates that the responding teachers have concerns about the impact teacher collaboration will have on the students. The school profile is presented below.
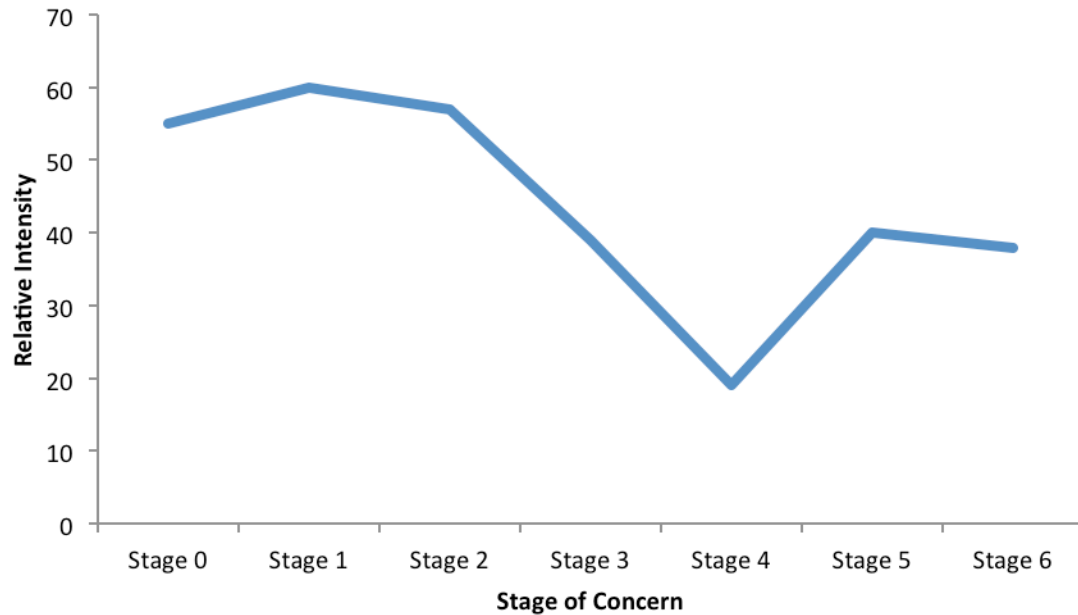

Figure 12. School Profile for Los Angeles County School 6.

   Outside of the peak score at Stage 0, Stage 4 concerns are very interesting and provide vast insight into the concerns the teachers have. The concerns of the respondents

are second highest in Stage 4; that is, they are more intensely concerned about the impact that teacher collaboration has on the students. The lower scores in Stage 3 and Stage 5 suggests that the respondents are not very concerned about management of teacher collaboration or working with each other. The low score in Stage 1 indicates that there is little concern about collecting more information regarding teacher collaboration, although, there is a small spike in Stage 2, which does indicate that the respondents do have some personal effects that teacher collaboration might have on them. There is a tail-up in Stage 6, which indicates that the respondents do have suggestions for how the teacher collaboration system is run.

Los Angeles County School 7. Using the first and second highest stage score interpretation, greater insights into the teacher's concerns can be assessed. The first highest score is in Stage 1 and the second highest score is in Stage 2. The high score in Stage 1 indicates that the responding teachers would like to have more information regarding teacher collaboration. The teachers would like more information on the fundamentals about teacher collaboration, its purpose and goals, and the nature, focus, and function of it. The second highest peak in Stage 2 is an indication that the responding teachers have some personal concerns in regards to teacher collaboration. The teachers are demonstrating ego-orientated questions and uncertainties. These respondents are most concerned about status, rewards, and what effects that teacher collaboration might have on their position. The school profile is presented below, and provides a greater insight into the concerns of the teachers at this school.
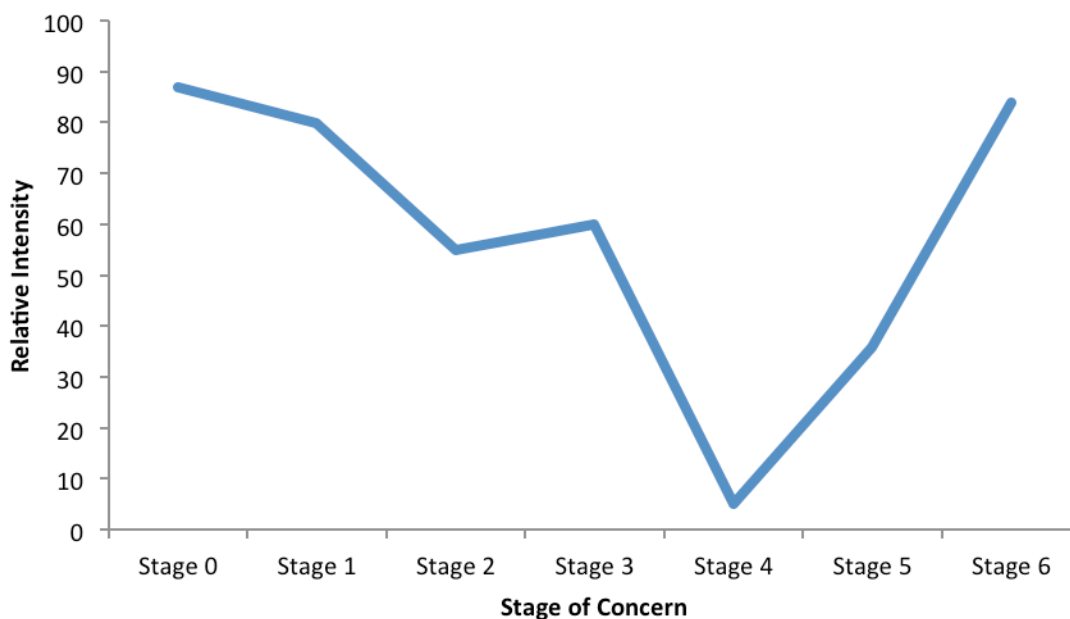
Figure 13. School Profile for Los Angeles County School 7.

The relationship between the Stage 1 and Stage 2 scores is very important. If the scores are very different, the profile is said to have a one-two split, the one referring to Stage 1, and the two referring to Stage 2. In this case, the scores are not split, however, the higher score is on the beneficial side. With a higher Stage 1, the teacher respondents have a positive, proactive perspective with little fear of the personal effects that teachers engaging in collaborative activities might have on them. The responding teachers are open to and interested in learning more about teacher collaboration. With the lowest score being in Stage 4, which is the consequences of teacher collaboration on students, indicates little concern about this. Schools with strongly implemented teacher collaboration have high scores in Stage 4, because ultimately teachers want to impact the students with their outside the classroom activities such as collaborating with peers. Stage 5 has an increase, however, not a great increase in comparison to the other scores.

This indicates that the teachers are not inclined to collaborate with each other as they could be. With the tailing-off of Stage 6, this indicates that the teachers do not have any ideas that would compete with teacher collaboration. With the highest scores being in Stage 1 and Stage 2, this is a profile of a nonuser of teacher collaboration.

Los Angeles County School 8. Using the first and second highest stage score interpretation, greater insights into the teacher's concerns can be assessed. The first and second highest stage score interpretation does have a unique combination with the highest stage being in Stage 0 and the second highest score being in Stage 6. With the high Stage 0, this indicates that the responding teachers have concerns about other things in the teaching profession. The school profile is presented below.
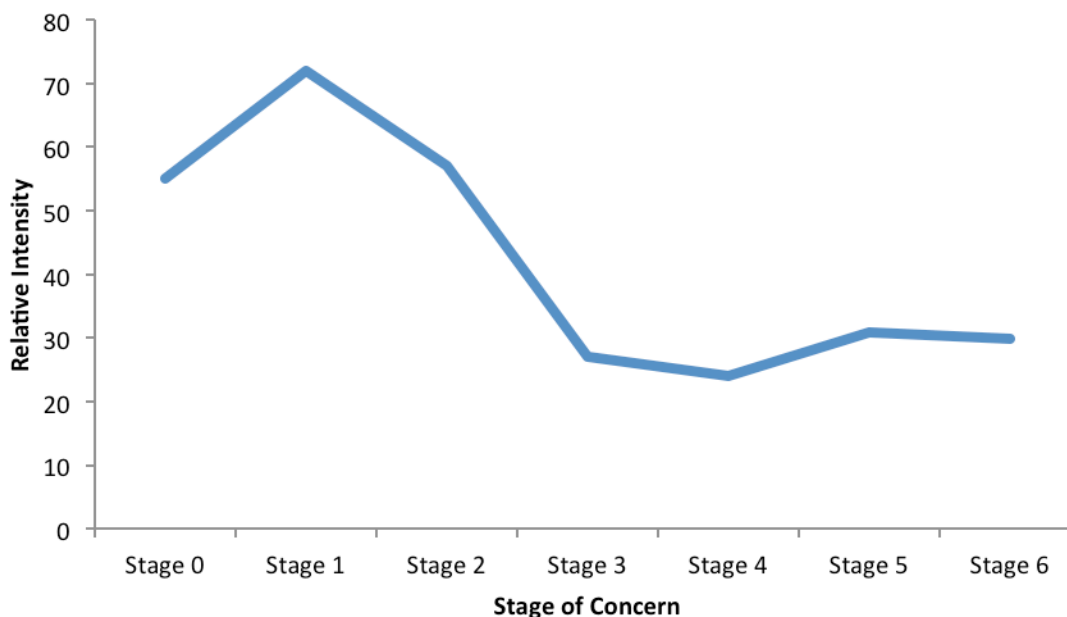

Figure 14. School Profile for Los Angeles County School 8.

This is a nonuser profile with the positive one-two split between Stage 1 and Stage 2. There seems to be some managerial concerns in regard to logistics concerning

teacher collaboration. There is also a very small concern about teacher collaboration on student achievement. With a strong school with a very high API, it was expected that there would be higher concerns on student impact. There is the tail-up pattern in Stage 6. With the strong Stage 0 and the strong Stage 6 scores, this combination should be taken as a threat to teacher collaboration because there are competing ideas that the responding teachers view as having more merit.

Los Angeles County School 9. Using the first and second highest stage score interpretation, greater insights into the teacher's concerns can be assessed. This school is showing the consecutive highest and second highest stage scores coming in Stage 1 and Stage 2 respectively. Stage 1 indicates that the teachers would like to know more about the fundamentals of teacher collaboration. Stage 2 indicates that these teachers have personal concerns in regard to teacher collaboration. The school profile is shown below.

Figure 15. School Profile for Los Angeles County School 9.

With the highest scores coming from Stage 1 and Stage 2, this depicts a positive one-two split. This combination with Stage 1 being higher than Stage 2 indicates that the responding teachers are open to learning more about teacher collaboration and they are positively disposed and are proactive. There is a tail-off in Stage 6, which also indicates that the respondents do not have ideas that would compete with the innovation. This is a typical pleasant nonuser of teacher collaboration curve.

