

**THE PERCEPTIONS OF PRINCIPALS AND MATH TEACHERS IN
SUCCESSFUL COMPREHENSIVE 5A HIGH SCHOOLS ON THE
ROLE OF THE PROFESSIONAL LEARNING COMMUNITY**

A Dissertation

by

CHRISTIE BRANSON WHITBECK

Submitted to the Office of Graduate Studies of
Texas A & M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

August 2011

Major Subject: Educational Administration

**THE PERCEPTIONS OF PRINCIPALS AND MATH TEACHERS IN
SUCCESSFUL COMPREHENSIVE 5A HIGH SCHOOLS ON THE
ROLE OF THE PROFESSIONAL LEARNING COMMUNITY**

A Dissertation

by

CHRISTIE BRANSON WHITBECK

Submitted to the Office of Graduate Studies of
Texas A & M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Approved by:

Chair of Committee,
Committee Members,

Head of Department,

Linda Skrla
Bryan Cole
Virginia Collier
Dennie Smith
Frederick M. Nafukho

August 2011

Major Subject: Educational Administration

ABSTRACT

The Perceptions of Principals and Math Teachers in Successful Comprehensive 5A High Schools on the Role of the Professional Learning Community. (August 2011)

Christie Branson Whitbeck, B.S., Missouri State University;

M. Ed., University of Houston

Chair of Advisory Committee: Dr. Linda Skrla

As accountability for public schools continues to increase, educators are continually seeking the best practices in order to assure successful academic achievement, particularly in mathematics. This study focused on the popular reform movement of establishing professional learning communities (PLCs) within the schools, and combined it with a frame of reference from the math teaching context.

The purpose of this study was to gain the perceptions of principals and math teachers in successful 5A high schools about the role of the professional learning communities in their schools. For several decades, educators have been trained and continue to be trained on the effective use of professional learning communities in all levels of education. Utilizing a PLC concept requires additional efforts by the school leadership and the teachers. By gaining insight into the perceptions of those in the field, the researcher was able to find common themes, analyze them, and develop recommendations for practice and further research.

This qualitative research focused on reviews of literature beginning with early reform movements of forty years ago, which spawned the PLC movement to

practitioners and researchers today. Participants were selected from high schools with a Recognized or higher rating by the Texas Education Agency, and that were also acknowledged for their high performance in mathematics. Three large Texas high schools were chosen, and interviews conducted with twelve participants, three principals and nine teachers. The perspective was narrowed to the field of mathematics because this subject continues to be challenging for so many students as reflected on Texas state scores. After analysis of interviews with the three principals and nine math teachers, five common themes emerged from the data. Structure/time, leadership, collaboration, effective components of the PLC, and professional development were analyzed in the findings. It was evident that these educators saw value in the process of working within a professional learning community and advocate the continuation and development of such a work structure within their schools. The perceptions of these participants validated the research found in the literature supporting PLC's as an appropriate school reform strategy.

DEDICATION

I would like to dedicate this dissertation to my late husband, Thom Whitbeck, who passed away halfway through the coursework and PhD process. He was the one who took care of the kids and home while I attended classes and was so proud for me to complete this goal. His support will never be forgotten.

I would like to thank my kids, Taylor and Callie, for putting up with a busy mother and stepping up when needed. They are the joys of my life. My parents, Jim and Karen Branson, have always modeled the value of education, and I appreciate their support and encouragement throughout this process and my life.

ACKNOWLEDGEMENTS

I would like to acknowledge my chair, Dr. Linda Skrla, for being such a positive mentor to me throughout the process. She was the first professor I had at Texas A& M during my first course of Educational Administration, and she made a tremendous impact on my path forward. In addition, I greatly appreciate my committee members Dr. Virginia Collier, Dr. Bryan Cole, and Dr. Dennie Smith. Each of these professors has made a tremendous contribution to my learning and the education of many grateful students at A & M.

My dear friend, Kim Lawson, has been my partner throughout this process, carpooling and discussing each step along the way. We motivated each other continually, and I could not have finished without her.

I would like to thank the twelve participants who gave freely of their precious time to allow me to interview them, gain their insight, and to “tell their story.” Without their willingness, a study of this scope could not occur.

I would like to acknowledge my staff at Seven Lakes High School in Katy, Texas, who model and work daily in a professional learning community. They are exemplary educators and have demonstrated the challenges and successes of such a structure, making me proud to be their principal.

TABLE OF CONTENTS

| | Page |
|--|------|
| ABSTRACT | iii |
| DEDICATION | v |
| ACKNOWLEDGEMENTS | vi |
| TABLE OF CONTENTS | vii |
| LIST OF TABLES | x |
| LIST OF FIGURES | xi |
| CHAPTER I INTRODUCTION | 1 |
| Statement of the Problem | 3 |
| Purpose | 3 |
| Definition of Professional Learning Community | 3 |
| Overview of the Research Literature | 5 |
| History Leading to Professional Learning Communities | 6 |
| Research Questions | 13 |
| Epistemological Frame | 14 |
| Participation and Site Selection | 15 |
| Trustworthiness and Credibility | 16 |
| Significance of Study | 16 |
| Chapter Summary | 17 |
| CHAPTER II LITERATURE REVIEW | 18 |
| Introduction | 18 |
| Purpose of the Study | 19 |
| Historical Perspective | 20 |
| Recommendations for Teachers | 24 |
| Collaboration | 31 |
| Emphasis on Mathematics | 36 |
| Leadership | 38 |
| A Case Study | 42 |

| | Page |
|--|------------|
| The Role of the Principal..... | 44 |
| Additional Case Studies | 48 |
| Chapter Summary | 55 |
| CHAPTER III METHODOLOGY..... | 56 |
| Research Design | 57 |
| Terms | 62 |
| Statement of the Problem | 64 |
| Purpose | 65 |
| Research Questions | 65 |
| Epistemological Frame | 66 |
| Site and Participant Selection | 67 |
| Data Collection | 70 |
| Data Analysis..... | 72 |
| Trustworthiness and Credibility | 73 |
| Significance of Study | 74 |
| Chapter Summary | 75 |
| CHAPTER IV FINDINGS..... | 76 |
| Purpose | 76 |
| Processes for the Analysis | 77 |
| Summarization of Interviews | 77 |
| District Contexts..... | 78 |
| High School Profiles..... | 81 |
| Thomas High School | 81 |
| Stanley High School | 90 |
| Midway High School..... | 98 |
| A Comparison of the Components to the Literature..... | 106 |
| Integrated Themes | 110 |
| Structure/Time | 110 |
| Leadership | 115 |
| Collaboration | 117 |
| Components of the PLC | 120 |
| Professional Growth | 122 |
| Chapter Summary | 125 |
| CHAPTER V CONCLUSIONS AND RECOMMENDATIONS | 128 |
| Summary..... | 128 |
| Conclusions of the Study..... | 130 |

| | Page |
|---|------|
| Capacity Building | 131 |
| Relationships | 133 |
| A Sense of Urgency | 134 |
| Recommendations for Practice | 137 |
| Recommendations for Further Study | 140 |
| Insights | 143 |
| Chapter Summary | 145 |
| | |
| REFERENCES | 147 |
| | |
| APPENDIX | 161 |
| | |
| VITA | 163 |

LIST OF TABLES

| | Page |
|---|------|
| Table 1: Profile of Thomas High School, Karson Independent School District | 83 |
| Table 2: Profile of Stanley High School, Southwest Independent School District..... | 92 |
| Table 3: Profile of Midway High School, Southwest Independent School District | 101 |
| Table 4: Comparison of High School Campuses to Collins' Criteria for PLCs | 107 |
| Table 5: Comparison of High School Campuses to Hord's Criteria for PLC's..... | 109 |

LIST OF FIGURES

| | Page |
|--|------|
| Figure 1: Graph of Methodology Process | 57 |
| Figure 2: Emerging Themes from the Research..... | 73 |

CHAPTER I

INTRODUCTION

It seems that everyone is searching for answers to why high schools today continue to produce drop outs at high numbers, especially in urban areas and with minority students. These questions and searches lead to many educators to seek answers and solutions for how to improve our high schools. Furthermore, many educators and business leaders believe that modern day high schools as we know them are broken and need total reconstruction. I, too, am interested in solutions for ongoing high school problems. As a principal working in a large 5A comprehensive high school in Texas, I believe that my control over instructional improvement rests mainly in the “what is being taught” and the “how it is being delivered;” therefore, I focused my dissertation research on a movement that is not a new “flavor of the month” program but more of an established concept utilizing the strengths of the people in the work place.

This concept, the use of professional learning communities (PLCs), has been dominating education circles since the 1990’s and particularly the last ten years. Advocates for breaking down schools into organizations that communicate, plan together, and create common practice are all targeting improving student instruction. Large high schools are particularly targeted as student achievement is more challenging to perfect due to the sheer magnitude and size of these operations.

As an educator for twenty-seven years, I have seen a large number of initiatives in education, some of which come full circle and recycle again. During the past decade,

This dissertation follows the style of *Journal of Educational Psychology*.

we have seen a strong emphasis on developing professional learning communities. The definition of a PLC ranges from organizations that communicate, plan together, and create common practice aimed at improving instruction to it being a glorified term for a routine team meetings whereby tasks are disseminated among teachers on a common grade level or subject. Knowing that many professionals have been trained and districts have utilized precious resources to implement the concept, the key question we must ask ourselves is, “Does the use of professional learning communities enhance instruction and improve student learning?” To find the answer to this question, we must probe the perceptions of those working within the teams. For the purpose of my dissertation I narrowed the perspective to comprehensive 5A high schools and the subject of mathematics. The University Interscholastic League defines a school as 5A if enrollment is at or larger than 2065 students (UIL, 2010). Additionally, statewide testing in Texas clearly shows that the areas of math and science are the weakest in most regions. Schools that are finding ways to produce strong academic results in the area of math should be explored; therefore, this paper focused on the perceptions of the PLC by math teachers and principals and on whether they felt their implementation impacted academic achievement.

We know that many experts in the education field advocate professional learning communities, but limited research is available supplying data that validates it to be a viable method of configuration and practice. Organizational learning experts indicate that, because the organizational learning concept is increasing in popularity, there is an increasing and dramatic need for more research to support the practice (Miner & Mezas,

1996). The recommendations from the field include requests for both qualitative and quantitative research and for research of the leadership skills and competencies necessary for building organizational learning capacity (Leithwood, Leonard, & Sharratt, 1998). It is clear that additional research is needed to determine if professional learning communities are effective and I have worked to fill that void.

Statement of the Problem

For several decades educators have been trained and continue to be trained on the effective use of Professional Learning Communities in all levels of K-12 education. Adequate research does not exist on implementation of these communities to establish that they are beneficial to the delivery of instruction and student learning. Furthermore, numerous educators write about the benefits of PLCs, but little research exists to examine perceptions of those in the field and relate those perceptions to recommended practice.

Purpose

The purpose of this study was to gain the perceptions of principals and math teachers in successful 5A high schools about the role of the professional learning communities in their schools.

Definition of Professional Learning Community

For the purpose of this study, it is necessary to narrow the definition of a Professional Learning Community as it has been used in a wide variety of contexts over the last decade. As defined by Rick DuFour (2005), A PLC is composed of collaborative teams whose members work interdependently to achieve common goals linked to the

purpose of learning for all. Collaboration is a means to an end, not the end itself. A PLC takes collaboration to a higher level and expects that conversation and action in teacher teams impact classroom practice and result in higher levels of academic achievement (p. 36).

The professional learning community expands the conversations among educators and allows collaboration to directly affect the grass roots of teaching strategies and student involvement. Learning by doing is one of the most powerful concepts in education today. Confucius observed, “I hear and I forget. I see and I remember. I do and I understand.” Educators want students to experience hands-on lessons and methodology in teaching knowing that learning increases by this connection to action. Professionals in the school setting need to put their own ideas to reality as they prepare to teach and increase student learning (DeFour, et.al., 2005).

Research precipitates the need for a common understanding of the term collaboration as it is often misused. Critical elements of collaboration involve teachers focused on the same things. It is not merely consulting or dialoguing with each other. Team members should be people whose responsibilities are similar allowing for mutual interest in the outcomes.

The DuFours (2005) have an overriding theme throughout their publications on PLCs. There is a focus on learning clarifying exactly what students are to learn and by intense monitoring. They believe in 4 compelling questions that should be asked at all times.