Los Angeles County School 10. Using the first and second highest stage score interpretation, greater insights into the teacher's concerns can be assessed. Los Angeles County School 10 has a first and second highest stage score in Stage 5 and Stage 6. This is typical of an experience user of teacher collaboration. Stage 5 is interest and concern with collaborating with others. Stage 6 is having ideas to modify teacher collaboration. Since the peaks are not in Stage 0, Stage 1, or Stage 2, having a peak in Stage 6 is beneficial for the innovation, because the responding teachers see a way to make teacher collaboration more useful for them. The school profile is below and provides greater insight into the teacher concerns at this school.
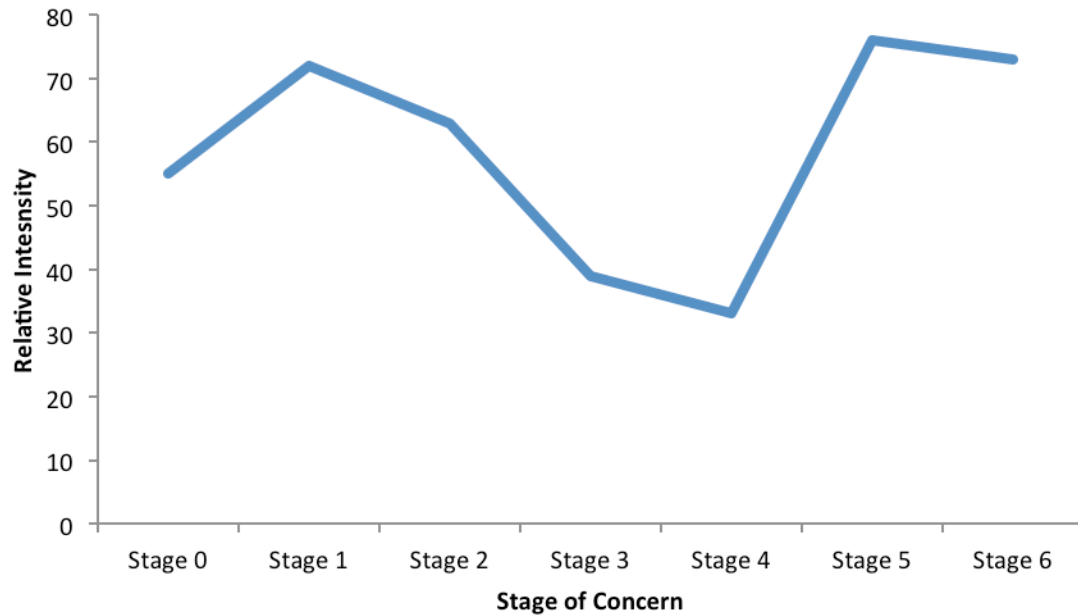
Figure 16. School Profile for Los Angeles County School 10.

This profile does indicate the lack of concern about the direct effects of teacher collaboration on students. The responding teachers do have the most intense concern about teacher collaboration surrounding coordinating with others. There is a peak coming from Stage 1, which indicates more information is needed among the responding teachers regarding teacher collaboration. There is a decrease when it comes to Stage 6, however, it is the second highest score among the stages, which indicates that the responding teachers do not wish to replace teacher collaboration, but they do see ways to improve it.

Los Angeles County School 11. Using the first and second highest stage score interpretation, greater insights into the teacher's concerns can be assessed. Los Angeles County School 11 does have an interesting combination with the highest score coming from Stage 5 and the second highest score coming from Stage 2. This indicates that there

are several concerns about collaborating and coordinating with teachers at this school. In addition, Stage 2 indicates that there are strong personal concerns in regards to status, position, and rewards. The graphical representation of the school profile along with an analysis is provided below.
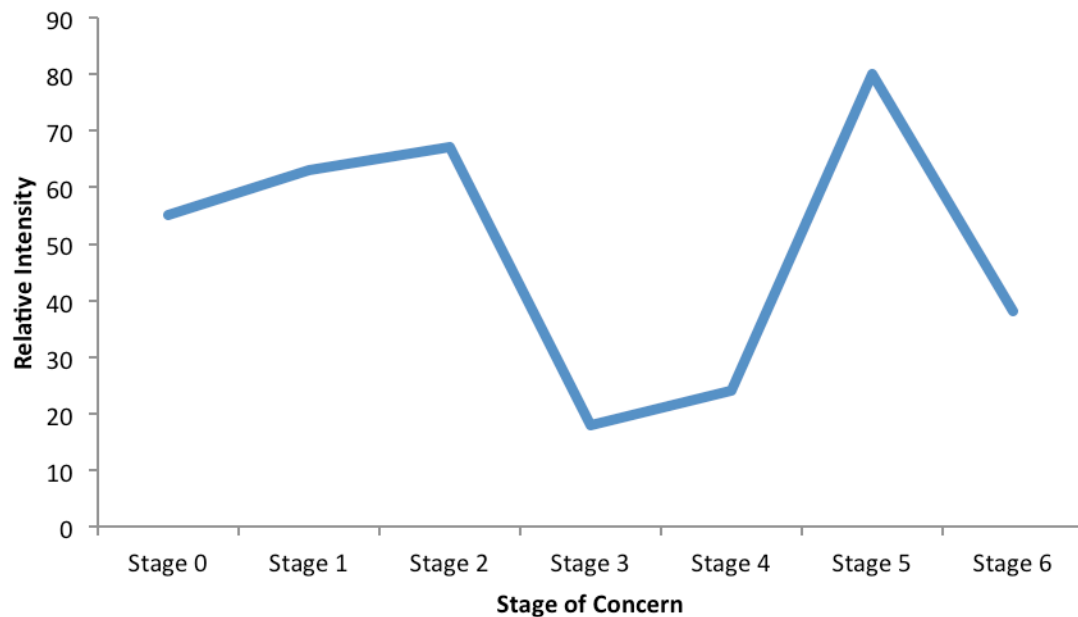
Figure 17. School Profile for Los Angeles County School 11.

This school profile has a dual-peak and since one peak is in Stage 0-Stage 2 and the other is in Stage 4-Stage 6, the responders of this instrument are users of teacher collaboration. The difference from Stage 1 to Stage 2 is not great, however, it is on the harmful side of the split, where personal concerns out weight informational or managerial concerns. There is a low concern for impact on students, as indicated in Stage 4. Then there is a high concern with coordinating with others. Then there is the peak in Stage 5, which indicates concerns about collaborating with others. These concerns are both interest and issues in regard to teacher collaboration. With a peak at Stage 2, this

suggests that collaboration at this school does involve status and a pecking order at the team meetings. This combination is not beneficial. There is a low Stage 6 in comparison to the other stages, which indicates that there are no competing systems, nor are there any ideas on how to solve the issues. Since there is a peak in Stage 5, as well as Stage 2, the low Stage 6 may be a sign of apathy, boredom with teacher collaboration, and indifference in regards to collaborating with other teachers. If there was a peak just in Stage 2, this would not be the case, and the low Stage 6 would be seen as advantageous.

Los Angeles County School 12. Using the first and second highest stage score interpretation, greater insights into the teacher's concerns can be assessed. The first highest peak is in Stage 3 and the second highest peak is in Stage 5. This is a typical and interesting combination. With a high Stage 3 score, this is an indication that there are concerns about management of teacher collaboration. There are also concerns with collaborating and coordinating with other teachers. Perhaps the Stage 3 and Stage 5 combination indicates that the teachers are concerned with their ability to manage and foster collaborative relationships with their peers. The school profile graph and analysis are presented below.
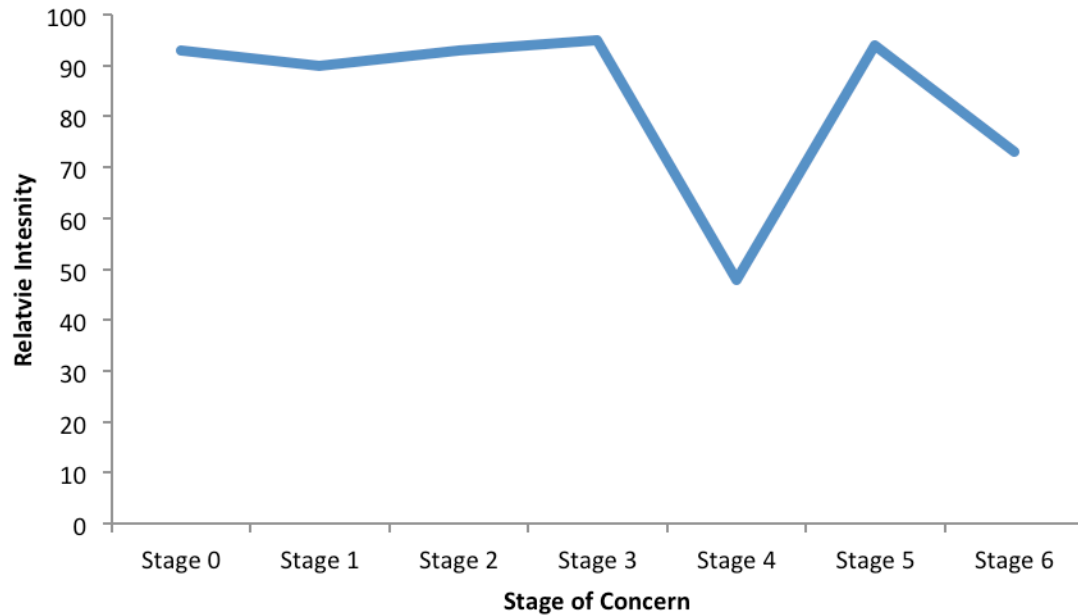
Figure 18. School Profile for Los Angeles County School 12.

With the high Stage 3 and the low Stage 6, this is not a beneficial combination. That is because, the respondents have strong concerns about management, however they do not have clear ideas about doing things differently. This combined with a strong score in Stage 2, is very alarming. This indicates that the management concerns that the responding teachers have seem insurmountable to them, with the high Stage 3 and low Stage 6, that they have a deep personal concerns, as indicated by the strong Stage 2 score. This pattern is typical when a high Stage 3 and low Stage 6 scores are observed. The difference between Stage 1 and Stage 2 is negligible; however, since Stage 2 is slightly higher, the responding teacher's personal concerns could interfere with their desire to learn more about teacher collaboration. The low Stage 4 is also alarming because the responding teachers do not have many concerns about using teacher collaboration to impact students.

Qualitative Research

Following the analysis of the quantitative data, the LoU interview protocol was used to assess the level of usage the professional learning community and teacher collaboration was being used by the teachers in each of the participating schools. The individual interviews were conducted on 8 individuals that were selected at random. The interviews were conducted over the phone and through Skype on the computer to allow the interviews to be audio recorded. Notes were also taken during the interview. The data were analyzed, sorted by themes, clusters, and patterns were identified in an effort to elucidate the research questions.

Qualitative Procedures

According to McMillan and Schumacher (2006), "Qualitative research is based on a constructivist philosophy that assumes that reality is a multilayer, interactive, shared social experience that is interpreted by individuals" (p. 315). Since the principal researcher is interpreting complex systems, it was applicable to use a structured approach to unveil teacher's perceptions about PLC implementation processes and the level of use of the PLC and teacher collaboration that the teacher uses in their day-to-day activities. The structure approach was supplied by the LoU manual, where the probes are explicitly outlined.

The interviews were conducted June of 2011, at the end of the school year, to ensure the data collected represented an entire school year that was at the forefront in the minds of the teachers. The participants selected for interviews were randomly chosen by Survey Monkey and were contacted through email for their willingness to participate and

their availability. The interviews were scheduled based on the availability of each of the teachers.

The structured interviews were guided by the use of an interview protocol from SEDL, Measuring Implementation in Schools: Levels of Use (LoU). The LoU is a focused interview using a branching technique, and depending on what the interviewee says, the interviewer asks questions from a particular branch of the protocol. As a result of the LoU as operationally being a defined phenomenon, in terms of Levels, Decision Points, and the Categories, the protocol resulted in a focused interview.

The LoU interview protocol is organized around the Decision Points and the branching format. Each question must be asked for each branch taken during the interview. The interview began by asking the participant dichotomous question of whether the participant sees him or herself as a user or nonuser of the PLC or teacher collaboration system. If the answer is *yes,* then the interviewer would ask for the participant to provide an example to illustrate their answer. The probes were used to help gather more information about the examples. Provided, the answer is *yes* for the first question, the interviewer proceeded through the remainder of the questions to determine to what extent the PLC was being used by the teacher. At each *yes* response, the interviewer asked a probing question so the participant would state an example that illustrated their response. This is because the LoU measures behaviors rather than the SoC, which measures perceptions. Each level is a measure of behaviors as seen in Table 45. If there was a *no* response for the first question, then a set of probes were used to gather more information on the level of nonuse the participant was in. For the quantitative analysis in research question 3, from this interview, levels of use were

generated and numeric values were given for a regression and correlation analyses. In this portion of the analysis, themes and patterns will be ascertained to elucidate the findings in the quantitative analysis.

The level of use is determined by the decision points by identifying a key behavior that distinguishes that level from the others. The level definitions and decision points listed help the interviewer to clearly distinguish each behavioral profile or categorical pattern used. Each level of use represents a profile or cumulative pattern of actions. The levels are presented below along with the decision points and a description of each.

The interviewer conducted six 15-30 minute audio-taped interviews with each of the teachers in an effort to gain an understanding of their level of incorporating professional learning communities and teacher collaboration in their daily professional practice. Ultimately, this information is used to ascertain the level of implementation of professional learning communities and teacher collaboration systems in schools. The branching chart in Figure 2 guided these structured interviews and the decision points listed in Table 15 along with the probes. Prior to asking the questions the day of the scheduled interview, the researcher emailed a copy of the questions to the participants. Data gathered from the teachers during the interview were compiled on a field note capture sheets. The field note capture sheet was created by the researcher and used to supplement the audiotaped interviews, which were transcribed by the researcher. All names, if known, were deleted in the transcripts to provide anonymity. Secondary analysis of the interview transcripts began at the end of June 2011. The proceeding section will depict the manner in which these transcripts were analyzed to derive themes.

Qualitative Data Analysis

Qualitative data were systematically analyzed during this study. Data collected from teachers selected for the interview portion of this study were recorded, transcribed, charted and then entered verbatim into a database. The researcher prepared charts to post the responses from the field notes color-coded by themes on chart paper. The researcher listened to the audiotapes several times prior to transcribing the tapes for data analysis.

Next, the researcher coded the interviews. Creswell (2009) described a thematic analysis, where searching for patterns and themes in the data brings understanding. The preliminary themes were generated before the study began and can be viewed in Table 5 at the end of Chapter 3 from existing theory and literature. Although the research was aware that themes that may emerge that were not foreseen and inductively generated from transcribed interview data describing the internal and external factors that impacted professional learning communities and teacher collaboration within the schools that participated in this study.

The decision points that distinguish each level are defined in Table 15. It is important to note that each LoU is conceived as independent from the others. Although, the levels appear to be sequenced, they must be viewed as discrete and independent from each other.

When LoU is considered in summative studies, the guide manual that accompanied the interview questions stated that LoU Mechanical Use individuals should not be included in the study. Since the LoU was 10% of the sample population, the LoU was used in a summative nature.

Method of Qualitative Analysis

Once the interviews were conducted, the recordings were saved to the hard drive of the computer using a linking code to determine which school the interview came from, and the field note capture was coded and kept in a locking file cabinet. The preparation and organization of the data began for analysis. The interviews were transcribed, and the field note captures were scanned into the computer, and summarized and typed up. After the transcription, all of the data was read through to obtain a general sense of the information and to reflect its overall meaning. This was done to determine different tones from the respondents and the overall impression and depth of the information. Notes were taken at this time to pinpoint early thoughts about the data.

After the initial reading of the transcripts, a detailed analysis of the coding process began. Using the codes that were generated in Chapter 3, evidence that supported these codes were data mined, and excerpts, segments, and sentences were put into these categories.

Categories that were not foreseen emerged as well. From each interview, a list of topics was generated. Similar topics were clustered together. These topics were put into columns on a form as major topics, unique topics, and leftovers. Major topics also included the already generated code words displayed in Table 5 at the end of Chapter 3. Each topic was given a code (e.g. Status Reporting became S.R.). The most descriptive wording for each topic was turned into a category. Grouping topics that were related to each other together reduced the list of categories. Miles and Huberman (1984) stated, "Data reduction refers to the process of selecting, focusing, simplifying, abstraction, and transforming the data collected" (p. 10). This is a systematic process of analyzing textual

data. Most of the codes were generated from the literature and are what the researcher was expecting to transpire from the interviews. However, there were codes that were not anticipated at the beginning of the study. Finally, there were codes that were unusual, and were identified as conceptual interest to the findings of this study.

As the transcripts were read to identify codes, they were then reread to look for patterns and themes. The researcher next constructed matrices from the data to obtain visualization of patterns, themes, trends, and to make comparisons and correlations between those teachers who were interviewed. The goal of this portion of the research is to have a deep perspective into four research questions.

The final phase of the qualitative data analysis included each interview response being reread to write a short summary related to each theme. These summaries allowed patterns of ideas that were shared among those interviewed to emerge. These summaries taken from the interviews became the context for the quotes used later in this chapter. The quotes and excerpts taken were used to appreciate trends, contrasts, and similarities. Matrices were constructed to check the validity of themes, which emerged from the data.

The responses to questions in the interview protocol were answered by random sample of the teachers surveyed will be reported by themes to facilitate answering the research questions and bringing more dimensions to the findings in the quantitative data. The research questions can be summarized by the following: (a) identification of change factors, (b) concerns teachers have with the implementation of the PLC or teacher collaboration system, (c) the use of teacher collaboration or PLC and the implementation of the system, (d) the use of the teacher collaboration or PLC and the activities the teachers engage in, and (e) the implementation process of teacher collaboration or PLC

and the activities teachers engage in. These are summaries of the research questions, indicating the measured variables in each question. The instrument used in the interview, the LoU interview protocol, did not align with identifying beginning actions or change factors in the implementation process, but rather measured the level of implementation resulting from these processes and actions by ascertaining a teacher's level of use of teacher collaboration in their daily teaching practice. Therefore, to answer the aforementioned variables, the themes provide supporting evidence to yielding and not yielding sustainable collaboration among teachers and professional learning communities.

Context for the Schools' Implementation of Professional Learning Communities

This study assessed the factors in the change process needed in order to fully implement a PLC or teacher collaboration program among a vastly diverse group of schools. The study also assesses whether that implementation has sustained a culture of a professional learning community or a culture grounded in the value of having authentic, team-based collaboration to improve instruction and ultimately impact student learning.

Findings from qualitative data collected will be reported in the following manner. First, the theme to be discussed will be presented, followed by research question that the theme addresses. Then the contextual information will be presented, with code words and relevant excerpts from the interviews.

Teachers' Perceptions of PLCs and Teacher Collaboration, and the Processes used to Implement these Systems

Four general themes emerged in response to the research questions, they are: (a) supportive and shared leadership, (b) resource allocation to support collaboration, (c) strategic planning among teachers and collaboration, (d) professional development.

Survey Monkey randomly chose twelve teachers to participate in the interview portion for the qualitative analysis of this study. From the twelve teachers, six of them responded and participated in the study. They are from schools: Orange County 2, Clark County 1, Los Angeles School 5, Los Angeles School 11, and two from Los Angeles School 6,

Theme One: Supportive and Shared Leadership

The teachers' views on the leadership at their school are just as complex as an entire study itself. Theme one examined the leadership necessary to yield trust, drive change, and to gain momentum to implement and sustain professional learning communities and authentic team-based collaboration. Although, none of the interview probes explicitly asked for the teachers' perceptions on leadership, the teachers expanded on the role the school leader plays in the teachers' personal use of collaboration in their daily practice. The codes used in this theme emerged from the transcripts and were not anticipated by the researcher. The table below provides the code words that were created ancillary from the interviews.

Table 32

Code Words for Theme One

Code Words
Trust
Knowledgeable
Disingenuous
Deceitful
Cannot deal with adversity
Vindictive
Insightful
Lowest performing
Follow through
Favoritism
No teacher leadership team
No knowledge of standards
Ordered by principal
No knowledge about data

In this theme of supportive and shared leadership, three topics emerged. The respondents described the leadership necessary for implementing and sustaining professional learning communities and team-based collaboration as being the school leader being trustworthy and having integrity, teacher-leaders are chosen by merit, and the school leader as having characteristics of a transformational leader and knowledgeable on curriculum.

Teachers discussed the value of having a trustworthy and knowledgeable school leader as a basis supporting collaboration. Several instances arose in the respondents' answers where the school leader had to resolve conflicts. These instances arose when the teachers were asked about the strengths and weaknesses of collaboration and if the teachers evaluated the collaboration either formally or informally. Often, the respondents were citing instances where their principal was being disingenuous and dishonest. One teacher from Clark County School 1 reported, "My principal is vindictive and carries a

grudge. Which means, your expertise is no longer valued, your ideas get no hearing, and your skills are denied." The respondent goes on to state, "My principal spread rumors about my sobriety. Which is a riot, I do not drink." The Clark County School 1 teacher also reported her disappointment in the knowledge her principal had about her subject area, "My principal did not know that our ELA had developed new standards the year before." A teacher from Los Angeles County School 11 reported, "Our principals are useless except for public relations." A teacher from Orange County School 2 reported, "We used to have a strong PLC, that I enjoyed collaborating in, but it is fallen by the wayside since we got a new principal."

When principals are effecting change in a school, there must be a trusting relationship. Favoritism is one manner in which to lose trust among a teaching staff. Having a criteria for rewards and recognition also yield trust. As the teacher from Clark County School 1 reported, "My school has a system of favorites, not professional recognition. Therefore, people *in* favor of the principal are grated access and benefits, those outside are denied access, an ear a fair hearing of their offerings, and advice is utterly disregarded."

From the school leaders, that have implemented professional learning communities, there are instances that teachers are reporting a lack of follow up, when having the staff engage in activities. The teaching staff does have a need for validating their efforts. As one teacher from Los Angeles County School 6 stated, "There is little follow up from the principal, or checking and assessing the if the activities that we engage in are effective." A different teacher from Los Angeles County School 6 also

stated, "Although the staff is consistently discussing school issues, I am not sure those discussions lead to any real change."

Teacher leadership did having a varying degrees among the schools interviewed. It was rarely mentioned in the interviews, and the role that the teacher leaders played in the schools and team meetings. However, a reoccurring theme among some of the respondents did address the role of the leader when asked about information being sought on collaboration and professional development, the strengths and weaknesses of both, and discussing with others about their collaboration. The teacher from Clark County School 1 stated, "My *team* is not. Our *leader* is the least experienced, but best loved by the principal." A teacher from Los Angeles County School 6 reported, "When I spoke to a friend from another school, she said that she was on the teacher leadership team. As far as I know there is no teacher leadership team at my school. There are department heads, but they are not leaders." A teacher from Los Angeles County School 5 gave different responses because she intimated that she was a teacher leader, "I observe the teachers in their classrooms at least once a week, and provide them with feedback. They seem to be glad to have the feedback to reflect on their teaching. I also mentor several teachers in my department. I do this all on my free time."

From how the teaching staff viewed the school leader, it seemed that the teachers felt that a transformational leadership style would promote and sustain change at the school. Based on the characteristics that the teachers reported that their school leaders were lacking or possessed, the transformational leadership style theme emerged. Transformational leaders have four elements: individualized consideration, intellectual stimulation, inspirational motivation, and idealized influenced. Individualized

consideration means to the degree to which the leader attends to each follower's needs.