1. What knowledge and skills should every student acquire as a result of this unit of

instruction?

2. How will we know when each student has acquired the essential knowledge and skills?
3. How will we respond when some students do not learn?
4. How will we respond when some students have clearly achieved the intended outcomes? (p. 33)

Central to all of the above is the concept that all we do revolves around student learning rather than around teaching. Teachers must keep the four questions at the forefront of all they do in each unit that they plan so they are prepared for targeting exact instruction and prepared for what to do when kids do and do not learn it. According to their work, the foundation of a PLC rests on four pillars of mission, vision, values and goals. (pp. 229-230). When the questions above are answered, and appropriate action is taken as a result, the likelihood of goals being achieved increases.

Overview of the Research Literature

For this research, I focused on mathematics teachers who teach the same subject (i.e. Geometry/Algebra II). Success in mathematics was measured on the Texas Assessment of Knowledge and Skills (TAKS) in campuses performing at a Recognized or Exemplary level by the Texas Education Agency with mathematics being one component of that rating.

Reviews of literature included many scholars and educators who shared that these collaborative efforts bring instruction to a higher level and do make a significant difference. Google Scholar produced 457,000 results when searching for Professional

Learning Communities, demonstrating that the topic has gained world-wide attention. Key leaders in this topic include Rick DeFour (1998), Richard Eaker (2006), Michael Fullan (2001), and Rick Stiggins (2002). Leaders such as Dennis Sparks (2002) were explored for his research on how PLCs affect teacher training, which is cited by the National Staff Development Council. Literature review for the purpose of this dissertation explored what is left to be researched as well as authors Phillip Schlechty (1997), Pat Kornelius (2006), and Linda Darling-Hammond (1997), to name a few. In searching for specific findings of success, Shirley Hord (1997) proved to be a notable researcher who has produced much review has studied specific cases in schools, and is one of the leading experts who actually supplies achievement data and comparisons. It was obvious from an early literature review that there is lack of sufficient literature providing explicit step-by-step sets of directions or procedures for creating PLCs in schools and that this is an area that still needs to be explored.

History Leading to Professional Learning Communities

Prior to the beginning of the professional learning community movement was the advocacy of team teaching. In 1964, Irvins wrote about the positive effects of teaming to help control large groups. Since then many researchers have concluded that working in collaboration with another teacher strengthens the lesson and ultimately the learning. Peter Senge's work (1990), originally intended for corporations rather than schools, argued that if corporations are to survive they must evolve into learning organizations. The five learning disciplines that he recommended be employed are (a) personal mastery, (b) mental models, (c) team learning, (d) building shared vision, and (e)

systems thinking (p. 153). His early conversations led educators to explore new ways of improving how schools operated and the professionalism of administrators and teachers.

Additionally, Murata (2002) revealed planning to be the key aspect in team teaching because curriculum can best be integrated when professionals work together to link curriculum objectives as a set of concepts, especially when using interdisciplinary units. Through her research she found that team teaching fostered strong relationships, reduced isolation, and created environments of trust. In reality, teaching with a partner is a financial luxury that most districts do not have, or if they do it is on a limited basis more often evident today as special education support. As with many movements in education, it appears that PLCs are forms of the earlier team teaching movement and have evolved into a more modern approach to the tried and true idea.

In 1995, researchers Louis and Kruse made specific recommendations stating that five structural conditions and five human resources were essential for a successful professional learning community. First, adequate time must be provided for teachers to meet and share ideas, which is enhanced if the teachers can be located physically near each other in the building. Also, allowing teachers to believe they are free to do what is best for students is another recommendation, but this could meet with resistance from administrators if the teachers opted to veer from district curriculum.

Strong school-wide communication structures and team teaching were also supported by Louis and Kruse. Social aspects of their recommendations stem from leadership that must support and value the PLC concept through trust, allowing new approaches, and providing continual staff development so that teachers continue to acquire new

knowledge in their subject matter. In similar publications by these same researchers, they identified elements of a PLC that are specific and necessary to full implementation. Those elements are reflective dialogue, focus on student learning, interaction among teacher colleagues, collaboration, and shared values and norms. They remind us that the focus must remain on student learning. There must be agreement about the shared mission so that behaviors are shaped in the right direction. Interestingly, they also emphasize an increase in the *deprivation of practice* concept and advocate teachers being open to other teachers observing their classes, which is a major paradigm shift for many.

Similarly, school reform as seen through the eyes of a professional learning community was studied and advocated by Ann Lieberman (1996). On the earlier forefront of this movement in 1996, she proposed dialogue among the educators to solve problems, shared ideas and creating a culture of continuous improvement. She elaborated about the role leaders' play in facilitation of the networks and the importance of their effect on the attitudes teachers will carry into the classroom. Her research was one of the earlier writings advocating the use of PLC's and explaining why they should serve as a catalyst for changes in education.

Others took the early work of Ms. Lieberman and expanded the concept to include details regarding the critical conversations among professionals. Mike Schmoker (2004) argues for the need to improve student achievement and proposes that the most compelling way to get there is to allow for teacher collaboration. He clarifies that this goes beyond collegiality and "collaboration lite" but centers on strong and meaningful

dialogue about what is to be taught and how it is to be assessed. Teachers involved in this approach take their assessment results and then strategically change their instructional practice thereby getting higher results at the next testing. This “joint work” is part of a cycle of improvement in effective schools. He believes and elaborates about how following this practice will make an immediate difference in education. By implementing PLC’s, Schmoker states that it “could redefine public education and education professions and enable us to reach unprecedented levels of quality, equity, and achievement.” (p.49).

Similarly, other researchers have concurred with the use of professional learning communities, but have added other dimensions such as teacher-made testing. Do we need to rethink the relationship between assessment practices and effective schools? Education consultant and former administrator, Rick Stiggins (2004), believes the answer is yes. He acknowledges the need for high stakes accountability but argues that it cannot be the full spectrum for basing learning. He shares that over the last six decades the billions of dollars and large amounts of energy that have been invested in testing accountability have produced little evidence that learning has increased and, in fact, he believes that research shows that much harm has been done. The instructional decisions made by adults who interpret testing results are somewhat valuable but are not nearly as important as the decisions that students make. Teachers diagnose student needs and it is the day-to-day decisions they make regarding what they teach, time allocation, interventions, etc. that make all the difference (p. 25). Stiggins is a proponent of allowing teachers to become trained to create their own assessments and to use them

accurately so that students may prosper. The PLC allows teachers the opportunity to collaborate on this important assessment development.

In order for professional learning communities to occur and to be sustained in an organization, Roberts and Pruitt (2003) stress direct implementation including field-based strategies. Facilitative leadership is their term used to explain how principals lead without dominating. They promote principals talking one-on-one with faculty members, networking, and seeking continual feedback about how to increase resources and to deal with restraints impacting a teachers' ability to teach. These authors focused on implementation of study groups, teacher walk through observations, and developing professional portfolios as specific tools to aide in the PLC dynamics.

Additional research reveals a strong warning for change that must occur within the systems. One of the leading authors in true educational reform is Phillip Schlechty. He advocates that if public schools do not make major changes they will become obsolete in the future (Schlechty, 1997). As President and CEO of Leadership in School Reform, he takes a can-do approach and creates step-by-step instructions for all stakeholders to follow in order for reform to occur over time. Much of his work focuses on the structural component, which he argues must be in place systematically before direct instruction can be affected. To quote,

“The business of schools is to produce work that engages students, that is so compelling that students persist when they experience difficulties, and that is so challenging that students have a sense of accomplishment, of satisfaction-indeed, of delight-when they successfully accomplish the tasks assigned” (p. 58).

Schlechty takes a much more global stance on reform than most advocates of PLCs. Working on collaboration and improvement at the classroom level is part of what he sees as the need to restructure the systems.

He advocates that what occurs at central offices across America must be the focus in order for funding to be adequate and to ensure that teachers have the tools they need. In addition, central offices dictate technology structures and staff development training which directly impact instruction. Once beliefs of the stakeholders are determined, he advocates translating them into clear visions of how we operate schools. In his “big picture” mentality, the PLC is a structure whereby teachers collaborate to deliver the best instruction possible while always keeping the student as the primary customer in the system. In his *Working on the Work* (Schlechty, 2002) premise, ties directly with a PLC movement, student work must be compelling and product-focused. Knowledge is integrated and there is novelty and variety for how tasks are presented and expected as they have a sense of realness and authenticity to them. Striving for this level of educational excellence would be nearly impossible if teachers work in isolation. High expectations go hand in hand with efforts to expect teachers to work collaboratively so that many ideas are brought together and the best strategies for effective teaching are shared and implemented (p. 43).

Within a professional learning community, Rick DuFour, et.al. (2006) and associates focus heavily on specific goals that are strategic. By this they mean that classroom goals link to campus goals which link to district goals. Goals must be measurable and attainable and be results-oriented meaning that they focus on actual

student learning results as opposed to a project or activity that a student is asked to produce. As with any goals, they need to be specific and able to be accomplished in a reasonable amount of time.

Focusing on a shared vision and commitment honoring the ideas, hopes and dreams of all stakeholders describes the premise of the work of Pat Kornelis (2006). He makes a point to delineate the difference between this type of focus and compliance through fear and punishment as he believes our accountability systems have created. He advocates the importance of strong leadership making the principal collegial and trusting versus the traditional hierarchical position of dominance. Through collaborative communities teachers receive constructive feedback and work to improve teaching practice by providing feedback to each other (p. 1). Teachers must reduce working in isolation and work together to reach self-efficacy. His perspective outlines two major barriers to why professional learning communities are not the norm as one would think they would be. In his viewpoint, the two major barriers are time and tradition. Teachers must be afforded time to collaborate and plan during the school day which puts strain on master schedules and contract time. Even harder to break are the long time traditions of teachers working in autonomy. Breaking down the barriers and feeling comfortable with others in your classroom, sharing lessons, and truly building trust among colleagues can be the greatest challenge of all.

After analyzing numerous sources of research and thought behind the professional learning initiative it was clear that many components directly related to Effective Schools research. Since the Coleman report in 1966 that stated that schools

really did not make a difference, many educators have made it their life's work to prove him wrong. As a result of searching for schools who were making a difference with students of poverty, Ron Edmonds, coined the terms Effective Schools and the seven essentials that form together to create them (Edmonds, 1979). Over 30 years later, the essentials of instructional leadership, clear and focused mission, safe and orderly environment, high expectations for success, frequent monitoring of student progress, positive home-school relations, opportunity to learn, and time on task are all still as true as ever (p. 49).

Professional learning communities encapsulate the correlates of effective schools and provide the structure for educators to dialogue and make informed decisions for maximum learning to occur. As increased accountability and standards are on the rise, educators need to search for systems that allow teachers to do their job to their maximum capacity. They need to re-examine their beliefs and assumptions that guide their behavior. This not only includes how they teach but how they assess student learning. PLCs have spawned from team teaching concepts and broadened to include strong formative assessments and direct teaching as a result of mastery or non-mastery.

Research Questions

The research questions for this study centered on the big idea of perceived effectiveness of the professional learning community. To frame the questions, the definition of a "successful school" was defined as a school scoring at college or career ready in Mathematics according to the 2009 Just for Kids Campaign. The research questions were:

1. What are the perceptions of mathematics teachers in successful 5A high schools about the role of professional learning communities in their school?
2. How do principals who have successful student achievement in their schools view the PLC as contributing to the success?

Throughout this research I acknowledged my bias as a high school principal who does have PLCs working continually throughout the school and my personal belief that they do improve instruction. Initially, I was unsure what I would find from this study. Perhaps even if PLCs do make a contribution, it may be less than many other factors in the process, and may not prove to be “worth it” when looking at costs and stress on the master schedule in comprehensive high schools.

Epistemological Frame

This qualitative study was developed from a frame of interpretivism. As explained by Creswell (1998), I focused on twelve individuals and listened to their experiences, constructed a study out of their stories, and related them to the literature and the broader context of professional learning communities (p. 31). We are asking teachers to teach differently in 2011 than in years past. The way teachers and principals do business has evolved over the last decade to include much more technology, mandated assessments, and student engagement. Through this qualitative research my goal was to tell the story from the perspective of those participants working on the work.