Ways a leader demonstrates this is my communicating, having transparency, celebrates

the individual contribution that each follower makes, and is empathetic. Intellectual

stimulation is the degree to which the leader challenges assumptions, and solicits

creativity in their followers. The followers are asked of the leader to find better to do

things. Inspiration motivation is the degree to which the leader articulates a vision that is

appealing and inspiring to the follower. The vision must be understandable, precise,

powerful, and engaging. Idealized influence is where the leader provides a role model for

high ethical behavior, which instills pride, and gains respect and trust among the

followers (Bennis & Nanus, 1985). Obviously, the aforementioned accounts from the

teacher at Clark County School 1 support the antithesis of what defines a

transformational leader. The Clark County School 1 teacher did expand on the weakness

of the PLC at her school as she said, "My principal is steeped in her own psychoses.

She's a child of an alcoholic, and she thinks this gives her some insight, but she's based

the entire response to bad behavior on *one* relationship that lead her in a better direction.

So, there is no follow-through on behavior on classroom failure or disruptions." The lack

of leadership demonstrated by the principal is not an isolated occurrence as the teacher

from Los Angeles School 11 stated, "We have two co-principals. They are rated the

lowest performing of all eight high schools in the district and provide little to no

leadership whatsoever. It is sad. One is retiring, but the other may still be with us."

Theme Two: Resource Allocation to Support Collaboration

Theme two emerged from the interviews that were conducted. Resource

allocation, although a prevalent component when implementing any new programs, but

especially professional learning communities and collaboration, was not anticipated to be coded. However, the allocation of resources emerged throughout the interviews. This theme does have the most correlations to other themes, and was considered not to be a theme, but mentioned how resource allocation came across in strategic planning and collaboration (theme three) and professional development (them four). However, it was determined that the allocation of resources needed to be addressed because of the variety of the resources.

As teachers viewed the allocation of resources, they determined that there were two groups: time and money. One teacher did speak about values of the school leader, which is the premise of the allocation. He said, "The new principal does not value PLCs so it's not as much of a PLC as last year".

Teachers did mention the need for time. Time to meet does drive theme three, which is strategic planning and collaboration. However, by looking at these statements with the perspective of allocation of resources, and school leaders allocate resources based on what they see as a value in education, it does provide an interesting perspective. One of the teachers at Los Angeles School 6 stated, "There is no time for teachers to collaborate on curriculum, which is very valuable. Also, the time given is often too short. When working in groups you need *time* for all voices to be heard, considered, and incorporated. Another teacher in Clark County School District did give a different perspective to the allocation of team as she stated, "We are ordered to spend time weekly together."

When concerning money, teachers do have different views on how to spend it than principals do. Although, some teachers are willing to go above and beyond with no

monetary compensation, for example the teacher mentioned above from Los Angeles County School 5. She was willing to observe classes, mentor teachers, and provide meaningful feedback all on her own time. One would hope that the school leader valued this extra effort, however, school leaders allocate resources based on their values. The teacher at Clark County School 1 had differing views from her principal on how money should have been spent, "My principal would not spend $750 for a student program that was necessary and most of the staff felt could benefit the school."

Theme Three: Strategic Planning and Collaboration among Teachers

Theme three emerged from the combination of the code words, identifying the activities the teachers engaged in. The topics in this theme are: lesson planning, data, and structures formed to create and enhance collaboration. There are overlaps with this theme and themes two and four. The code words used are in the following table.

Table 33

Code Words for Theme Three

Code Words
Collaboration
Depend
Common assessment
Student data
Benchmarks
Lesson planning
Norms
Trends
Status reporting
Patterns in student data
Curriculum mapping

Several of the teachers discussed lesson planning among their collaborative teams. One teacher from Orange County School 2 was extremely enthusiastic about the discussing the endless possibilities of lesson planning. He stated, "We meet twice a

month and we work on creating universal benchmarks, sharing ideas and best practices.

Participating in the PLC allows me to pull on not just my own abilities and references;

I'm able to pull on five other teacher's references and experiences. It's kind of like a

megabrain if you will, where I'm able to gain greater insight from the other teachers.

Take for example; I'm able to tap on people who know more about South American early

civilizations, where I'm able to provide insights in Middle Ages history." Unfortunately,

when it comes to lesson planning, not every teacher is having the same experience. The

teacher from Clark County School 1 reported, "Our 'department' is getting district pacing

guides for core curriculum at the end of the year for next year. Actually, this should

work reasonably well. However, the ideas that curriculum mapping suggests consensus

and coordinating laterally as well as vertically, that not happening here yet." The teacher

goes on to state, "We have been told to move in 'lock step' with the teacher that has the

'accelerated classes, disregarding the needs of our own students." The teacher at Long

Beach Jordan seemed frustrated when she said; "Products for curriculum design and

Linked Learning were created but not always implemented by everyone on the team.

Students are *very* often misplaced in classes, with no thought as to the PLC's master

schedule or Academy purity.

There was a lack in response regarding student data. It was anticipated by the

researcher that several of the instances and examples provided by the responding teachers

would be about student data. However, the majority of responses were about lesson

planning. The teacher from Clark County School 1 reported, "Our data, we have used

every form of measurement, but never measured the consistently same elements

throughout the year. We have used separate 'tests' to demonstrate growth, and they can't,

they only demonstrate the skill level of the thing they measured. Had we have the skills, we would measure specifically, we could have developed tests that measured that thing many ways, and demonstrated growth or lack of growth. Instead, we have a dozen reports that don't *mean* anything." The teacher goes on to state, "My principal does not understand data. How can I say that? Because I had a peer who did, described the types of selections that had to be made to effectively use data before the 'gathering' began. We produced lists and reports, but there is no common thread that could be garnered from these reports."

The third topic in this theme is the structures that are in place to foster collaboration among teachers. There are varying accounts of the presence and lack of structures that are conducive to collaboration among teachers. One of the teachers from Los Angeles County School 6 was considered to be a nonuser as labeled by the LoU as she stated, "To my knowledge, we have not started a formal teach collaboration process." The teacher from Clark County School 1 stated, "I have a couple of my peers with whom I can share material, ideas, and project development. Not a department." There was a similar finding at Los Angeles County School 11, "Department team for me means my PLC, not my content department, which is totally non-collaborative. Our PLC, however, is highly collaborative." The same teacher went on to say, "The only collaboration seems to be teacher to teacher within the same narrow discipline or in PLCs." The teacher in Orange County School 2 provides a completely different picture on how he views himself in teacher collaboration and the strengths of a PLC, "Our professional learning community works very well. We work so well, we have set norms that we've had for several years now, and we are really in sync in how we collaborate and come together.

We are able to depend on each other, it's pretty cool." Obviously, there are varying degrees of views on how collaboration among peers is occurring at each school.

Theme Four: Professional Development

Professional development was brought up at certain schools. Teachers do have an opinion of what type of professional development they receive and participate in, however, they seem to have little choice. This is a theme that was not anticipated, but emerged as a separate them from the interviews. The code words that emerged from the interviews are presented in the table below.

Table 34

Code Words for Theme Four

Code Words
Bottom-up
Cross-grade
Cross-curricular
Stand-alone event

The two schools that mentioned professional development in a formal setting, and not the collaborative meetings with peers, which is also a form of professional development, were Clark County School 1, Los Angeles County School 5 and Los Angeles County School 11. The examples that were mentioned in Los Angeles County School 5 with the mentoring and classroom observations were of a positive and proactive nature and were mentioned in theme one. The teacher from Clark County School 1 spoke of what could have been a very valuable professional development, but ultimately fell short of her needs as she stated, "We did have a couple of book studies that did permit the kind of cross-grade, cross-curricular planning, but it was all 'theoretical' rather than application." The same teacher goes on to report regarding a different professional

development endeavor, "We spent thousands on a one-day, stand-alone event, then didn't do any of the follow up. One hundred students, ten teachers out for a day, with subs, plus the $6000 to bring in the leaders of the program, how is this justified in economic times such as this?" The teacher from Los Angeles School 11 seems frustrated at her new school as she reported, "I am a former coach for my content, both in district and as a consultant for 8 years for UCLA & LACOE, I have worked to develop very collaborative departments and to see the lack of 'bottom-up' professional development and collaboration at my new school is very frustrating."

Summary

As a result of the inattention schools have had in organizational change, this study seeks to specifically identify the change attributes used by a school in implementing a PLC in a traditional school that yielded a sustainable program.

This study revealed a wide array of information about the implementation of PLCs in a variety of schools. Each of the findings first addresses each of the research questions and the trends and patterns that resulted from them. Within each of the research question findings, the quantitative analysis is presented first, followed by the qualitative evidence that supports those findings. There are findings that resulted from the additional analyses, where the SoC school profiles were generated that reveal considerable inconsistencies with the literature on PLCs and the actual measured results. Finally, the findings from the qualitative analysis are presented that are additional findings to the research questions that provide greater insights into the culture of the PLCs at these schools.

Summary of the quantitative findings. The following sections provide a summary of each of the findings in this study. The findings provide an interesting aspect to this study. For each research question, a finding is provided. They are presented below.

Finding #1. Strong leadership characteristics are a strong component to transforming a school into a professional learning community or collaborative system. Schools that transitioned from traditional schools to collaborative systems relied on leadership characteristics the most. The two schools that did not rely on the leadership characteristics were Clark County School 1 and Los Angeles County School 11, having the lowest scores for leadership characteristics. Both of these schools participated in the interview protocol, and their responses supported this finding.

Finding #2. Over all of the schools, there was no relationship between the level of implementation and the beginning activities a school engaged in to successfully implement professional learning communities. There is one exception, and that is Rock County School 1. Otherwise, all of the schools indicated no relationship.

Finding #3. There was found to be no relationship between the beginning actions a school can engage in to increase the level of use of a PLC or teacher collaboration system among the teaching staff according to this study. According to the analysis, no relationship could be determined. There is a moderate correlation between the authenticity of the PLC or team-based collaboration and the level of use of that PLC or collaboration among teachers in their daily practice.

Finding #4. There is a relationship with the change factors a school can engage in, except for normalizing classroom practice, when implementing professional learning

communities and the five principles Hord (1997) identified as being the domains of a

professional learning community and they are: shared and supportive leadership, shared

values, collective learning, supportive conditions, and shared personal practice.   With the

change factors used except for normalizing, the change process is most likely to yield a

school that has the five traits of being a professional learning community.

Summary of the additional analysis findings. The researcher created school

profiles of the stages of concern for each school and found significant trends among the

schools. The findings were derived from the additional analysis. A summary of the

findings is presented below.

Finding #5. The trend was that all of the schools except for Los Angeles County

School 6 had low concern for the impact that their work outside classroom had on their

students. This is one of the most interesting findings from this study. Professional

learning communities are based on student response, and all but one school is concerned

about that.

Finding #6. Most of the schools who claim to be a PLC at their school, their

teachers are virtually nonusers of that innovation. Most teachers at the schools that were

surveyed are nonusers of professional learning communities. As a result, the school as a

whole essentially does not have a PLC at their school.

Finding #7. Teachers, more often than not, have ideas to ratify the PLC or

teacher collaboration system, or to completely dismantle the system all together. This is

one of the danger areas when a change initiative has occurred. In addition, this is the

most detrimental finding according to the instrument.

Summary of the qualitative findings. Qualitative data were systematically analyzed during this study. Data collected from teachers selected for the interview portion of this study were recorded, transcribed, charted and then entered verbatim into a database. The researcher prepared charts to post the responses from the field notes color-coded by themes on chart paper. The researcher listened to the audiotapes several times prior to transcribing the tapes for data analysis. Next, the researcher coded the interviews. Creswell (2009) described a thematic analysis, where searching for patterns and themes in the data brings understanding. The preliminary themes were generated before the study began and can be viewed in Table 5 at the end of Chapter 3 from existing theory and literature. Although the research was aware that themes that may emerge that were not foreseen and inductively generated from transcribed interview data describing the internal and external factors that impacted professional learning communities and teacher collaboration within the schools that participated in this study.

Finding #1. Professional development must be meaningful for teachers to use their time and effort to engage in them. Several teachers reported that professional development was not meaningful to them. Professional development must have meaning in the teacher's current practice.

Finding #2. To ensure meaningful collaboration, curriculum mapping or pacing guides must be created by the collaborative teams and adhered to by them. If teachers are going to be doing collaborative work, they must be doing the same work in their class. There was a vast absence of not having a pacing guide compiled by all of the teachers in the department.

Finding #3. There must be quarterly evidence taken that essential standards are being taught and students are learning those standards. Professional learning communities are results-driven entities. Several schools and teachers do not collect this meaningful data.

Finding #4. Transformational leadership style is the key to leading the transition from the traditional school model to a collaborative one. This leadership style emerged from the negative findings at the schools. The characteristics that teachers recited during this study are the exact opposite of the characteristics of a transformational leader.

Finding #5. Creating explicit shared commitments is one of the most successful tools available to those pursuing to implement professional learning communities in their schools and districts. The finding was that there is a lack of having a shared commitment among the teaching staff. The essence of *our students* never came across in the implementation phase of these schools. Instead, there remain, isolated teachers, in isolated classrooms, instructing isolated lessons and the power of collaboration is lost.

This chapter presented the findings associated with this study. Quantitative and qualitative methods were used to address the four research questions that were presented in Chapter 1. Each of the different metrics provided unique insights into the cultures of each of these professional learning communities and collaboration among teachers.

The data clearly demonstrates that each school has a different culture. Each of the change factors impacted each of these different cultures in different ways. There was no relationship found between stages of concern a teacher experienced and the change factors a school employed to move from a traditional model to a collaborative one. There was no relationship between the change factors and the level of use of the PLC teacher

collaboration program. There was evidence that there is a relationship between the level of use and the authenticity of the PLC or teacher collaboration program, which does provide insights into the implementation of each of these programs and communities.

One of the most insightful tests performed in this study was the Other Quantitative Analysis. This test generated school profiles from the SoC Questionnaire and depicted how each school viewed their professional learning community. There was a growing trend of low concern for student impact when participating in PLC and collaboration meetings.

To enlighten the findings from the quantitative analyses, qualitative analysis was examined. This included thematic analysis, where themes were drawn from the interview transcripts. Four general themes emerged in response to the research questions, they are: (a) supportive and shared leadership, (b) resource allocation to support collaboration, (c) strategic planning among teachers and collaboration, and (d) professional development. One of the main themes that emerged from (a) supportive and shared leadership was the need for a transformational leader to guide the transition from traditional school to a collaborative one.

A number of recommendations for practice and further research were drawn from the findings and are presented in Chapter 5. The findings are enlightening to what schools are doing in the name of professional learning communities. The following chapter also presents conclusions that were drawn from this study.

Chapter 5 Summary, Conclusions, and Recommendations

This section provides conclusions that were drawn from the findings in the previous chapter, recommendations for practice and implications for the future, as well as suggestions for future research. This final chapter ties in the literature review, the data gathered, and the analysis. The information is presented below.

Purpose of the Study

In the present school climate, high accountability under the No Child Left Behind (NCLB) Act of 2001 has left schools with debilitating pressure to improve student achievement and close the achievement gap. The No Child Left Behind Act of 2001 (NCLB, 2002) has set the goal of having every child in the United States perform at grade level on state benchmark tests by the end of the 2014 school year. As a result of the pressure, schools are asked to reflect on their teaching practices to improve student achievement in their classrooms. In this reflective process, teacher collaboration becomes an integral tool. Collective decision-making between teachers and administrators is another strategy schools have taken in order to increase student achievement (*No Child Left Behind: A Toolkit for Teachers*, 2004). Both teacher collaboration and collective decision-making are indications that schools, which are very complex, must take on a community approach when addressing the pivotal issue of closing the achievement gap (Hord & Sommers, 2008).

One way a school can begin to address issues and concerns using a community approach are by adopting a professional learning community model (PLC) as a means of operating. Fullan (1993) indicated that the best manner in which to close the achievement gap was to have principals operate schools as professional learning

communities, and in fact this was the best hope for school reform. Lieberman (1995) suggested that the perceived role of principals needed to change as "the 1990s view of leadership called for principals to act as partners with teachers, involved in a collaborative quest to examine practices and improve schools" (p. 9) as an imperative manner to re-culture a school into professional collaboration. Lezotte (1997) also noted that effective schools had principals enter a shared leadership model of leading rather than lead with a top-down approach.

While several studies and books exist about professional learning communities and their potential impact, there is little to no literature and studies on what implementation factors are responsible for yielding a professional learning community that frequently engages into student achievement and teacher practices and refines itself based on those findings. This study looks at what organizational change principles can a school adopt to yield a highly-functioning professional learning community. In addition this study will identify the cultural norms that must be incorporated to make the professional learning community sustainable.

The significance of this study is to profit educators, legislators, district leaders, school leaders, and educational reformists into the insights of implementing professional learning communities. This study sheds light on how collaborative educational teams can work more effectively, how school leaders can cultivate shared leadership, and how educational reformists can implement change at the school level. Since professional learning communities provide a successful avenue to close the achievement gap, it is imperative that a study explore what implementation factors are integral in forming a

community where student results are discussed and teacher practice is modified based on those findings

Conclusions Based on Quantitative Results

The researcher collaborated with a number of principals and superintendents across three states to acquire this data using surveys and interviews. Ultimately 117 surveys were collected from 16 different schools. Varying percentages of the teaching staff were collected from each school. Six interviews were conducted from five schools, two teachers coming from the same school. These schools ranged from elementary to high schools; private, to public to charter schools; wide range of API and AYP scores; and a wide range in students that all of these schools serve.

The content validity of the instruments used were documented by George et al. (2006) for the SoC Questionnaire and the LoU interview protocol and redocumented by the researcher. This researcher to establish inter-item reliability for all five subscales for the Authentic Professional Learning Community Cultural Assessment and for all four subscales for the PLC Change Assessment computed Cronbach alphas. The researcher determined that they surveys had high inter-item reliability.

Descriptive statistics were used to look at what change factors a school used to transform a school from a traditional school to a professional learning community. For Research Question #1, the purpose was to identify what factors in the change process affect a school in moving into an authentic professional learning community based on the five principles: shared beliefs and values, shared and supportive leadership, collective learning, supportive conditions, and shared personal practice. This question is used to identify what beginning actions or the change factors a school employed to move from a

traditional model to a collaborative system as defined by Hord's (1997) five principles of

a professional learning community. This research question is descriptive in nature and

does not use inferential statistics to analyze between groups, but rather to identify and

summarize efforts used by school leaders to implement professional learning

communities and teacher collaboration models. The purpose of this research question is

to identify factors in the change process that were used to transform a school from

traditional practices to collaborative ones.

The change factors or beginning actions that were identified by the literature

were: leadership characteristics, normalizing classroom practice, use of artifacts to make

cultural shifts, and making cultural shifts. These factors were chosen deliberately

because they are cultural change factors, not structural ones. These are the soft skills and

tacit actions that influence and facilitate change.

Substantive and sustainable change cannot occur in an organization if

improvements are not anchored in the culture of that organization. As Barth (2001)

wrote:

> The school's culture dictates, in no uncertain terms, "the way we do things around
>
> here." Ultimately, a school's culture has far more influence on life and learning
>
> in the schoolhouse than the state department of education, the superintendent, the
>
> school board or even the principal can ever have…The culture is the historically
>
> transmitted patter of meaning that wields astonishing power in shaping what
>
> people think and how they act. (pp. 7-8)

It was found that leadership characteristics demonstrated by the school leader or

in most common terms, the principal played the strongest integral role in transitioning the

school to a PLC or collaborative system. Dufour et al. (2008) posed the question of what

do principals *do* to transform cultures at their schools. Dufour et al. (2008) go on to ask,

"Do they resort to 'tight leadership'—imposing a new regimen and demanding that

employees adhere to the direction that has been established from the top?" (p. 105).

Dufour et al. (2008) also provides an alternative approach of "loose" (p. 105) leadership

to encourage followers to pursue independent interests and endeavors in the belief that

the freedoms of autonomy will inspiration its own change (p. 105). Fullan (2005) argues

that when dealing with large-scale school reform, that neither strategy works as he stated:

> Top-down change doesn't work because it fails to garner ownership, commitment,
>
> or even clarity about the nature of the reform. Bottom-up change—so called let a
>
> thousand flowers bloom—does not produce success on any scale. A thousand
>
> flowers do not bloom and those that do are not perennial. (p. 11)

Dufour et al. (2006) clearly stated that those schools who provide autonomy of its site-

based decision-making to its teachers, are no more likely to have those teachers engage in

serious professional dialogues about matters directly impacting teaching and learning

than those schools who are supervised with rigid, micromanagement style leadership.

Dufour et al. (2006) found that the "most fertile ground for cultivating PLCs" (p. 107) is

found in school cultures that are concurrently loose and tightly managed. Dufour et al.

(2006) go on to explain that the foundations of shared purpose and the boundaries that

teachers are expected to operate on a daily basis are consistently managed, assessed, and

observed. However, the latitude within each of those boundaries provides each of the

individuals the opportunity for collective innovation, empowerment, and autonomy.

From this, ownership of the transformation is cultivated, buy-in in the new endeavor increases, and overall satisfaction is observed (Dufour et al., 2006).

The instrument used to measure leadership characteristics and the other change factors in this study were the PLC Change Assessment. Many of the points regarding leadership that Dufour et al. (2008) highlight are supported in Marzano et al. (2005), which the instrument is based on. It was determined from the Professional Learning Community Change Assessment that several schools were relying on the leadership of the principal to ensure the change. For example, schools such as Los Angeles County School 2 ($M = 29.5$), Los Angeles County School 12 ($M = 31.6$), and Orange County School 2 ($M = 29.6$) in the leadership characteristics category of the PLC Change Assessment scored exceptionally high. These schools had strong leaders in the principal role, as well as shared the leadership among teacher leaders.

Marzano et al. (2005) does identify the loose-tight relationship when transforming an organization, however, there are specific actions that a leader can administer when leading change. First of all, the leader must be knowledgeable in the curriculum and instruction for all grade levels and subject areas taught at that school. As the teacher from Clark County School 1 stated, "My principal did not know that our ELA had developed new standards the year before." The principal must be knowledgeable about the standards taught at the school. Secondly, the leader must be the driving force behind the PLC or teacher collaboration initiative and foster the belief that it can produce exceptional results if all of the staff are willing to apply themselves. This is identified as the Optimizer trait by Marzano et al. (2005). The leader must challenge the status quo and be willing to move forward on the PLC implementation without a guarantee of

success as described by the Change Agent responsibility identified by Marzano et al. (2005). Marzano et al. (2005) also noted that the success of the implemented PLC must be continually monitored. Dufour et al. (2008) and Marzano et al. (2005) both touched on how the principal must be flexible during the implementation of a PLC and by being both directive and nondirective in relation to the PLC does increase rate of success for the implementation phase. Finally, Marzano et al. (2005) identifies the necessity for operating in a manner consistent with their beliefs and ideals relative to the PLC.

The researcher, to determine the relationship among the instruments and the variables each instrument measured, computed regression coefficients. The first of the regression analyses was to explore the relationship between the change efforts a school employs to implement professional learning communities and stage of concern a teacher has in regards to the professional learning community. The stage of concern was measure by the SoC Questionnaire and measured the level of implementation. Ultimately, it was hypothesized that the higher the number of change efforts a school employed the higher the level of implementation would be found, and would be indicated by a positive direct relationship between the two instruments.