In addition, I explored a link to a constructivist perspective and that of the professional learning communities. Constructivism validates that the mind is active in knowledge construction (Schwandt, 2001). We don't construct our interpretations in

isolation but rather through shared understandings, language, practices, and so forth (p. 30). According to Shirley Hord (2008), the professional learning community encourages constructivism by providing the setting and the working relationships demanded in constructivist learning. There must be shared beliefs and values, supportive leadership, appropriate structural conditions, respect and caring among the community, collective learning, and continual sharing of their practice by peers (p.41-42).

Participation and Site Selection

I performed qualitative research methodology. I selected three comprehensive 5A high schools in the Houston area from the National Center for Educational Achievement 2009 *Just for the Kids Higher Performing Schools* list. This list is compiled based on the 2009 TAKS test results and acknowledges campuses for high performance in Reading/Language Arts, Math, Social Studies, Science, and ALL subjects. It also lists percentages of low income and ethnicity breakdowns per campus. By being on this list, a campus could have been acknowledged for high performance in one or all areas. I also selected campuses that are from two different districts so that the impact of training and staff development were able to be analyzed, and I selected campuses that do not vary tremendously in their quantity of students on Free and Reduced Price Lunch. My intent was to interview the principal and his/her recommendation of three math teachers that are most knowledgeable about the role of collaboration and professional learning communities on the campus.

Trustworthiness and Credibility

I worked to create an environment for the participant that allowed them to be comfortable and develop trust with me. I met with each participant individually. The analysis of the data from the interviews was ongoing. I predicted that once getting started, the early interviews may set the pace and direction for those that followed which proved to be true. I tape recorded the interviews and transcribed them, so that I could refer back as needed. Throughout the process I looked for emerging themes as well as specific details and suggestions that the respondents gave regarding the relevance of the professional learning communities on their campus. Member checking is one of the most important components to qualitative research (Lincoln and Guba, 1985) and involves taking the data and interpretations back to the participants so that they can judge the accuracy and credibility of the account (p. 314). I followed up with the participants and allowed them to review their interviews and my findings as a way to strengthen the trustworthiness and credibility of the research. In addition, I utilized the concept of peer reviewing and welcomed feedback from a colleague in my district who is also a doctoral student.

Significance of Study

This study has the potential to greatly impact the work of educators in the field. Teachers are getting more and more added to their job description each year. Should they waste their time in trainings and arranging for professional learning communities if they are not making a positive impact on student achievement? Principals spend countless hours trying to create a master schedule in a comprehensive 5A high school.

By allowing common planning time for a particular course, the scope of what courses can be offered each instructional period is narrowed. When teachers have conference periods anytime during the day much more flexibility is able to be achieved. My research revealed that this form of professional collaboration strengthened the lesson, assessment, and attitude of the teachers and thereby positively impacted achievement and learning. Before beginning the research I was not sure if the overall effort would be worth the end result, even if intentions were admirable. As a result of these findings, I have utilized what I learned to provide straight talk and feedback to those in decision-making roles within a district and to the educators themselves who are charged with the difficult task of improving student achievement.

Chapter Summary

Throughout the quest to improve student achievement and meet the demands of increasing accountability, educators continually search for best practices in the field of teaching and learning. Spawning from early concepts of team teaching emerged the professional learning community or PLC. Throughout the past decade many practitioners and researchers have advocated the implementation of PLCs in schools at all levels. This research focused on reviews of literature regarding the professional learning community and qualitative research involving three high schools with interviews of twelve participants; three principals and nine teachers. Through the combination of analyzing common themes from those in the work place and comparing them to the literature in the field, recommendations were made for instructional practice and further research.

CHAPTER II

LITERATURE REVIEW

A professional field, as opposed to a technical one, is one that prizes constant dissatisfaction with current clients as the core to better service to clients in the future. Research has found that faculty in successful schools always question existing instructional practice and do not blame lack of student achievement on external causes. Faculty in schools that have high intellectual standards and educate virtually all their students well, work in collegial, critical ways with each other, clearly knowing what they want of all students and striving to close the gap between the rhetoric of education aims and the hard, professional work of practice.

-Carl Glickman (2002, pp. 5-6)

Introduction

In our changing society, pressure to help every student succeed is greater than ever. Teachers and administrators are continually seeking new and better structures to enhance student achievement. 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” and (b) “fundamental shifts in the larger culture require that schools serve ends or meet expectations not formerly required” (p. 26). With increased standards and accountability from the Texas Education Agency as well as No Child Left Behind, more and more districts find themselves in the situation Schlechty describes. Numerous efforts for reform have been attempted and failed over the years. When analyzing why school

reforms don't succeed, DuFour and Eaker (2006) identified five causes. These causes included: (a) the "complexity of the task, (b) misplaced focus, (c) lack of clarity on intended results, (d) lack of perseverance, and (e) a failure to appreciate and attend to the change process" (p.13). When we look at data over the last decades in student achievement, it is clear that we must search for new and different ways to meet the needs of students. Education reform has led to many recommendations to meet the needs of a changing population along with increased standards and accountability. The professional learning community is one of those structures that have been recommended by researchers and practitioners. The result of studying learning communities has led educational researchers and practitioners to recommend the re-conceptualization of schools around the premise of a learning community (Darling-Hammond, 1996; Hord, 1997; McLaughlin, 2005). The potential of the PLC model to positively impact student achievement has been supported in the literature as this paper will seek to validate. Huffman (2003) stated, "The most promising strategy for sustained, substantive school improvement is developing the ability of school personnel to function as a professional learning community" (p. 21).

Purpose of the Study

The purpose of this study was to gain the perceptions of principals and math teachers in successful 5A high schools about the role of the professional learning communities in their schools. So why exactly do we need education reform and a continued search for best practices? A brief understanding of the history that led to this

recommendation is helpful to comprehend the need and motivation behind the issue and the purpose of this study.

Historical Perspective

Breaking Ranks was published by National Association of Secondary School Principals (NASSP, 2004) as an action plan for school-wide change. Establishing a learning community that respects learning for all is one recommendation by the professionals collaborating on this document. Over the years, NASSP has continued to be a strong resource for educators regarding effective structures to enhance instruction.

Similarly, in 1983, *A Nation at Risk* outlined high school level changes that needed to be made by revealing dropout rates and data on high school graduates. This document was a catalyst for much reflection and prompted many scholars and practitioners to work toward changes in instructional design and other methods to explore transformations away from traditional approaches. This began a focus on more research-based and innovative approaches. Authors of *A Nation at Risk* recommended:

Graduation requirements should be strengthened at the high school level so that all students should have the foundation of the basics of English, Mathematics, Science, Social Studies, and Computer Science. High Schools and colleges should adopt more rigorous and measurable standards for their academic performance. High school students should spend more time engaged in learning, and the teachers teaching these students should be strengthened through higher standards for preparation and through professional growth. Through these measures our public high schools will improve. (p. 23)

As a response to *A Nation at Risk*, President George H. Bush and governors from the states established Education Goals 2000. This legislation created a foundation for educational reform. These eight goals are:

1. Every child will be ready to learn when they start school;
2. High school graduation rates will be increased to at least ninety percent;
3. All students will leave grades four, eight, and twelve with a demonstrated competency over challenging content including English, math, science, foreign languages, civics and government, economics, art, history, and geography as well as every school will ensure that all students learn to think so they will be prepared to become responsible citizens and productive employees;
4. Educators will have access to programs for professional development to gain skills needed to prepare all students for the next century;
5. American students will be first in the world in science and math achievement;
6. All American adults will be literate and possess the skills to be a good citizen and compete in a global economy;
7. Schools will be drug and violence free to promote an environment conducive to learning; and
8. Every school will promote parent partnerships that promote the social, emotional, and academic growth of children.

As a result of these national goals, school districts were forced to seek reform and best practices and many focused on the concepts of professional learning communities, adult collaboration, and best practices.

Similarly, the National Commission on Teaching & America's Future identified in 1996 as one of their key recommendations the development and engagement of "local capacity" for school improvement. The commission reported that successful schools they studied recognized the value of creating communities of individuals that worked as "partners" toward common goals. These schools employ strategies for the ongoing learning of teachers and staff into their daily work. Like learning organizations,

These schools continually improve what they do because they create teams that develop a common sense of organizational goals and shared ideas about how things work. As people work together to analyze what's working and to solve problems, they develop the ability to see how the whole and its parts interact with each other to create today's reality and tomorrow's possibilities. (p. 49)

A related concept to creating teams was evident when The Education Commission of the States (2000) noted that

"There is general consensus that the organizational culture of the school is an important factor in determining whether teachers participate in professional development and what impact that participation has. School cultures that encourage collegiality, reflection, risk taking, and collaborative problem solving facilitate effective professional development. In these schools, there is a

collective focus on students and a shared responsibility for student learning” (p. 18)

These recommendations from the commissions led to more exploration and recommendations regarding learning organizations.

As a follow up, *Breaking Ranks II* (2004), also published by the NASSP, was an action plan for school-wide change and advocated several practices and structures for schools to follow. Among those was the implementation of the professional learning community as part of a continuous cycle of improvement. This publication also recommended that principals lead efforts to make high school learning more of a community and that adequate time, money, and other resources be provided to ensure ongoing professional development. Principals were instructed to model their own professional growth while leading their schools’ professional development. NASSP advocated these changes to help offset and turn around the low and declining student achievement rates in the United States.

Statistics in our country are dismal and prompt us to look at other options than current practice. The United States rates seventeenth in the world with regard to graduation rates (Symonds, 2001) as only seventy-four percent of high school students graduate. American high school student achievement ranks in the lower half of the developed countries, and nearly half of graduates require college remediation (Gates, 2001). We have our work cut out for us and must prepare students for a changing world.

Finally, *No Child Left Behind: A Toolkit for Teachers* (2004) was instrumental in the push for higher quality education and created mandates for school districts under the

George W. Bush administration. This document stated that, “every state has made a commitment that it will no longer turn a blind eye when schools are not meeting the needs of every student in their care” (p. 2). This document also suggested developing a culture of collaboration for school improvement while working to remove barriers to success for some students. There was also an emphasis on focusing on results; working together to improve student achievement becomes the routine work of everyone in the school. This legislation identified and focused on equity for all children by,

Changing the culture of America’s schools by offering more flexibility, closing the achievement gap, giving parents many more educational options, and using instructional methodologies in the classroom that work. States must describe how they will close the achievement gaps between ethnicities and make sure all students, including those that are disadvantaged, achieve academic proficiency. (p. 6)

Within these guidelines are the concepts of AYP or Adequate Yearly Progress. All students must make gains in their learning and schools are held accountable. Under the No Child Left Behind legislation, one hundred percent of American high school students will pass the state exam by 2014 (Cicchinelli, Gaddy, Lefkowitz, & Miller, 2003).

Recommendations for Teachers

With continued pressure to reform the educational system, leaders have been forced to seek out best practices in education and organizational reform. If our nation aspires to have excellence and not mediocrity for our public schools then “school

improvement efforts will need to focus on the ‘inside’ of schooling, teaching and learning,” (Sergiovanni & Moore, 1989). In addition, there must be an emphasis on collectivity beyond individuality. Building community is paramount. It is defined as an adventure in developing relationships, creating connections, and making commitments (Sergiovanni, 1994.) Moving in a different direction from the isolation teachers are accustomed to requires teachers to relinquish expert notions (Berliner, 1986) and to work as a team. Much like the corporate world, teachers must begin to deprivatize their practice and reveal their challenges with student learning to their colleagues (Kruse, Louis, & Bryk, 1995, Louis, Kruse & Marks, 1996).

Teachers must improve their own learning and be masters of their craft before being in a position to effectively teach others. Students won’t raise their level of achievement until teachers become more effective in their practice (Carmichael, 1982). This concept of making sure adult learning is strong was echoed by Vaill (1996) who stated that, “a learning organization is a place where high quality human learning goes on” (p. 52). The interworking of a professional learning community becomes similar to studies on organizational learning. Peter Vaill (1996) distinguishes between organizational learning and the learning organization in his book, *Learning as a Way of Being: Strategies for Survival in a World of Permanent White Water*. Vaill contends that:

Organizational learning is learning that goes on inside an organization; usually the learning of an individual but also the learning of pairs or teams of people.