The level of implementation was measured by the stage of concern questionnaire (SoC Questionnaire), and is based on the premise that the higher-level of concerns a teacher has about an innovation, the higher the level that innovation is implemented at. Research Question #2 sought to answer the question if a school participates in beginning actions identified by the literature, would that bring a higher level of implementation and ultimately a successful school reform. From the schools sampled, there may be successful school reforms at each of them; however, from the evidence that this study

collected, there is no relationship between beginning actions and having a successfully implemented school reform. The total sample population regression coefficient is 0.0033, and was not found to be statistically significant to zero. Again, there was no evidence that supports the beginning actions identified by the literature have an effect on the stage of concern of a teacher, who is a practitioner of a PLC.

The first part of Research Question #3 examined the relationship between the change factors to implement PLCs and the level of use of that PLC in teachers' daily activities. The instruments used were the PLC Change Assessment and the LoU interview protocol. The LoU protocol is another measure of the level of implementation of an innovation, and in this case the level of implementation of PLCs and teacher collaboration systems. There is a small sample size, however, the regression coefficient is very low ($r^2 = 0.0022$).

Based on the findings, across the board, it became apparent that teachers needed additional practice, training, and review of how the PLC innovation was to affect their teaching. Based on the correlation data documented by George et al. (2006), they stated, "While a number of factors can positively or negatively impact the implementation of an innovation, Newhouse (1999) found LoU to be strongly correlated with the nature of the curriculum" (p. 39). That is to say, if the curriculum that a teacher instructs directly supports a particular innovation, then it is more likely to be implemented. That is also to say the converse, if the innovation is merely an addendum to the curriculum, which many teachers view as a PLC or teacher collaboration program; it is less likely to be implemented on a broad basis (George et al., 2006).

Additionally, the LoU User Manual does warn that teacher attitude do have a strong impact in the results of this instrument. George et al. (2006) cite an account from Graber (2005) were cuts to special education were imminent at a school district. However, despite the reduction in staff, teachers were asked to reflect and provide examples of how they teach and meet the needs of their students using a new innovation. Teachers' attitudes were ones of frustration and angst, and the results of the implementation of the new program were convoluted with external factors that were only true during the time of the measurement, and the findings therefore would not transcend to future years.

The second part of Research Question #3 looked at the relationship between level of use of a PLC or teacher collaboration system and the authenticity of the PLC culture. Although the relationship was not statistically significant, there is a moderate correlation between these two variables ($r = 0.5899$). With a larger sample size, the potential of showing a relationship between these two variables is promising. The instruments used to measure these variables were the Authentic Professional Learning Community Cultural Assessment and the LoU interview protocol.

A correlation was used to analyze this research question, and that proves to be correct because there is not causal relationship. As Dufour et al. (2008) indicated that attitudes *follow* behavior. That means that people begin to accept new beliefs as a result of their changing behaviors. That is to say that as the level of use of PLCs became more evident in the teachers' daily practice, their attitudes and beliefs measured by Authentic Professional Learning Community Cultural Assessment increased.

Research Question #4 aimed to look at the relationship between the beginning actions a school takes to implement PLCs and the resulting culture from those actions. This study aimed to look at what specific strategies a school could employ to create sustainable professional learning communities.

An authentic learning community is defined by Hord's (1997) five domains of professional learning communities. Shared personal practice is one of the domains of a professional learning community as defined by Hord (1997). This domain was also measured by the Authentic Professional Learning Community Cultural Assessment and is considered to be integral in a professional learning community (Schmoker, 2006). Accepting responsibility for the learning and development of not only oneself, but likewise the learning of all the members is the central element of a professional learning community. Collective learning is a useful approach in designing and restructuring social aspects of a community. The elements of this concept are mutual respect, deprivatization of practice, and discussions that yield a shard vision and team learning. In addition, the deprivatization of practice requires a knowledge base of group theory or skill sets need to work in collaborative settings (Kilbane, 2009). However, this concept among schools was rarely reported occurring in schools.

Research Question #4 sought to answer the question of how to create sustainable and authentic learning communities in schools. Leverett as cited in Blankstein et al. (2008) asked the same question,

> Sustainability of change and innovation in schools and districts is a perplexing
> problem that has caused me many sleepless nights. The pursuit of sustainability is
> a core challenge that continues to haunt me and others who have worked with

passionate, committed individuals, groups, and organizations interested in doing the right thing for students. We wrestle continually with these questions:

- What is it that makes sustainability so elusive in schools, districts, and communities?

- What are the leverage points that increase the probability that educationally sound innovations can survive the unexpected, unplanned challenges to sustainability?

- Is it possible to achieve sustainability, given the frequent staff and leadership turnover experience in school districts? (p. 121)

Dufour et al. (2008) argued that reculturing a school is the only way to have the changes and innovations to be sustainable. They also warn that reculturing a school is extremely difficult, and provide insight to the system of reculturing:

- The culture of an organization is found in the assumptions, beliefs, values, expectations, and habits that constitute the norm for the organization.

- Creating a PLC in a school or district requires—and, in fact is synonymous with—changing the culture (that is, reculturing).

- Reculutring is extremely difficult, and neither top-down nor bottom-up strategies have proven effective in reculturing schools or districts.

- The most powerful concept for bringing about the necessary transformation to become a PLC is the concept of simultaneously loose and tight culture. (pp. 107-108)

Dufour et al. (2008) provided insight into the way to reculture a school. By first changing the behaviors a school engages in, the assumptions, beliefs, and values that the

teachers have slowly begin to change. The findings for Research Question #4 provide the

beginning actions a school can take to yield an authentic collaborative culture at a school.

Those beginning actions are leadership characteristics, use of artifacts to make cultural

shifts, and making cultural shifts.

Table 27 illustrates these conclusions that are drawn from the findings. For the

total sample population, the change factor, Leadership Characteristics had a positive

effect on the authenticity of the PLC culture ($r^2 = 0.1132$, $p = 0.000$) and was statistically

significant from zero. Use of Artifacts and Making Cultural Shifts follow the same

pattern with coefficient of determination equaling 0.0528 and 0.0193 respectively, and

the p-value equaling 0.000 and 0.0093 respectively. The only change factor that did not

contribute significantly to the authenticity of the PLC culture was Normalizing

Classroom Practice. Normalizing Classroom Practice seemed to be an under-utilized tool

in the PLC repertoire.   Normalizing Classroom Practice includes observing other

teachers teach the same lesson, providing feedback to peer teachers, identifying best

practices, and pedagogical tenets in collaboration meetings. The following explains

Leadership Characteristics, Use of Artifacts, and Making Cultural Shifts more explicitly.

The PLC Change instrument measured leadership characteristics as being

knowledgeable about the curriculum, challenging the status quo, and monitoring

effectiveness. The instrument also measured the leader's ability to communicate their

beliefs and ideals to the teaching staff and providing the teaching staff with a current and

relevant curriculum that has meaning. Leaders also must be flexible, and challenge the

teaching staff to innovate.

The PLC Change instrument measured the use of artifacts to make cultural shifts as providing supporting documents to assist in the transformation of the school. The instrument asked teachers if meeting agendas were provided for staff and team meetings in advance, if pacing guides were developed by the teams to facilitate a common curriculum, and if each school created a set of teaching goals. Evidence of the teachers' work in taking on the new norms should have been documented in the school's improvement plan for the following year. The master schedule for the school must also align with the work and values of the teachers, as the structures begin to facilitate the teachers' behavior.

The PLC Change instrument measured making cultural shifts by communicating values and views from the teachers to the principal. Celebrating short-term success was a key component in identifying what the school values. These three change factors were identified as contributing to an authentic, team-based collaboration system that was based on the five domains of a professional learning community.

Another important insight from the data came from the Additional Analyses section. As the school profiles were generated, all but one school (Los Angeles County School 6) had a significant decrease when teachers were concerned about their collaboration efforts having an effect on their students. One of the missing components of the schools that engaged in collaborative-team based professional development and PLCs was identified by the school profiles generated from the SoC Questionnaire. That was the lack of impact the teachers were concerned about when engaging in team meetings. For what purpose are the teachers engaging in these exercises, if they are not

concerned about the impact is on the students? Schmoker (2006) identified this pattern too:

> Unfortunately, most so-called "teamwork" lacks these essential features. There are dangers here. Decades ago, Judith Little (1987) found that most team talk floats high above the level of implementation: "distant from the real work in and of the classroom" (p. 507). Instead of closely and constructively examining practice, most teams serve to "confirm present practice without evaluating its worth"—in other words, without using short-term assessment results as the basis for improvement (Little, 1990, p. 517). Almost 20 years later, the situation hasn't changed. Little and her colleagues found that teams continue to discuss "wide-ranging issues" instead of looking closely and analytically at teaching, and at *how their teaching affects learning* on an ongoing basis. (pp. 107-108)

Conclusions Based on Qualitative Results

Based on the responding teacher interviews, the researcher arrived at the following conclusions: professional development must be meaningful and useful, there must be evidence that students are learning, curriculum maps and pacing guides must be used by each of the collaborative teams, transformational leadership is the best style to lead a school into PLCs, and having a shared commitment is the most successful manner to implement PLCs. Based on the comments made during the individual interviews, it appears the DuFour model for PLC implementation, expectation and vision setting from the principal at each school, supported by funding for training and staff development is the manner in which these schools should follow.

Professional development must be meaningful and useful for the teachers. This was especially apparent with the individual accounts from the teacher from Clark County School 1. Schmoker (2006) warned:

> We have relied far too much, with miserable results, on a failed model for improving instructional practice: training, in the form of workshops or staff development. Despite the millions of teacher-hours we've invested in such training, it has, by common consent been monumentally ineffective." (p. 108)

Guskey (1986; 2003b) portends that it is crucial that professional development in which teachers gain new knowledge of research-based innovations be quickly followed by a length of time in which teachers are allowed to practice the innovation in the classroom, with the support of a coach who is available to answer questions and model the new methods. The same model must be employed when teaching teachers new skills in the form of collaboration, using data to guide instruction, and creating pacing guides in a collaborative setting.

To have common practice, common instruction must exist. However, Los Angeles County School 11 and Clark County School 1 both cited situations where normalizing classroom practice was not created or if created, not endorse in every classroom. Schmoker (2006) that pacing guides be created by each team:

> It doesn't matter what we call this work or its final product—a "curriculum map" or a "pacing guide." But it must reflect serious attention (not lockstep conformity) to the best state-assessed standards and to intellectual engagement— to the power standards at the upper end of Blooms taxonomy. (p. 129)

One of the most alarming findings in this study was that student data were hardly collected, and if collected, not analyzed properly. In the positive case of Orange County School 2, the teacher spoke at length about creating lesson plans collaboratively with other teachers, but gave to example of analyzing student data or reteaching certain standards based on those findings. If results were collected, there was no intervention to reteach gaps in instruction and learning. Schmoker (2006) clearly stated:

> These reviews provide an occasion for teams to demonstrate that the essential, agreed-upon learning outcomes are being taught—and how successfully—per the results on common, formative assessments. They also provide an opportunity for teams to reflect on results, discuss problems, and ask for support from the leader or administrator on a frequent, timely basis. (p. 130)

Evidence-based inquiry into connections between practices and student learning provide the engine that motivate and deepen teachers' reform work and community (Stoll & Louis, 2008). There should be a constant monitoring of student progress, involving action inquiry. The focus of the inquiry should be focused on the skills, knowledge, and behaviors specified from the common goals.