The organizational learning movement is thus occupied with the questions of the

nature of learning in organizational environments and with what managerial leaders can do to enhance learning processes within organizations. (p. 52)

In contrast to his description of organizational learning, Vaill (1996) describes learning organizations as places of high quality learning:

The learning organization in contemporary vision has achieved a new kind of internal structure and process marked by imaginative flexibility of style in its leadership and by empowered contributions from its membership. It is constituted to learn and grow and change-as opposed to traditional bureaucratic models constituted to be stable and predictable in their operation, to hold the line and not to change. (p. 53)

Other earlier pioneers in seeking best practices advocated for emphasis in student engagement in the learning process to achieve higher learning results. Keeping students motivated is a key to success for any high school student (Newmann, 1992; Steinberg, Brown & Dornbusch, 1996). The professional learning community and all of its components lead to the structures and collaboration necessary to increase student engagement and therefore motivation. Barth (2001) depicted a community of learners as “a collection of youngsters and grownups working together to provide and sustain their own and one another’s learning” (p. 31).

Conditions that appear to have the greatest influence in creating a successful school are based upon strong expectations for analysis and evaluation (Little, 1982). Scott Peck (1987) characterizes “true community” as “a group of individuals who have learned how to communicate honestly with each other, whose relationships go deeper

than their masks of composure, and who have developed some significant commitment to “rejoice together, mourn together,” and to ‘delight in each other, make others’ conditions our own” (p. 59). He advises that these communities should be inclusive, realistic, and contemplative; are safe places in which individuals can be vulnerable and fight gracefully; and have decentralized authority in which everyone is a leader.

Bringing a different perspective, Peter Senge (1990), who was a founding father of learning organizations, wrote about successful corporations which can be transferred to school business. In his book, *The Fifth Discipline*, he explains that if corporations are to survive, five disciplines are recommended which apply to the school house as well. They are personal mastery, mental models, team learning, building shared vision, and systems thinking. Senge recognized schools as “a meeting ground for learning-dedicated to the idea that all those involved with it, individually and together, will be continually enhancing and expanding their awareness and capabilities” (p. 6). He strongly encouraged leaders to use their collective experiences to apply his five disciplines to the school business and to work collectively to address key issues. He envisioned a learning organization “where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together” (p. 3). By working together in a team, members benefit from what he describes as a deep learning cycle; “the interrelated capacity for change inside individuals and embodied in the group culture.”

There is identified a domain of enduring change and an organizational architecture which involves infrastructures, theories, methods and innovations all of which intertwine and work interchangeably. His findings and beliefs that everything is a system connected to everything else, prompted many educators to explore new ways of improving school operation and the professionalism of teachers and administrators.

The data showed the need for school reform and after leaders like Peter Senge began to compare school achievement with the corporate world, more and more researchers began to explore the practical application of working closely as a team and through collaboration, developing stronger instruction, especially in learning communities. Senge (2000) writes about the connections that can be applied to education in the following:

Changing the way we think means continually shifting our point of orientation.

We must make time to look inward: to become aware of, and study, the tacit “truths” that we take for granted, the ways we create knowledge and make meaning in our lives, and the aspirations and expectations that govern what we choose from life. But we must also look outward: exploring new ideas and different ways of thinking and interacting, connecting to multiple processes and relationships outside ourselves, and clarifying our shared visions for the organization and the larger community. (p. 20)

Conversing in a team atmosphere can lead to compelling results. “Dialogue imposes a rigorous discipline on the participants,” Daniel Yankelovich (1999) writes in *The Magic of Dialogue: Transforming Conflict into Cooperation*.

“When dialogue is done skillfully, the results can be extraordinary; long standing stereotypes dissolved, mistrust overcome, mutual understanding achieved, visions shaped and grounded in shared purpose, people previously at odds with one another aligned on objectives and strategies, new common ground discovered, new perspectives and insights gained, new levels of creativity stimulated, and bonds of community strengthened”. (p. 16)

This philosophy of shared conversation and vision, along with the need for new reforms, served as a catalyst for many to explore new ways of serving students through PLC's.

A pioneer in the study of professional learning communities and to whom much is acknowledged as being on the forefront of thinking is Shirley Hord. Based on nine years of research on professional learning communities, she identified five common characteristics that work collectively and not in isolation (Hord, 1997). The first characteristic is supportive and shared leadership which is described as school principals collegially sharing power and authority for decision-making. The school administration has to provide the structure with collective dialogue and shared responsibility. It is important for teachers to move beyond scheduling to issues of curriculum, assessment, instruction, and culture. Shared values and vision are also part of Hord's criteria as well as collective learning and application of learning. This component involves a collective creativity and fostering collegial relationships. She advocates creating and maintaining supportive conditions which include one's environment as well as encouragement for learning. This is the single most important factor which contains two parts; structural

conditions and collegial relationships. The last characteristic recommended by Hord is shared personal practice which emphasized collaboration of staff, sharing resources, and providing feedback to each other. A teacher who practices and studies developing higher order thinking skills better meets the needs of the learner (p. 24). Hord's early writing stimulated much research on PLCs and continues today.

Similarly, early pioneers Louis and Kruse (1995) identify five characteristics that were found prevalent in successful professional learning communities they studied. These dimensions include reflective dialogue, deprivatization of practice, collective focus on student learning, collaboration among members of the organization, and identification of shared values.

It is commonly noted that there must be a culture that fosters collaboration as the foundation of the learning community. Hammond and McLaughlin (1995) share that, in order for schools to become true learning communities, the cultures of these institutions must support reflection, collaboration, and shared purpose. The culture of schools "must be conducive to the formation of communities of practice that enable teachers to meet together to solve problems, consider new ideas, evaluate alternatives, and frame school-wide goals" (p. 600). Likewise, Sergiovanni (1994) uses a powerful metaphor of schools as communities bound together through shared values and commitment, purpose, professionalism, collegial relationships motivated by the desire to improve individual and organizational performance, and the education profession itself.

Collaboration

Professional Learning Communities start by bringing people together.

Suggestions are to identify a “problem” and bring staff together to solve it. PLCs are not a two to three-hour workshop presented by someone who is brought in to train the teachers. In contrast, a PLC is a daily experience. PLCs develop study groups or grade level groups to identify a point of focus which becomes the catalyst for future learning and problem solving. Engaging the staff is the key and is an ongoing process (Morrissey, 2000).

Morrissey, in her work at the Southwest Development Laboratory, described four key themes to a professional learning community.

1. A PLC is not a thing, it is a way of operating; there must be a continuous engagement of staff in inquiry toward improving learning.
2. Change requires learning, learning motivates change. Change is learning, loaded with uncertainty. No one can make improvement without knowing how. New learning motivates more change (Fullan & Miles, 1992).
3. There must be an embedded value in which the staff is as teacher-focused as student-focused (Little, 1997).
4. The five themes from Shirley Hord are in effect and are interrelated.

The Professional Learning Community is centered on the concept of teachers collaborating about their work (Darling-Hammond, 1997a). “Collaboration has a positive influence on teacher morale” (p.18). Dillenbourg (1999) found, as an overarching theme, that collaborative learning thrives in “a situation in which two or

more people learn or attempt to learn something together” (p.1). This interaction among the adults generates extra activities that trigger extra cognitive mechanisms. He quantifies his learning by labeling three features of collaborative learning: (a) interactivity is a collaborative interaction which is deliberate and the interactions influence the peers’ cognitive processes, (b) synchronicity, which is deeper than cooperating, encourages doing something together, and (c) collaborative interactions are described by Dillenbourg as negotiable rather than hierarchical. Partners argue for each other’s standpoint, justify their stance, negotiate, and attempt to convince others as a part of their interactions.

Using various forms of collaboration tools helps teachers as they face numerous challenges each day and make ongoing decisions and judgment calls. Tackling problems as a small group in a collaborative setting, teachers can more efficiently and effectively make and defend their judgments of the nature and scope of the problem, the possible solutions, the evaluation criteria of their process, and the solution (Jonassen, 2004). Collaborative learners need to search for three kinds of knowledge according to Jonassen (as referenced in Stanton, 2009). First is a transitional knowledge which requires understanding using logic, debate, and research. Next is independent knowing whereby knowledge is uncertain and requires independent thinking and open-mindedness. Lastly, is contextual knowing where knowledge is based on evidence in context (p. 27). Learning environments, such as professional learning communities, produce purposeful knowledge construction and create conditions to make recommendations like Jonassen is making a reality. Schools that exhibit high levels of professional learning community

have characteristics of like collaboration and have teachers who engage in improved authentic pedagogical actions that lead to increased student achievement (Louis & Marks, 1998).

Learning communities that foster cooperation, synchronicity, and negotiation result in healthier work environments and positive relationships. Collaboration is not an event, but the way of doing business (Reeves, 2006). Belonging together is defined by a shared sense of purpose, not by shared beliefs about specific behaviors. The call of that purpose attracts individuals, but does not require them to shed their uniqueness (Wheatley & Kellner-Rogers, 1997). Deborah Meier (1999), who was an early reformer of high schools, believed that adults needed to model positive relationships so that students saw the appropriate examples. “We expect the behaviors we intend students to exhibit when they are adults. The way that happens is for all those persons who are in the schools to live and work that way in their schools” (p. 20-23). Through work with the Coalition of Essential Schools (CES), founded in 1984, Meier and others wrote:

Shouldn't all educators join together to bring the advantages of a powerful school composed of powerful adults to all children regardless of where they start from? Shouldn't this be a common task for all educators ranging from kindergarten teachers to college professors? The impulse that makes us teachers-love for our subject matter, love for our students and high regard for the intellectual demands of democracy are not so different. We have more in common than we usually imagine. (p. 21)

How does the professional learning community get started? “The capacity to create purposeful reforms rests with the capacity of educators to create an authentic vision for their school. A school with a vigorous soaring vision of what it might become is more likely to become that; without a vision, a school is unlikely to improve” (Barth, 2001).

Creating cultures where teachers work as teams and empower each other leads to a common process of collective inquiry. This process serves as a driving force when stakeholders within the school engage in deliberate actions (DuFour, 2000). They are adamant about questioning the status quo and do not settle for mediocrity. They continually seek new methods, work to test those methods, and make valuable time to reflect on the results. This collective inquiry allows team members to change their attitudes and beliefs which lead to new experiences and awareness (p. 1). These actions can be based on planning and preparing lessons, reviewing student data or progress, or analyzing paths forward. “It is our experience,” writes Christopher Cross (2001) of the Council of Basic Education, “nothing motivates and engages teachers more than examining student work and engaging in conversation with other teachers about how that work was achieved” (p.3). This is yet another example of how powerful conversations and purposeful actions by educators can be stimulating to the adults and how the PLC can be an effective vehicle to achieve this engagement.

Professional learning communities provide opportunities for natural communication which allows for adult learning to maximize. Teacher learning comes first in PLCs with the firm belief that students cannot raise their level of achievement

until teachers become more effective in their own practice (Carmichael, 1982). Gilbert and Driscoll (2002) share that a constructivist collaborative knowledge-building environment must follow three principles to be successful: learning is an active process of constructing knowledge; knowledge is a “cultural artifact;” and knowledge that is distributed among group members or communities is an aggregate of knowledge that is greater than knowledge of any individual within the community. One of the key factors in adult learning is that distributed knowledge among a group leads to greater knowledge for each individual while the community’s artifacts of learning grow (Leinhardt, 1992). In addition, McLaughlin (1998) advocates that knowledge generated through shared learning and that collective contribution extend beyond that possible of any one individual member of the organization. Quoting McLaughlin:

In an important sense, the process of generating knowledge was the product because it achieved collective validity for the understandings and benchmarks forged along the way. In this sense, the strong collegiality of a learning organization enhanced rather than undermined teachers’ sense of professional autonomy and agency. (p. 77)

Each type of social encounter provides varying opportunities for adults to grow and expand their knowledge base. Social knowledge building is when someone’s personal belief is articulated in words and this public statement is taken up in a social setting (PLC in this case) and discussed from multiple perspectives of several participants. This theory is based on the social epistemology in which individuals generate personal beliefs from their own perspectives, but they do so on the basis of

socio-cultural knowledge, shared language, and external representations. These beliefs become knowledge through social interaction, communication, discussion, clarification and negotiation. PLCs serve as the basis for these beliefs to surface and transform into action which will benefit student achievement.

A commonality among the research is that to improve school for students we must first improve school for the adults who work in them (Smylie & Hart, 1999). Both students and teachers learn more and do more when they feel a part of something important that is larger than themselves and that they helped create (Wagner, 2001). Michael Fullan (2001a) stated that “It is one of life’s great ironies: schools are in the business of teaching and learning, yet they are terrible at learning from each other. If they ever discover how to do this, their future is assured” (p. 92-93).

Emphasis on Mathematics

Teacher training is one key component to the PLC and better math and science teaching depends on continuing professional development for all teachers. A report by the National Commission on Mathematics and Science Teaching for the Twenty-first Century recommends an ongoing system to improve the quality of math teaching and the working environment of teachers (NCMST, 2000). Dennis Sparks (2002), in his book *Designing Powerful Professional Development*, outlines the key components to effective staff development which correlate to the characteristics of an effective professional learning community. At the heart of the staff development lays a core team of teachers who accept a collective responsibility for the academic achievement of all students.

These educators meet regularly to learn, plan, and support one another for continuous improvement. Specifically, Sparks outlines key components to be:

1. Focuses on deepening teachers' content knowledge and pedagogical skills;
2. Includes opportunities for practice, research, and reflection;
3. Is embedded in educators' work and takes place during the school day;
4. Is sustained over time; and
5. Is founded on a sense of collegiality and collaboration among teachers and between teachers and principals in solving important problems related to teaching and learning. (p. 17)

These characteristics move beyond basics of learning and being trained on content material to reflective practice which focuses on problems experienced by educators and allows educators to share power and authority with those who teach them (Education Commission of the States, 2000). There must be a logical and focused direction for staff development and through collaboration it is enhanced. "The greatest problem faced by school districts and schools is not resistance to innovation, but the fragmentation, overload and incoherence resulting from the uncritical acceptance of too many different innovations" (p. 197). When educators work as a team and have clearly articulated goals and visions for student and adult learning, then fragmentation, overload and incoherence are reduced.

Teamwork and collaboration must be at the forefront of deep change more than ever before. Sparks and Hirsh (2000) list important components to allow for major changes within our schools with one relating to professional learning community

structure. All students must have competent, caring teachers. This competence also extends beyond the classroom. According to Stephen Anderson, Carol Rolheiser, and Kim Gordon (1998), competence “has shifted from individual teacher expertise toward professional community expertise—teachers jointly defining goals and taking responsibility for all students’ progress, engaging in ongoing inquiry and experimentation, and assuming leadership in school development” (p. 59).

Leadership

Research and results focus on the importance of the leadership of the organization, specifically the building principal. PLCs must be set up with clear understandings of what is expected and common models for collaboration and sharing of learning. The school leadership must support teachers by providing an environment that maximizes collaborative problem solving in a variety of ways. These include: having the school structured in its physical workspaces for collaboration, common planning time for groups of teachers, and alignment of curricular and teaching arrangements that enable teachers to easily collaborate. Common space, time, and work frame should support learning for teachers in the company of their colleagues. Common planning time enables teams of teachers to plan curriculum together, jointly assess student work, interact with colleagues, and consult with parents and students in a group setting (Darling-Hammond, 1997b). Lortie’s study of instructional practices in the institutional setting confirms that in the absence of leadership supporting change, teachers more often work in isolation, “hobbing the ethos of improvement” (in Cobb, McClain, Lamberg, & Dean, 2003). Teachers can be naturally hesitant to work in teams because it may show

weakness and embarrassing methods and performance (p. 13). It takes an effective leader to assure that teachers move out of isolation and into collaboration as explained by Lambert (1998):

Leadership is about learning together, and constructing meaning and knowledge collectively and collaborative. It involves opportunities to surface and mediate perceptions, values, beliefs, information, and assumptions through continuing conversations; to inquire about and generate ideas together to seek to reflect upon and make sense of work in the light of shared beliefs and new information; and to create actions that grow out of these new understandings. Such is the core of leadership. (p. 23)

Conceptually, the principal as the leader of change and the PLC movement ties back in to earlier works of Shirley Hord (1998). It is the role of the campus administration that provides the structure for collective dialogue and shared responsibilities. The first order of business for those seeking to enhance effectiveness of schools is to create supportive conditions (Eastwood & Louis, 1992). After analyzing low performing schools, (Morrissey, 2000) explains the core issues regarding effective PLC's and the five components dependent upon the school leadership that are crucial to success:

1. **Organizational Structures:** There must be a connection between the purpose, intent and action. Communication lines among school and district staff and community must be open. Principals communicate through daily or weekly bulletin to keep information flowing and available. Time must be

provided for staff to meet on a regular basis and teachers learn to value the time and use it effectively to improve student achievement.

2. **Focus of Improvement Work:** Values and vision are clearly articulated among all staff. Campus principals model vision on a daily basis to the parents, staff and community through their words and actions. School leaders encourage the use of data to examine and determine best practices. Current research is also examined and discussed internally to determine the best strategies to use for improved learning.
3. **Personal and Social Dynamics:** Critical to an effective school is a culture of trust, mutual respect, and regard with relationships. People capacities, which are the relationships and positive attitudes, are valued and nurtured. PLC's function more as "families" and work toward solving problems, resolving conflicts, and resulting in environments of openness and respect.
4. **Contextual Influences:** These influences are described in categories of school, community, district, and state-level factors. School influences include the physical condition of the facility, high or low expectations from staff, and relationships between staff and students. Outside influences such as community disputes, mandates by the district or state, resources, etc. are also factors. An effective leader helps buffer some of these negative impacts by creating a shared vision and maintaining a pleasant atmosphere for teaching and learning.

5. **Leadership:** Morrissey's studies found this to be the most critical theme, starting with setting high expectations for everyone. Teachers are involved in decision-making through structures developed by the principal. In addition the principal is in charge of the systems for communication, operation, and learning as well as the physical condition of the school. Basically, the principal is developing the people and when their actions are focused in a positive direction, collective learning and application of learning occurs within a professional learning community. (p.14)

Effective leaders understand the value and role of knowledge creation; they make it a priority and set about establishing and reinforcing habits of knowledge exchange among organizational members (Fullan, 2001b). The impact of the principal is clear serving as the foundation to the successful school. The campus leader is charged with the responsibility of developing the supportive conditions for the adults and students to work and learn. Vital to those conditions lies believing in shared decision making and welcoming input from the teachers on substantial issues and viewing them as a resource for school improvement. Maintaining a visible and knowledgeable presence was also key as they interacted with teachers and students. Structural components of common planning periods, early release times, and classroom configurations have been researched and proven to be important and fall under the role of the principal (Morrissey, p.36).

The principal as the instructional leader is responsible for setting the learning processes and organizational structural changes required to produce high-quality

teaching and learning. They see themselves as “system designers,” inventors of new processes and structures to improve student learning, and models of career-long learning (Sparks, 2002). These leaders know and accept that they have a powerful influence on learning and performance. Quinn (1996) states, “When evaluating a vision, people watch the behavior of their leaders and quickly recognize if a leader lacks personal discipline and commitment” (p. 125).

Organizational, social and human resource factors used when developing professional learning communities are access to expertise, supportive leadership, and socialization (Kruse et al., 1995). Expertise can be found within and brought into the organization. A supportive principal is key as they have certain roles, including knowing what is happening in the school, maintaining the focus of the professional learning communities, creating structures that facilitate professional learning communities, and modeling effective processes and practices for teaching and learning as well as collaborating with others (Mitchell & Sackney, 2006).

A Case Study

One specific example cited at Riverside Academy (Huggins, 2010), demonstrated the importance of the expectations set by the principal. The Principal, Dr. Holloway, focused on instructional practice by attending eighty-five to ninety percent of the math professional learning community meetings. She specifically encouraged the teachers toward reflectivity as demonstrated below:

It gives me the opportunity to say, “Well, have you thought about..? Are you using the vocabulary? How are you teaching that with the students?” So, we had

some discussion about that. In turn, it brought ideas from other people. ‘Well, here’s the way I did that.’ or, ‘I’m doing it this way.’ And so, they were hearing as we go around the table other people’s ideas. But generally, I was doing the probing on those kinds of things we were talking about, especially if it was an area of focus.” (p. 73)

Dr. Holloway set a standard of expectation for this PLC of math teachers and encouraged reflection and dialogue to improve best practices. She stayed with them closely for the first four months then gradually released (Fisher & Frey, 2008) leadership responsibility for the math professional learning community to others including the department chair (Huggins, 2010). Dr. Holloway’s actions are an example of the role the principal plays in setting the standard and modeling expectations.

From this case study deemed a theme of focus on the PLC process which is broken down into four components – focus, structure, pressure, support, increased individual accountability, which were manifested through increased individual public accountability, increased group accountability, and increased collaboration. The focus was clear to all members and was improved student achievement in math. In this case, the structure involved requirements for stricter lesson cycle allowing for no wasted instructional time and emphasis on state mandated objectives. Her support of the teachers was critical to balancing all that she was expecting and was seen overall as a positive measure by the staff. With regard to increased public accountability, Dr. Holloway shifted the focus from learning being the students’ responsibility to it being that of the teachers. Group accountability increased by more sharing and assisting each

other when students were unsuccessful. Meeting daily in a math PLC increased the collaboration and solving problems as a group, and increased dialogue on what they were teaching the next day. The case of Dr. Holloway and Riverside Academy is one example of effective leadership overseeing a math professional learning community and achieving gains from fifty-eight to seventy-three percent in all grades in one year (p. 73).

The Role of the Principal

Principals must serve as instructional leaders in a true and effective professional learning community environment. Principals must focus on data to help their teachers make appropriate and focused decisions in their classroom. These campus leaders should emphasize the use of classroom assessments as learning tools that are part of the instructional process, regularly review classroom assessment results with teachers to identify potential instructional problems and provide time for teachers to plan collaboratively, examine their students' assessment results and work samples to identify areas of difficulty, and develop shared strategies for improvement (Guskey, 2000). Principals must cultivate "assessment literacy" by being assessment literate themselves and making sure that classroom assessments are quality and focused on instructional purposes (Stiggins, 2001). "Leadership is needed to create an instructional environment that expects and supports competence in assessment, as well as the effective application of that competence in the service of students' academic well-being" (p.25).

Principals also play a key role in promoting quality teaching. Teachers value empowering behaviors such as treating teachers professionally and involving them in decision making by providing emotional and moral support, being visible during the

school day, active listening, setting clear expectations, and providing encouragement. This focus of leadership has been explored by many researchers and practitioners. Peter Senge (1999) advocates that leadership for deep change requires replacing the myth of the “hero leader” with the concept of leadership communities. Teachers must be at the core of the leadership community serving as mentors, coaches, and providing ongoing professional development to their peers.

Numerous studies validate the importance of the leader in the organization. What kinds of leadership practices contribute to organizational learning and to the conditions that foster it? After completing three studies of organizations who were in the developing stages of building learning community, Leithwood concluded that most often the leaders in these schools (principals) were significantly focused on the development of “commitments and capacities” of all staff (Leithwood, et. al., 1998). They also focus on curriculum and instruction, but in a participatory manner, rather than a traditional manner of control.

In addition, Leithwood, et. al, (1998) advocated that there are “good theoretical reasons to expect that transformational leadership practices foster organizational learning” (p. 264). They described a transformational leadership model containing eight leadership dimensions outlined below:

1. Identifies and articulates a shared vision of improvement;
2. Fosters acceptance of group goals;
3. Provides individualized support for staff members;

4. Stimulates organizational members to think reflectively and critically about their own practices;
5. Provides appropriate models of the practices and values considered central to the organization;
6. Holds high performance expectations;
7. Builds shared norms; and
8. Structures the organization to permit broad participation in decision making.

These leadership characteristics are similar in nature to many researchers and practitioners who attempt to categorize qualities of effective leaders. Michael Fullan (2001) states that, “Instead of looking for saviors, we should be calling for leadership that will challenge us to face problems for which there are no simple, painless solutions- problems that will require us to learn new ways” (p. 3). He identified five primary aspects of leadership that he found present in organizations with effective learning communities. All are interrelated and no one characteristic stands alone. They are:

1. **Moral purpose**-these leaders work for the purpose of making a positive difference in the lives of employees, students, and society in general; they are acting for the purpose of the greater good. This is usually combined with a compelling vision for the future and a sense of urgency to work toward the goals.
2. **Understanding change**-their focus on new innovations was very purposeful and problems unseen before were tackled with openness to new ideas. Fullan

states that there must be a “healthy respect” for the complexities of change (p. 5).