One of the themes stemming from the qualitative analysis was the importance of having a transformational leader to guide the transition from traditional school to collaborative one. This did not come from a positive identification from the interviews as they described their school leaders, but this theme emerged from what the teachers viewed that their school leaders lacked. A transformational leader is characterized by the ability to bring about significant change in both followers and the organization by leading with vision, strategy, and culture. Transformational leaders also support innovation

among their followers. The transformational leader leads with the focus on intangible qualities, as vision, shared values and ideas in order to build relationships, bring a broader meaning to the proposed change (Bennis & Nanus, 1985). This type of leadership style seems similar to the loose-tight leadership Dufour et al. (2006) suggested to lead the reculturing of a school into a PLC and the flexibility component Marzano et al. (2005) suggested leading change. There are elements of shared vision and values, which both Hord (1997) and Dufour et al. (2006) state that must be present in PLCs.

For the exception of Orange County School 2, there was little evidence that suggested that a school system's vision for a professional learning community was infused in every aspect of its implementation indoctrination, in the principals ideals and beliefs, nor in the teacher-leaders at each school. There seemed to be a negative transformation in Orange County School 2, when the new principal took over. Speaking solely for Orange County School 2, there was a noticeable shift in the culture at that school. Although the new principal entered the school with a collaborative system, the leadership seemed to shift from the prior principal embracing teacher-leaders to the new principal who is hoarding leadership and not valuing collaborative teams.

Recommendations for Practice and Implications for the Future

The research results document several areas for program improvement among all of the schools. Other schools and school districts considering implementing professional learning communities could benefit from this research. Larry Leverett stated in a book edited by Blankstein et al. (2008) that certain components to implement and sustain PLCs in today's educational climate. They are:

- Establish a diverse critical mass of staff and stakeholders with a strong commitment to mission.

- Build on this commitment by using pressure and support—pressure to communicate clear and consistently held expectations, and support to help staff to meet the expectations.

- Display zero tolerance for alibis, excuses or exceptions!

- Build community participation and engagement to broaden the base of understanding and commitment beyond the boundaries of the school district.

- Partner with higher education and experts in the field to guide and support the work.

- Maintain fidelity to evidence-based practices and processes to assure consistency across district schools.

- Allocate time and money on a sustained basis to support multi-year implementation.

- Integrate PLC belies and principles into all aspects of school district operations.

Distribute leadership opportunities without regard to appointed or formal position and hierarchy. (p. 126)

The following implications for practice for this study include:

Recommendation #1. It is the recommendation that each of these schools partner with a college or university's department of education and create their own professional learning community. The college or university departments can assist in guiding these schools with creating pacing guides, problem-solve classroom issues

collaboratively, and broaden the learning community and draw on a different set of strengths. From the assessments and instruments, each of the school's culture would benefit from looking at their school with a different set of eyes.

Recommendation #2. The leaders of the school, whether members of the leadership team, the department heads, or the administration must conduct at least one unannounced classroom walk through each month for each teacher. The observer will look for school-wide patterns of strengths and weakness in regard to instruction being clear and focused on essential standards, college preparatory, critical and higher-order thinking, reading and writing skills. There should be evidence of the essential elements of an effective lesson (Schmoker, 1999).

Recommendation #3. Data must be the driving force in academic priorities. These goals that each school wishes to attain, should be measurable and tied to an assessment. Each assessment therefore should have the appropriate support of resources when the goal is attained or not.

Recommendation #4. Collaborative teams should establish a set of norms for their operation. Some example norms include: we will articulate our specific commitments to the team and will fulfill those commitments, we will work toward consensus, we will value, solicit, and consider the input of each team member, we seek to understand one another by articulating and investigating reasoning behind our respective positions, we will attend all meetings, and we will support a decision once there is a consensus for it.

Recommendation #5. It is recommended that each meeting begin with some manner of celebrating the weekly success. This celebration at the beginning of each

meeting can include a member of the organization whose child just graduated from high school or if an employee increased their test scores on a common assessment (Blankstein et al., 2008). By beginning each meeting with a mini-celebration, the organization is communicating that they value sharing family success as well as individual professional success.

  Recommendation #6. One of the key struggles ailing Los Angeles County School #6 was the issue of finding time to collaborate as found by the individual interviews.   A major challenge that professional learning communities face, is the time for teachers to meet for learning and to do their collaborative work. Many schools note that they cannot develop into communities or professional learns because they do not have the time that is required. Joint work does take time (Dufour, Dofour & Eaker, 2008). Finding the time does require creativity as to not expend any further resources. Some examples: extend the instructional time of four days of the week, so one day during the week can be a half day for collaborative teams to meet. Another way is to have teachers take on five more students into each of their periods so they can have two preparatory periods to collaborate with other members of their teams. Inviting parents to help circulate the classroom, reinforcing student learning, while teachers are able to meet in a central location that is near their classroom. Finally, hiring substitute teacher to do period-by-period relief so collaboration could take place.

  Recommendation #7. Leadership teams seemed to be an elusive term among schools. From the interviews, leadership teams did not exist or it was assumed by other teachers that teachers were chosen based on being the school leader's favorite. An effective broad-based leadership team is comprised of a variety of interests and

perspectives. By the leadership team being inclusive, wide ranges of stakeholders are included and the workload is distributed. This also will develop a broader ownership of the school's improvement plan (Blankstein, Houston, & Cole, 2008).

The leadership team should include eight to ten members. These members should be from a variety of roles in the school. There should be at least one principal or assistant principal, at least two grade-level classroom teachers, and other support staff such as: counselors, psychologists, and paraprofessionals. The team should also include parents, afterschool program leaders, and technology support staff. Ideally, teachers who are respected among their peers should be sought out to join the team, which will heighten the team's credibility. Having a wide range of roles included in the leadership team will bring about complementary strengths. Of course, the inclusion of a principal or assistant principal will ensure that the decisions that are made have administrative support.

Suggestions for Further Research

This study provided rich and detailed descriptions of the relationships between change factors and collaborative cultures. The data provided insight, details and answers regarding the leadership style necessary to create a collaborative culture in schools. However, just as many answers this study provided, it raised even more questions for further research. Questions for further study are recommended as follows:

Recommendation #1. Conduct a case study on a blue ribbon elementary, middle, and high schools where a PLC was implemented to assess the beginning actions and leadership style to transform a school into conditions where teachers have successfully shifted their teaching practice as a result of the PLC. Perceptions of the teachers, principals, and students/parents would be beneficial.

Recommendation #2. Examine further, the issue of professional development and collaborative team meetings not impacting student success. There is a disconnect to what teachers are reporting. In essence, teachers are stating that the professional development they engage in or the collaborative team meetings they attend weekly, are not impacting their instruction, nor the student's test scores.

Recommendation #3. An interesting introspection into teacher collaboration may result in determining the use of protocols among groups. According to Easton (2009) "Protocols are process that help group achieve a deep understanding through dialogue" (p. 3). This structure for the group allows teachers to explore ideas, student work, artifacts, educator practice, and texts relating to education, problems, and other classroom issues that surface throughout the day. These guidelines for conversation are based on norms developed and adopted by the school, where emotion and status is removed from the conversation. In addition, protocols facilitate a set of steps, which everyone understands and agrees to, that permits conversations that usually are not discussed among professional educators. A recommendation for further research would be to first determine if protocols are being used during teacher collaboration time. Next the extent to how the protocols are used during teacher collaboration time. Finally, a recommendation for further research is investigating the effectiveness of the use of protocols on school culture, authenticity of a PLC, or ultimately student success.

Recommendation #4. Does the structure of a charter school assist in cultivating a culture of collaboration among the teaching staff? There was a wide-variety of different types of schools included in this study. Although, there was no noticeable

difference whether a school was a charter school or not, would the structure assist in helping to create collaborative cultures?

Conclusion

Culture in an organization refers to the organization's values, beliefs, and behaviors. It is the specific set of values and norms, both implicit and explicit, which are shared by the people and the separate sub-groups in an organization. These factors control the way both the individuals and the groups interact with each other and with the stakeholders who are outside the organization (Bloom & Vitcov, 2010).

How does one know when an organization has a good culture? With this information, productive organizations can carefully create and cultivate their culture. It is much easier to see an organization that has an ailing culture than one that is thriving. The characteristics of an ailing culture are those in which trust relationships or interactions are lacking, thus illustrating a blame culture. Other traits of ailing cultures are diversity is not celebrated, poor vertical communication, poor cross-functional collaboration, poor teamwork, and poor leadership and management.

Hord and Sommers (2008) clearly stated:

People everywhere generally agree that the purpose of schools is *student learning*. Further, people are generally in agreement that the most significant factor determining whether students learn well is *teacher quality*. Teaching quality is improved through *continuous professional leaning*. Today, the most promising context for professional learning is the professional learning community. (p. 14)

One of the educational fallacies is that teachers work in "what we architecturally characterize as egg crate schools" (Hord & Sommers, 2008, p. 10). Teachers are

sentenced to their own educational cell, a classroom, where the present culture prevents collaboration or communication with colleagues, leaving teachers isolated and insulated from the other teaching staff.

In a successful organization, there is time provided for teams and individuals to share their success with each other. This can be done on a yearly basis. By sharing accomplishments, this fosters positive relationships among adults and increases the potential for an organization that will engage in reflection and learning (Blankstein et al., 2008). After the sharing of accomplishments, teams will be given the time for reflection and to review their assessments of progress, and to develop a new yearly plan.

No small wins; equals essentially no progress (Schmoker, 1999). Measurable small wins provide momentum to overcome resistance in the change process. The number one lever for improving morale and effective practice is by recognizing and celebrating short-term wins (Schmoker, 1999).

Celebrating is a form of communication, indicating what the organization values (Dufour & Eaker, 1998). The single best, low cost, high-leverage way to improve performance, morale, and the climate of change is to dramatically increase the levels of meaningful recognition (Schmoker, 1999). The compelling need to celebrate is that the mission, vision, values, and goals of the organization do not have an impact unless progress to those is celebrated (Dufour & Eaker, 1998).

There must be a variety of celebrations at all levels of the organization, whether at the team level, or on the organizational level (Blankstein et al., 2008). Not only should celebrations be at the end of the year, there should be mini-celebrations dotted on the calendar throughout the year.

Resistance is a big challenge change efforts face. Unfortunately in schools, the education process has been *reinvented* so many times that educators have a common belief about educational change, *this too shall pass*.

According to Bolman and Deal (2008) "Kotter's stages depict a dynamic process moving through time, though not necessarily in a linear sequence. In the real world, stages overlap, and change agents sometimes need to cycle back to earlier phases" (p. 394). Combining Kotter's stages with the four frames of Bolman & Deal (2008) can help intensify the change effort.

Regardless of the method used in any change effort, trust must be present. Through teamwork, trust must be cultivated and developed to ensure the success of the organizational change. In many organizations, trust is absent (Kotter, 1996). Lack of communication and misplaced rivalry assists and reinforce the cycle of the lack of trust and transparency needed to solidify the change.

In sum, trust is the prerequisite for developing a professional learning community. Few schools and even fewer administrators have confronted this issue. Trust can be built by emphasizing a covenant between the formal leaders and the members, establishing a contract of expectations, and acting with integrity.

Any change effort involves a great amount of effort on both parts of the members and of the leadership. However, at the end o the day, the benefiting group of what all of this work is for is to benefit one group, and that is the students.

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APPENDIX A

Professional Learning Community Change Assessment

Professional Learning Community Change Assessment
Directions:
This questionnaire assesses your perceptions about your principal, staff, and stakeholders based on organizational change theories.

This questionnaire contains a number of statements about practices, which occur in some schools when they are implementing professional learning communities.

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.

Be sure to select only one response for each statement.