3. **Relationship building**-“Effective leaders constantly foster purposeful interaction and problem solving, and are wary of easy consensus” (p. 5). Relationships have to be focused on getting the organization to the desired results. Fullan emphasizes that “relationships are not an ends in themselves. Relationships are powerful, which means they can be powerfully wrong” (p. 67).
4. **Knowledge creation and sharing**-knowledge sharing practices must be evident throughout the organization. Leaders must be committed to achieving continuous improvement through knowledge creation, reflective thinking, and inquiry. There must be dialogue and collaboration which are a part of social processing.
5. **Coherence making**-the leader must continually work to align the campus mission and goals with that of the district and help to make it clear to all stakeholders. Fullan found that effective leaders worked to align new innovations and to reduce redundancy and fragmentation. These effective leaders are continually seeking a path forward that is clear and without ambiguity. (p. 4)

These leadership traits, along with a positive attitude or perspective, are key to successful learning communities. “Energetic-enthusiastic-hopeful leaders ‘cause’ greater

moral purpose in themselves, bury themselves in change, naturally build relationships and knowledge, and seek coherence to consolidate moral purpose” (p. 7).

DuFour and Eaker (1998) stressed the importance of establishing the school’s priorities through goal setting. Goals should include sequence of implementation, specific steps for objective obtainment, and a timeline. Goals help establish an accountability system and should be tied to the campus vision statement. Goals should be outcome focused, continuously monitored, developed to ensure short term wins, broken down into measurable standards, and accepted by all stakeholders.

Additional Case Studies

Does the PLC make a difference in student achievement? Studying results of many case studies can help to assess the benefits of professional learning communities in the schools. Schmoker (2004, cited in DuFour, Eaker, & DuFour, 2005) has stated, “there is a broad, even remarkable concurrence among educational researchers and organizational theorists who have concluded that developing the capacity of educators to function as members of professional learning communities is the best-known means by which we might achieve truly historic, wide-scale improvements in teaching and learning” (p.18). Schmoker conducted research in a New York City public high school in which only forty-seven percent had passed the Regents Exam for math competency prior to implementation of professional learning communities. The teachers began sharing and meeting regularly in their PLCs, collaboratively developing quarterly assessments to review progress toward proficiency, studying the data results together, and implementing interventions based on the results. Within a year, remarkable gains were made and 97%

of the students succeeded on the Regents Exam (Schmoker, 2005). Similarly, Lee, Smith & Croninger (1995) concluded that in their comprehensive study of over 820 secondary schools across the nation, schools as PLC's had significantly improved all areas of student performance while closing performance gaps between student groups.

A connection can be made between the principal's level of implementation and understanding of Senge's five disciplines and the performance of the school. In 2007, Stier studied forty principals of both high and low performing high schools based on the California Similar Schools Rank and found the connection to higher performance and stronger application of Senge's concepts (Stier, 2007).

Teacher engagement in their own learning again surfaced as a vital component to an effective environment and ultimately student achievement. In 2003 Phillips discovered that student achievement increased for low and under achieving students over all socio-economic groups when teachers actively engaged in their own learning and developed new curriculum programs based on their new learning.

Relationships that are developed among the teachers result in a sense of collective responsibility for student learning. Stoll and Fink (Bezinna, 2004) discovered that when teachers establish relationships between teachers morale is increased and there is a development of a clear and shared sense of purpose. Sometimes teachers are more comfortable within the walls of their classroom so this effort requires practice, assistance from administration, and time. Establishing collaborative relationships is the key to offsetting the natural tendency teachers have to work in isolation. This study verified the importance of providing clear direction and leadership for this movement. Bezzina

(2004) summarized by stating that PLC's become the supporting structure for schools to continuously transform themselves through their own internal capacity (p.159). Tony Wagner (2001) advocates that

both students and teachers learn more and do more when they feel a part of something important that is larger than themselves and that they have helped create. The spirit of a good learning community is one of shared responsibility and collaborative inquiry for both adults and students. (p. 383)

The Center for Research on the Context of Secondary School Teaching (1998) revealed findings that show that successful schools display a strong sense of professional community:

Schoolteachers' practice and careers were fundamentally tied up in the ethos of their professional learning community. Weak communities where traditional norms of individualism, conservatism, and presentism operated by default, were typical in our sample of schools. Most teachers work in settings characterized by professional isolation and a lack of shared sense of practice. (p. 76)

There must be a contrast to what the researchers found in order for a school to be successful. Schools should possess norms of collegiality where new knowledge and understandings are created through debate and discussion. Linda Darling-Hammond (1997) stated, "Teachers who know a lot about teaching and learning and who work in environments that allow them to know students well are the critical elements of successful learning" (p. 8). Results-oriented schools are also described as democratic, egalitarian, and open social systems whereby relationships and dialogue cross

boundaries in the organization. When the organizations are successful they also create cultures where conscious effort is made to define the “we” and the “way-we-do-it-here” (p. 77).

Organizational culture is paramount to a thriving learning environment. The culture of the organization influences the attitudes and behaviors of its members, thus influencing the level of performance that the organization achieves (Marcoulides & Heck, 1993). Zamanou & Glazer (1994) define culture as “shared meaning, patterns of belief, symbols, rituals, and myths that evolve over time and function as the glue that holds the organization together” (p. 475). Further research on organizational behavior reveals that culture in an organization can be constructed, modified, and managed so that it is aligned with organizational goals (Sashkin & Burke, 1990). This revelation is crucial to understanding the flexibility and the importance of the leadership of the organization who will be the driving force to set goals collaboratively and work in professional learning communities.

Sometimes a key driving force can be found within the teacher leadership as revealed in a case study by Little, Horn, and Bartlett (2000). This study determined that teachers can be an active part of school reform even when tackling the most challenging and persistent issues in high school. It must be a voluntary, locally-initiated program of whole school design. Teachers overall do value collaboration. The most frequent forms of collaborative practice, as cited by 56 teachers in North Louisiana, were departmental meetings, faculty meetings, special education meetings, and subject area meetings (Leonard, 2003). Similarly, Weick and Roberts (1993) refer to the power of the

collective mind and the power of organizational learning as compared to individual learning by saying “Without representation and subordination, comprehension reverts to one brain at a time. No matter how visionary or smart or forward-looking or aggressive that one brain may be, it is no match for conditions of interactive complexity” (p. 354).

Several studies have been conducted measuring various aspects of organizational learning that leads to educational improvement. The Center on Organization and Restructuring of Schools (CORS) completed five major research projects focused on school improvement. Two primary characteristics were revealed by Newmann (1996):

1. Adults concern for intellectual quality was paramount.
2. Professional communities must harness and develops individual commitment and talent into a group effort that pushes for learning of high intellectual quality (p. 15).

Similarly, McCune-Cohn (2007) conducted a study of two high schools and sought to determine how to create and sustain an environment that fosters graduates who are prepared for college, careers, and citizenship. When school leaders create a shared purpose and pressed for improvement in learning, all students succeeded. They recommend that school leaders must insist that teachers take responsibility for learning and fulfilling the mission of the school.

Schwartz (2007) sought to identify how urban Vineyard High School implemented initiatives of policy and best practices to improve math achievement. Due to the fact that many school leaders often lack a true background in math content, yet they must guide, motivate, and evaluate math teachers, the study also examined the role

instructional leadership played in increased math achievement. Schwartz found that when Vineyard High School, a high performing school, implemented the PLC factors of accountability, shared vision, teacher empowerment, leadership competency, instructional decisions based on performance data, and collaboration, there was improved math achievement.

In order to help make the PLC achievable, The Southwest Educational Developmental Lab studied the evolution of PLCs to determine specific actions to take to create the concept within a school. They studied five schools across five states. The data was analyzed to see different approaches each student took. Emerging from this study came five most salient aspects of a PLC. They were the role of the principal which included shared decision making, vision, facility structure, setting high expectations, being visible, setting the tone, providing time and communicating. A culture of collaboration combined with a spirit of respect and trust was a second recommendation. Teachers had a mindset of supporting and improving professional practice. A third aspect was obtaining a commitment from all staff through a norm created for a strong work ethic and each member was held accountable for results. In addition, there was a presence of a catalyst, usually teacher leaders, but always someone or something that prompted it. Fifth, there was a use of change facilitators. These individuals worked with the teachers to connect how actions support values (Morrissey, 2000). Effective PLCs seek and obtain balance between organizational structure, time, and the productive use of the organization.

Again the importance of involving all stakeholders was revealed in a study of two high schools sought to determine how to create and sustain an environment that fosters graduates who are prepared for college, careers, and citizenship. According to McCune-Cohn (2007), school leaders must engage teachers in a willingness to accept responsibility for fulfilling the mission of the school. Likewise, Vinella's study explored the relationship between Senge's 2006 professional learning community discipline and student achievement. He surveyed 100 high school principals and found when leaders created a school vision, student achievement was increased (Vinella, 2007). Therefore, when people come together as collections of communities with common commitments, ideas and values, people are committed to helping students learn at higher levels (Sergiovanni, 2000) and when this occurs there is a commitment to exemplary practice that translates into making the school a learning and inquiring community (p.142). Likewise, a study of three high performing high schools in Wisconsin revealed data based decision making was utilized in high performing professional learning communities (Pfeiffer, 2006).

The PLC movement combines knowledge of the researcher with the knowledge of many practitioners who have effectively put into practice their thoughts on how professional learning communities should be structured. Based on qualitative studies and years of observing and hands-on experience Dufour and Eaker (1998) created a model that combined their results, observations, and acquired research. The characteristics of their model include: (a) shared mission, vision and values. These are principles that guide the school in current realities and what the organization is to become; (b)

collective inquiry which refers to teamwork and working together toward improvement; (c) collaborative teams that learn together; (d) action orientation and experimentation which referred to an organizations' willingness to do whatever it takes to make learning occur; (e) continuous improvement which means continually striving to get better and improve teaching and learning; and (f) results orientation which involves making decisions based on data that is collected and analyzed. When these six characteristics are put into action a strong professional learning community is created which ultimately improves student achievement.

Chapter Summary

The publication of *A Nation at Risk* delineated the concerns that the United States was falling behind foreign competitors in educational rankings and outlined steps that needed to be taken for improvement. President George W. Bush followed with Goals 2000 and the implementation of legislation No Child Left Behind. These initiatives were catalysts for school reform. Educators, like businesses, had to analyze productivity and be continually expanding their awareness and capabilities. One school reform initiative that emerged from team teaching and focused on the power of collaboration among educators was the professional learning community. A review of studies on PLC's by numerous researchers' revealed effective components that were explored in this chapter. These characteristics of PLC's are summarized in categories of collaboration, leadership, the role of the principal, and the exploration of several case studies. This research emphasized the area of mathematics as it continues to be one of the more challenging subjects to achieve student mastery.

CHAPTER III

METHODOLOGY

Understanding the perceptions of the educators in the trenches of the high schools daily is paramount to understanding whether professional learning communities are really of value in our schools. In addition, principals serving as instructional leaders have strong influence over configurations of the schools and therefore, their perceptions are equally as important. The literature has supported the use of PLCs in schools but little qualitative research has actually been conducted to follow up on whether educators believe they are worthwhile.

Reviews of literature helped frame the history for how PLCs evolved in our school systems. Careful selection of interview sites was determined after setting criteria for the campuses to be considered. Interviews were scheduled and conducted with three principals and nine math teachers. Transcripts were reviewed in order to analyze the results seeking common themes or perceptions of the participants. Figure 1 below summarizes the steps taken in this research project.

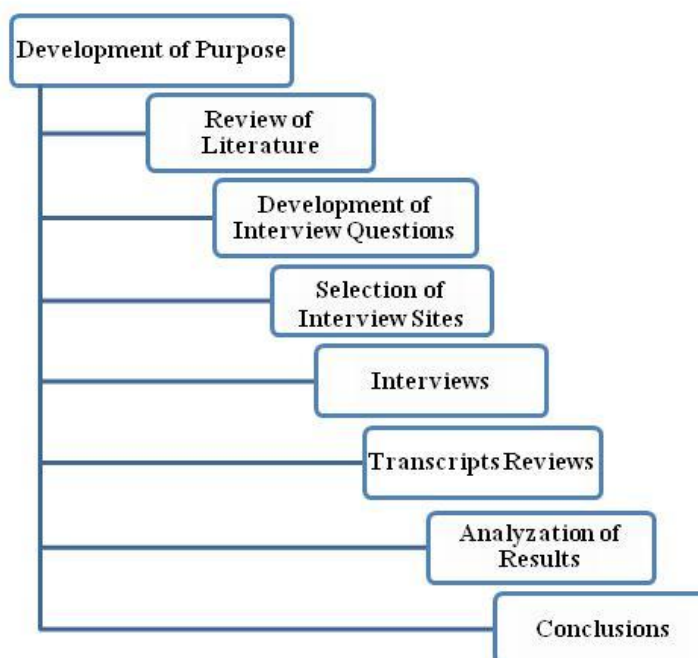


Figure 1: Graph of Methodology Process

Research Design

This research is qualitative in design. Merriam (1998) suggests that qualitative research is based upon a fundamental view that reality is constructed by the interactions of individuals with their social environment. Referencing Merriam (1998): Qualitative research assumes that there are multiple realities-that the world is not an objective thing out there but a function of personal interaction and perception. It is a highly subjective phenomenon in need of interpreting rather than measuring (p.17).