Key Terms:
Principal= Principal, not Associate or Assistant Principal
Staff = All adult staff directly associated with curriculum, instruction, and assessment of students
Stakeholders= Parents and community members
PLC Team= The team where you engage in collaboration with others. Might be a subject-specific department, a grade-level, etc.

Scale:
Strongly Disagree (SD)
Disagree (D)
Neither Disagree nor Agree (N)
Agree (A)
Strongly Agree (SA)

STATEMENTS		SCALE				
	Leadership Characteristics	SD	D	N	A	SA
1.	The principal Is knowledgeable about current curriculum, instruction, and assessment practices					
2.	The principal inspires and leads new ad challenging innovations					
3.	The principal ensures faculty and staff are aware of the most current theories and practices and makes the discussion of these a regular aspect of the school's culture					
4.	The principal is willing to challenge and actively challenge the status quo					
5.	The principal monitors the effectiveness of school practices and their impact on student learning					
6.	The principal adapts his or her leadership behavior to the					

		SD	D	N	A	SA
	needs of the current situation and is comfortable with dissent					
7.	The principal communicates and operates from strong ideals and beliefs about schooling					
	Normalizing Classroom Practice	**SD**	**D**	**N**	**A**	**SA**
8.	Before PLCs were implemented at the school, data was taken and analyzed to find a benchmark or diagnoses of what structural aspects needed to be changed.					
9.	Dialoguing among teachers as to their expectations, fears, concerns, and questions was engaged in while the school was moving into a PLC.					
10.	Information on PLCs was readily available to teachers.					
11.	An inventory was taken in the school to find what structures already supported the values of a PLC and what structures needed to be implemented.					
12.	The staff was involved in writing a common vision.					
13.	The staff was involved in writing or rewriting the school's mission statement.					
14.	The staff was asked for input in common values and beliefs that the school would share.					
15.	PLC teams were asked to write a set of norms that they agreed to adhere to.					
16.	PLC teams were asked to write a set of value statements that they would share, and was indicative of the core values as a teacher.					
	Use of Artifacts to Support the Cultural Shift	**SD**	**D**	**N**	**A**	**SA**
17.	PLC meeting agendas are given in advance so each member knows how their time is spent.					
18.	Diagrams on the change process were presented in faculty meetings or passed out, so all members were aware of the changes that were going to take place.					
19.	Pacing guides were developed by the PLC teams to have a common practice and sequence to the curriculum.					
20	Collective goals were incorporated into the yearly School Improvement Plan.					
21.	Reflections of the PLC teaching goals could be seen in the following year's master schedule.					
22.	A professional development plan was faculty created based on the faculty's teaching goals.					
	Making Cultural Shifts	**SD**	**D**	**N**	**A**	**SA**
23.	The teacher-leadership team represents my views and values to the principal.					
24.	The teacher-leadership team communicates my views and values to the principal.					
25.	The achievements of short-term goals were celebrated along the way.					

Please feel free to comment on anything from above further and write it below.
Comments:

THANK YOU!!!

APPENDIX B

Authentic Professional Learning Community Cultural Assessment

Authentic Professional Community Culture Assessment
Directions:
This questionnaire assesses your perceptions about your principal, staff, and stakeholders based on the five dimensions of a professional 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.

Be sure to select only one response for each statement.

Key Terms:
Principal= Principal, not Associate or Assistant Principal
Staff = All adult staff directly associated with curriculum, instruction, and assessment of students
Stakeholders= Parents and community members
PLC Team= The team where you engage in collaboration with others. Might be a subject-specific department, a grade-level, etc.

Scale:
Strongly Disagree (SD)
Disagree (D)
Neither Disagree nor Agree (N)
Agree (A)
Strongly Agree (SA)

STATEMENTS		SCALE				
	Shared Beliefs, Values, and Vision	SD	D	N	A	SA
1.	The school's mission statement is reviewed at least once a year.					
2.	Our school's vision describes a future in which students achieve at high levels, and there is a measurable goal.					
3.	Decisions are based on the school's vision.					
4.	Our PLC team developed a set of values that we share.					
5.	As a PLC team, we have a set of short-term measurable goals.					
6.	Our school-wide goals and objectives for student learning our related to our school vision.					
7.	The vision and mission statements were rewritten (if					

	existed before the PLC model) and used the entire staff's input to develop them.					
8.	There is a teacher-leadership team that assists the school in creating and sharing common beliefs and values.					
9.	There is a teacher-leadership team that assists the school in creating and sharing common beliefs and values.					
10.	After the PLC program began at my school, I felt that my role had a different image in the school.					
	Shared and Supportive Leadership	**SD**	**D**	**N**	**A**	**SA**
11.	The staff is consistently involved in discussing and making decisions about most school issues.					
12.	The principal incorporates advice from staff to make decisions.					
13.	The staff has accessibility to key information.					
14.	The principal is proactive and addresses areas where support is needed.					
15.	Opportunities are provided for staff to initiate change.					
16.	The principal shares responsibility and rewards for innovative actions.					
17.	The principal participates democratically with staff sharing power and authority.					
18.	Leadership is promoted and nurtured among staff.					
19.	Decision-making takes place through committees and communication across grade and subject areas.					
20.	Stakeholders assume shared responsibility and accountability for student learning without evidence of imposed power and authority.					
	Collective Learning	**SD**	**D**	**N**	**A**	**SA**
21.	As a PLC team, we frequently innovate classroom practice and then measure its effectiveness with formative assessments.					
22.	Student data is frequently collected and discussed at PLC team meetings.					
23.	The PLC team is comfortable with discussing data.					
24.	Data is summarized and trends are analyzed.					
25.	My PLC team's planning leads to improved student learning.					
26.	Struggling students are frequently discussed, and ways to re-teach them are implemented.					
27.	During our PLC team meetings, common assessments are made to assess student achievement and learning.					
28.	As a PLC team, we frequently engage in professional dialogue.					
29.	Team dialoguing is valued among the PLC team because we find that we come to common understandings when we voice our points of view.					

		SD	D	N	A	SA
30.	Teachers in the school spontaneously come together to solve problems of teaching and learning.					
	Supportive Conditions	**SD**	**D**	**N**	**A**	**SA**
31.	The school was given professional development in collaboration.					
32.	There is time allotted for teacher collaboration.					
33.	There are resources (hourly rate, etc.) allocated for teacher collaboration.					
34.	There are a set of group norms developed by our PLC team that are strictly adhered to.					
35.	My colleagues and I mentor and coach each other, and are allocated the resources to do so.					
36.	My principal coaches our PLC team toward improving student learning.					
37.	My principal uses data to make decisions that lead to improving student learning.					
38.	My view of collaboration is that it is strategic, based on data, and uses action research.					
39.	Teaches across grade levels are involved in planning for to align their curriculum.					
40.						
	Shared Personal Practice	**SD**	**D**	**N**	**A**	**SA**
41.	I share my knowledge and expertise with other teachers to solve problems of teaching and learning.					
42	I seek out other teachers' expertise to help me solve problems of teaching and learning.					
43.	Other teachers seek out my expertise to solve problems of teaching and learning.					
44.	Teachers in this school frequently make classroom visits to observe other instructional practices.					
45.	Professional development activities at this school are teacher driven.					
46.	My PLC team identifies instructional practices that they would like to learn.					
47.	Teachers who visit my classroom provide me with feedback on my instructional practice.					
48.	Sharing personal teaching practices among colleagues is important and increases student learning.					
49.	I feel comfortable with sharing my failures with my PLC					
50.	Participating in the PLC activities has improved my instructional practice.					

If you feel you would like to explain further any of the questions above, please feel free to do so below.
Comments:

Thank you for your participation!!!!

APPENDIX C

Email Participant Recruitment Letter 1

Dear Faculty Member,

My name is Sindy Shell. I am a doctoral candidate in Organizational Leadership at Pepperdine University, Graduate School of Education and Psychology, under the supervision of Dr. June Schmieder-Ramirez. This study is being conducted in partial fulfillment of the requirements for my dissertation.

The goal of this study is to look at the implementation process and identify change attributes that schools used in the creation and support of PLCs. By doing so, this will highlight where to inject further energy into the future efforts of schools implementing and sustaining of professional learning communities. It also should be noted, that of all of the PLCs that have been implemented nation-wide, many did not use organization change models in doing so, and as a result, authentic, team-based PLCs are exceedingly rare.

As a former teacher, I am fully aware of the tremendous responsibility and time constraints that you face as a teacher. My interest is in finding how professional learning communities have benefited your daily teaching practice and how you perceive the school initiated them. Please read the remainder of this letter carefully.

I would like to invite you to participate in a survey that will help me identify the change initiatives that took place while the school was transitioning into professional learning communities. This survey is strictly voluntary. Also, I would like to identify how professional learning communities are practiced at your school. **Completing this survey is strictly voluntary. Should you choose not to complete the survey, this will in no way affect you.**

The survey should take about 20 minutes to complete. The survey asks questions on the following topics: concerns about the professional learning community before it was implemented, school leadership characteristics, classroom practice, school cultural shifts, shared beliefs, values, and vision of the school, shared and supportive leadership, collective learning, supportive conditions, and shared personal practice. **You have the right to refuse to answer any questions you choose not to answer.**

The only foreseeable risk associated with participation in this study are the amount of time involved and the possibility of reflecting upon your own experience while working in a professional learning community as that may stir up some emotions and thoughts. Although you may not directly benefit, a potential benefit of participating is to provide information that can help plan the implementation of future professional learning communities and other school reform endeavors.

When the results of the survey are shared with your school principal to plan future professional developments, the information that is provided will describe the group as a whole, not the individual teacher. To further protect your privacy, I am not asking you to provide any information that can identify you, such as your name. Please do **not** write your name on any portion of the survey.

If you are selected to participate in the 20 minute follow-up phone interview. You will be asked if you grant your permission to be audio recorded. Please note, these recordings will be done using the computer and will be recorded in an MP3 format. These

recordings will be saved to a password locked file on the computer and will be destroyed after 3 years. **Once the interview is conducted, and the audio recording is transcribed, participants will be emailed a transcription of their interview. The participant will have a chance to review their responses for any corrections before the dissertation is published.**

I am required to keep the information collected for this study in a secure manner for at least 3 years. After the survey information is no longer required for research purposes, the information will be destroyed.

A summary of the findings may be obtained in approximately 12-18 months. If you wish to receive a summary of the findings, please speak with your school principal, they will have a summary of the entire study's findings.

By completing the survey online, you are acknowledging that you have read and understand what your study participation entails, and are consenting to participate in the study.

Feel free to contact me with any questions or comments regarding this study at ███████████████edu or ███████████. I you have further questions about the study; you may contact my dissertation chairperson, Dr. June Schmieder-Ramirez at ███████████████████ or ███████████. If you have any questions about your rights as a study participant, you may contact Dr. **Yuying Tsong**, Chairperson of the Graduate and Professional schools Institutional Review Board, Pepperdine University, Graduate School of Education and Psychology, 6100 Center Drive, Los Angeles, CA 90045, ███████████ or email ███████████████████████.

The links to the surveys are below. I would appreciate the survey to be filled out within the next 2 weeks. I do hope you will decide to participate in this study. Thank you for your time.

Sincerely,

Sindy Shell

Pepperdine University
Graduate School of Education and Psychology
6100 Center Drive
Los Angeles, CA 90045

APPENDIX D

Follow Up Email

Recently, you received an email and request to participate in a research study that will help me find how professional learning communities have benefited your daily teaching practice and how you perceive the school initiated them.
This email is a follow-up reminder asking for your assistance in completing the online survey.

If you have already completed the online survey, I want to thank you for your participation and support.

Sincerely,

Sindy Shell

Pepperdine University
Graduate School of Education and Psychology
6100 Center Drive
Los Angeles, CA 90045