The frame of reference from which the teachers and principals see the issues related to PLCs is vital to making future decisions with regard to scheduling, curriculum, common assessment, etc. This qualitative approach was selected because it “stresses the importance of context, setting, and the participants’ frames of reference” (Marshall &

Rossman, 1995). Therefore, this type of research design was appropriate as it mirrored the goals of my study. The concept of “human as instrument” is vital to this project and it implies the importance of the reciprocal relationship between the respondents to the study and the researcher themselves (Lincoln & Guba, 1985). I personally served as the research instrument and through engaging dialogue with the educators in the field, I set out to capture their unique perspectives and draw valuable conclusions for the future.

Upon reviewing the compelling reasons for undertaking a qualitative study as described by Creswell, I determined it was the most appropriate research methodology for my purpose and the direction best suited for me to take. I studied the eight reasons Creswell suggests and compared them to my work and this validated my decision (Creswell, 1998). Below are the eight reasons outlined by Creswell along with my rationale for choosing qualitative methods:

1. **Select a qualitative study because of the nature of the research question.**

My study describes how professional learning communities are perceived in large comprehensive high schools as opposed to a quantitative study showing why, how many, etc.

2. **Choose a qualitative study because the topic needs to be *explored*.** There is a great need to understand the role of the professional learning community as we explore ways to better improve instruction, particularly in larger schools where the task of educating high school students is even more daunting and difficult.

3. **Use a qualitative study because of the need to present a *detailed view of the topic*.** Incorporating PLC's into a high school is very comprehensive and involves a lot of people and planning so understanding the perceptions of the details can help better determine the value and worthiness of the effort.
4. **Choose a qualitative approach in order to study individuals in their *natural setting*.** All participants were interviewed in their own schools so that the surroundings were comfortable and familiar and so that there was not undue burden placed on the teachers and principals involved.
5. **Select a qualitative approach because of interest in *writing a literary style; the writer brings himself or herself into the study, the personal pronoun "I" is used or perhaps the writer engages a storytelling form of narrations*.** As interviews were conducted I would engage in conversation and occasionally bring my own thoughts into the discussion. In the writing process, especially during analysis and recommendations, my own experiences as a high school principal were definite factors that affected my writing style.
6. **Employ a qualitative study because of *sufficient time and resources to spend on extensive data collection in the field and detailed data analysis of "text" information*.** I was able to obtain the time necessary to interview twelve participants. Cost for completing this research was minimal and there was no cost to any of the interviewees.

7. **Select a qualitative approach because *audiences are receptive to qualitative research*.** In the field of educational administration and in my university, Texas A & M, qualitative research is a respectable option for gaining insight into a given topic. Educators are willing to share ideas and perspectives, especially knowing that their opinions would be used to draw conclusions and ultimately help improve student achievement. Most educators are motivated by the possibility of influencing the greater good which was certainly found in my interactions with the participants.
8. **Employ a qualitative approach to emphasize the researcher's role as an *active learner who can tell the story from the participants' view rather than as an "expert" who passes judgment on participants*.** Through the interview phase of the process I offered credibility as the interviewer and nodded and validated many comments made by the participants, but refrained from passing any judgment as an expert. Through the analysis phase of the interview review, I would make notes of commonalities shared by the individuals. In Chapter V, as I drew conclusions and formulated my recommendations, I often thought of myself as an active learner and even more of a lifelong learner. Even with twenty-five years in the profession, I can always learn from others in the field and become better at my craft (p. 17-18).

In addition, Seidman (1998) ties the core of phenomenology to the qualitative philosophy. Interviewing provides access to the context of people's behavior and thereby

providing a way for researchers to understand the meaning of that behavior. A basic assumption during in-depth interviewing research is that the meaning people make of their experience affects the way they carry out that experience. Interviewing allows us to put behavior in context and provides access to understanding their action (Dilley, 2002).

Meaning is not “just the facts,” but rather the understandings one has that are specific to the individual (what was said) yet transcendent of the specific (what is the relation between what was said, how it was said, what the listener was attempting to ask or hear, what the speaker was attempting to convey or say). Just as language signifies and is constituted by specifics and abstracts, so, too, does qualitative research—and interviewing in particular (p. 4).

One of the weaknesses often linked with qualitative research is the inability to effectively generalize findings. According to Erlandson, Harris, Skipper, & Allen, (1993) response to this criticism can be summarized by saying:

To get to the relevant matters of human activity, the researcher must be involved in that activity. The dangers of bias and reactivity are great; the dangers of being insulated from relevant data are greater. The researcher must find ways to control biases that do not inhibit the flow of pertinent information. Relevance cannot be sacrificed for the sake of rigor (p. 15).

To help assure that my qualitative study was sound and trustworthy, I engaged in strategies of careful selection, triangulation of the data, cross referencing, and coding. As a high school principal in a large comprehensive school, I am very aware of professional

learning communities yet have selected campuses other than my own, and two outside of my district purposefully to keep out bias and to allow for a more varied response from the educators. By selecting two campuses outside of my own district, it was of value to determine if the districts' philosophy and staff development regarding PLCs or lack thereof, also played a role in teacher and principal perceptions.

Terms

Key terms are provided below for clarity and consistency throughout this research:

AYP: Adequate Yearly Progress. Part of the accountability component of No Child Left Behind Act listing a series of growth models reflecting expectations for continued student achievement over time.

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

Just for Kids: The Just for Kids Campaign is an organization that compares student achievement and determines acknowledgement for high performance in math, science, social studies and English language arts. A campus is only selected if the scores are above 90 percent in overall passing rates as compared to schools of similar population based on the number of ESOL learners, ethnicity breakdown, and the number of students on free and reduced price lunch. The name has now changed to National Association for Achievement.

NCLB: No Child Left Behind. President George Bush’s framework for education enacted in January 2001. Specific areas of growth are outlined and increased accountability standards are set for states.

Professional Learning Communities (PLC): or “communities of practice” are terms often given to schools in which staff members provide meaningful and sustained assistance to one another to improve teaching and student learning. Embedded within a school learning community are teams that meet regularly and provide technical and social support. These teams, typically consisting of four to eight members, may be composed of individuals from the same grade level or department or bring together individuals from across the school. (Sparks, 2002)

Smaller Learning Communities: a structure within a large school whereby interdisciplinary teams of approximately five teachers collaborate on delivery of learning strategies, mastery of standards, and delivery of curriculum while also examining student work with the idea of getting the school to appear smaller and better able to serve the students. SLC’s often reflect career academies, freshman academies, house plans, block scheduling, career clusters, etc. all with the goal of making the school experience more personalized so that students are not lost in the shuffle.

TEKS: Texas Essential Knowledge and Skills which is the required curriculum for the state of Texas.

TAKS Test: Texas Assessment of Knowledge and Skills (TAKS) which is the assessment of the required curriculum of the state administered in grades three through

eleven. For the purpose of this research, the focus was on Exit level, which is junior year of high school.

University Interscholastic League (UIL): was created by the University of Texas at Austin in 1909 to provide leadership and guidance to public schools in academic and athletic competitions. It is the largest inter-school organization of its kind in the world.

5A: Class distinction in the state of Texas ranging from 1A to 5A as designated by the University Interscholastic League in order to provide equitable competition among schools of similar size. High schools with a 5A designation have enrollment of 2065 students or higher.

Statement of the Problem

For several decades educators have been trained and continue to be trained on the effective use of Professional Learning Communities in all levels of K-12 education. Adequate research does not exist on implementation of these communities to establish that they are beneficial to the delivery of instruction and student learning. Furthermore, numerous educators write about the benefits of PLC's, but little research exists to examine perceptions of those in the field and relate those perceptions to recommended practice.

Purpose

The purpose of this study was to gain the perceptions of principals and math teachers in successful 5A high schools about the role of the professional learning communities in their schools.

Research Questions

The overview of questioning centered on the big idea of perceived effectiveness of the professional learning community. To understand the questions, the definition of a “successful school” was defined as a school scoring at college or career ready in Mathematics according to the 2009 Just for Kids Campaign. The purpose of the questions centered on the following themes:

1. What are the perceptions of teachers in successful 5A high schools about the role of professional learning communities in their school?
2. How do principals who have successful student achievement in their schools view the PLC as contributing to the success?

As part of the interview protocol (Creswell, 1998), I pre-printed my questions on a form allowing me to take notes as a back-up to the digital recorder. I allowed space between the questions knowing that sometimes respondents answer one question which really relates more to another one listed. I made sure to note the date, time and place of the interview. I also memorized my questions so that I could maintain eye contact and allow the interview to flow more smoothly (p. 126). (See APPENDIX for list of questions asked)

Throughout this questioning I acknowledged my bias as a high school principal who does have PLC's working continually throughout the school and my personal belief that they do improve instruction. Initially, I was unsure what I would find from this study. Perhaps even if PLC's do make a contribution, it may be less than many other factors in the process, and may not prove to be "worth it" when looking at costs and stress on the master schedule in comprehensive high schools.

Epistemological Frame

This qualitative study was developed from a frame of interpretivism. As explained by Creswell (1998), I focused on twelve individuals and listened to their experiences, constructed a study out of their stories, and related them to the literature and the broader context of professional learning communities (p. 31). We are asking teachers to teach differently in 2011 than in years past. The way teachers and principals do business has evolved over the last decade to include much more technology, mandated assessments, and student engagement. Through this qualitative research my goal was to tell the story from the perspective of those participants working on the work.

In addition, I explored a link to a constructivist perspective and that of the professional learning communities. Constructivism validates that the mind is active in knowledge construction (Schwandt, 2001). We don't construct our interpretations in isolation but rather through shared understandings, language, practices, and so forth (p. 30). According to Shirley Hord (2008), the professional learning community encourages constructivism by providing the setting and the working relationships demanded in constructivist learning. There must be shared beliefs and values, supportive leadership,

appropriate structural conditions, respect and caring among the community, collective learning, and continual sharing of their practice by peers (p.41-42).

Site and Participant Selection

This study was conducted to determine the perceptions of math educators regarding the effectiveness of professional learning communities in large comprehensive high schools. By analyzing the perceptions and perceived effectiveness, recommendations were made regarding best practices.

The researcher had to first determine what a “large high school” was by definition and what form of student achievement would be analyzed to select the schools. In the state of Texas the University Interscholastic League (UIL) defines large high schools to be those with enrollment of 2065 students or higher. These numbers are used to keep campuses on equal playing field (literally) when competing in athletics, fine arts and some academic contests. For my purpose, this criterion was helpful as educators are continually seeking best practices and better ways of servicing students in grades nine through twelve and the larger the high school, often the more complex the task can be. In the state of Texas there are 245 high schools that are classified 5A in the largest enrollment category (UIL, 2010).

In addition, specific study was given to the area of mathematics. As a high school principal, the researcher is very familiar with the challenges all schools face with student achievement in math and meeting graduation requirements. There is continual search for better methodology and instructional delivery to aide in the mastery of math skills and success in the content. Mathematics continues to be the subject that offers more

challenge for educators to unlock the keys to stronger performance and to consequently unlock the connections to stronger performance in science. Statewide results continue to show greater gains in English Language Arts when compared to mathematics. Results for TAKS Exit level (eleventh grade) English Language Arts scores in 2010 are 93% for all passing, 32% for commended when compared to Math at 89% passing and 25% commended. When analyzing results by sub-population ELA continues to lead with Hispanic scores at 90% and African American scores at 91% passing. In comparison, the same eleventh grade level posts 85% passing in math for Hispanic and 81% passing for African American (TEA, 2010). Passing the mathematics exam continues to be more challenging for the majority of students than does passing the English Language Arts content. Therefore, searching for additional ways to improve student achievement in mathematics continues to be vital to meeting graduation requirements and preparing our students for their future.

When narrowing the scope of consideration, test scores and the success of the school were important. It would not be helpful to study schools that were unsuccessful, although we could argue that the power of the non-example does have merit, it was not a part of this study. The basic measure of student achievement used to determine success was the Texas Assessment of Knowledge and Skills commonly known as TAKS. In 1999 the seventy-sixth Session of the Texas Legislature enacted Senate Bill 103, mandating implementation of a new statewide testing program. The new testing requirements, subsequently named the Texas Assessment of Knowledge and Skills (TAKS), were implemented in spring 2003. The TAKS test is designed to measure the

extent to which a student has learned and is able to apply the defined knowledge and skills at each tested grade level. Every TAKS test is directly aligned to the Texas Essential Knowledge and Skills (Texas Education Agency, 2010.) This measure was based on the 2008 and 2009 results in mathematics.

Each of the campuses selected were designated as “Recognized” or higher by the Texas Education Agency. By definition, Recognized means scoring at 80% or higher in the subject tested OR 75% floor and Required Improvement OR meeting standard with the Texas Projection Measure (TPM). In addition a campus must have a completion rate of 85% or meeting the floor of 75% with Required Improvement and have dropout rate of less than 1.8% or required improvement. Not only does a campus have to meet these standards for ALL students but also for sub-populations of African American, Asian, American Indian, Hispanic and White. If any one group falls below the requirements listed above, the campus is not eligible for the Recognized rating (Texas Education Agency, 2010).

To narrow the field beyond the Recognized rating on TAKS, I researched analysis and comparisons by the National Center for Achievement. The Just for Kids Campaign is an organization that compares student achievement and determines acknowledgement for high performance in math, science, social studies and English language arts. A campus is only selected if the scores are above 90 percent in overall passing rates as compared to schools of similar population based on the number of ESOL learners, ethnicity breakdown and the number of students on free and reduced price lunch (Just for Kids, 2010).

Once analyzing the Texas high schools with this distinction, the field was narrowed based on geographic location convenient to the researcher. In the greater Houston area there were nine high schools meeting the criteria. One high school was the one the researcher was principal of so that one was eliminated due to possible conflict of interest. Others remaining were from four major local school districts.

The online research course, Collaborative Institutional Training Initiative (CITI), was completed and a passing score was submitted to the International Review Board (IRB) at Texas A & M. All IRB requirements were completed and approved before beginning interviews and moving forward. A personal phone call was made to each of the three high school principals to explain the study and seek their approval of this research on their campus. Each of the principals were cooperative and most agreeable to be interviewed themselves and to allow participation of their teachers. After verifying the willingness by the campus leaders, district approval applications for research were completed and submitted to the offices of research and accountability for Southwest ISD and Karson ISD. Once approval was granted, then interviews were scheduled and conducted.

Data Collection

Two sets of interview questions were developed; one for the principal and one for the teachers. (See appendix)

Personal calls were made again and dates were placed on the calendar to spend the day on the campus interviewing the principal and three teachers at each of the schools. Each school was asked to include their Department Chair for Mathematics to

lend a leadership perspective to the study. The remaining two teachers could be from any content within the math department. The building principal made the final decision regarding the selection of the teachers.

Each teacher and principal was interviewed individually. The interviewee was given an information sheet explaining the dissertation, background of the study, why their participation is valuable, how they can cancel at any time if desired, and who to call if they have any questions. These assurances were given as part of the protocol for approval of the study. The researcher taped each session using an Olympus Digital voice recorder. In addition, the researcher hand-scribed the answers to the questions. Each interview lasted approximately 30 minutes. Recognizing the inherent danger of drawing conclusions with a small sampling, three principals and nine teachers were interviewed for a total of twelve people.

Upon completion of the interviews, the transcriptions were reviewed for clarity and to ascertain common themes which would lead to writing results. Each interview tape recording was professionally transcribed and then listened to with the goal of catching any additional key comments that were not picked up on in the written notes taken. Transcriptions were read thoroughly and additional information was then added to the notes so that the written record was more comprehensive to refer to as needed throughout the writing process.

Data Analysis

Merriam (1998) describes data analysis as a “process of making sense out of data” (p. 192). Since this study is qualitative in nature, common themes were developed based on the findings. I divided the categories by grouping the questions that were of a similar nature such as asking about the nature of the PLC meeting, how often they met, what was the primary focus, etc. Using a grid, I looked at a few questions and took each interviewee’s comments and synthesized them looking for common threads. I used a constant comparison method with a systematic hand-coding process and analyzing that occurred simultaneously (Glasser & Strauss, 1967). This process continued throughout the remainder of the questions and all 12 participants. Using open coding and manually differentiating between categories allowed me to “chunk” pertinent information into common themes (Strauss & Corbin, 1990). Figure 2 depicts the categories of Structure/Time, Leadership, Collaboration, Components of the PLC, and Professional Development as listed below:

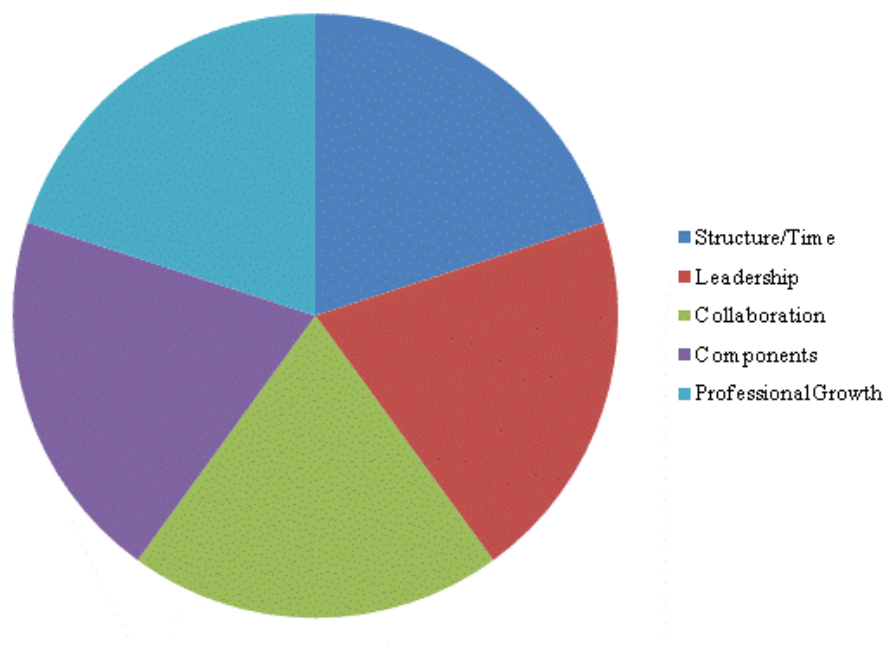


Figure 2: Emerging Themes from the Research

Trustworthiness and Credibility

Member checking is defined as a strategy used to determine the accuracy of the qualitative findings by taking the final report back to the participants to determine whether these participants felt it was accurate (Creswell, 2003,). After each transcription had been read and analyzed, I emailed each of the twelve participants a copy of their interview transcription. As a form of member checking, they were asked to review it and verify its authenticity and accuracy. In addition, I asked each person to give me any corrections and to let me know if they thought of any other pertinent information they wanted to now add. This effort helped establish trust with each participant.

Peer debriefing was valuable to gain insight and perspective from a colleague who was familiar with the concept of the professional learning communities but who had

not read my work before. Peer debriefing was used to enhance the accuracy of the account. This process involves locating a person who reviews and asks questions about the qualitative study so that the account will resonate with people other than the researcher (Creswell, 2003). Doctoral student, Kim Lawson, was asked to assist in this role.

Significance of Study

This study has the potential to greatly impact the work of educators in the field. Teachers are getting more and more added to their job description each year. Should they waste their time in trainings and arranging for professional learning communities if they are not making a positive impact on student achievement? Principals spend countless hours trying to create a master schedule in a comprehensive 5A high school. By allowing common planning time for a particular course, the scope of what courses can be offered each instructional period is narrowed. When teachers have conference periods anytime during the day much more flexibility is able to be achieved. My research revealed that this form of professional collaboration strengthened the lesson, assessment, and attitude of the teachers and thereby positively impacted achievement and learning. Before beginning I was not sure if the overall effort would be worth the end result, even if intentions were admirable. As a result of these findings, I have utilized what I learned to provide straight talk and feedback to those in decision-making roles within a district and to the educators themselves who are charged with the difficult task of improving student achievement.

Chapter Summary

When determining the method of research, I found that there was limited information from those that told the story of their experiences using professional learning communities. As a result, I selected qualitative research as my forum and began to search for subjects and locations that would be best to interview. I wanted to use schools that were successful so Just for Kids Foundation and Texas accountability system were used to select high schools that were rated Recognized or higher and acknowledged in math performance. Three school sites were determined from two different districts in the greater Houston area, all being at 2000 students or larger. Permission was granted from the districts and interviews were conducted on an individual basis consisting of three principals and nine math teachers including the department chairman from each school. Each interview was transcribed for careful review. Upon analyzing the interviews, I began to write about the findings and develop conclusions. These conclusions led to the recommendations for implementing professional learning communities. In addition, I reviewed the current literature and looked for gaps between what I found already published, what I learned through my qualitative study, and what still needed to be explored within this topic. From that, I developed future recommendations for further study in the field.

CHAPTER IV

FINDINGS

Purpose

The purpose of this study was to gain the perceptions of principals and math teachers in successful 5A high schools about the role of the professional learning communities in their schools. From this analysis, emerging themes and commonalities were revealed. These findings, along with learning from the literature reviewed, were used to recommend best practices with the goal of ultimately improving student achievement. During this study, focus was narrowed to large comprehensive high schools and primarily to the subject of mathematics. Information acquired was shared from the perspectives of three principals and nine teachers from the different campuses.

Throughout the process I continually focused on what I have learned from conducting the interviews, studying the transcripts, and synthesizing the connections that can be made from the results. It is important to remember that qualitative research is not looking for principles that are true all the time or in all conditions. What I found in these three high schools may or may not be true everywhere, but they are perceived to be true by the campus participants in those locations at this point in time and we can learn from it. Knowledge in a qualitative interview is both situational and conditional (Rubin & Rubin, 1995).

Processes for the Analysis

The following analysis details the feedback given to the researcher by all twelve participants. Each district and school campus overview is included so that the context from which the employees are working can be set and understood by the reader. The perceptions of the principals are outlined followed by the teachers. Common themes emerged from the feedback which are highlighted and reflect the synthesis of the information gathered.

Summarization of Interviews

Upon completion of the interviews of the three high school principals it was very apparent that they had considerable years of experience in the field of education. A total of seventy years of teaching and leading was cumulative among the three professionals allowing for deep acquired insight over time regarding trends and instructional decision-making. The years of experience as the head building Principal did vary; sixteen with Mr. King of Thomas High School, eight with Mr. Shepard of Midway High School, and three with Dr. Jasper of Stanley High School. Each of the gentlemen interviewed had a vast level of time spent as junior high principals or administrative assistant principals at the high school level which also contributed to their perspectives on the subject.

To understand their background specifically related to Professional Learning Communities, each principal was asked to explain their understanding of the PLC concept, and what formal training, if any, they had acquired. Mr. King from THS stated that he had not had formal training in his district because he had arrived just after Karson ISD had provided it; however, he felt that trainings much earlier in his career were very

similar. Initiatives such as Carnegie Family System in the 1980's and implemented in the 1990's were congruent in nature and provided him with a framework he still uses today. Dr. Jasper from Stanley High School had acquired his training through a Karson ISD initiative when he was serving as Administrative Assistant Principal at the high school level. He had attended two formal in-depth conferences; one presented by Rick and Becky DuFour, as well as a master schedule committee which helped him learn how to set up a master schedule to maximize the opportunity for PLC's to occur on a large high school campus. Since serving as head principal in Southwest ISD, he had received no formal training. With regard to Mr. Shepard from Midway High School, he had received no formal training but did remember early stage discussion about eight years prior in Karson ISD when he was serving as a junior high principal. He felt that his district, Southwest ISD, had a similar philosophy but no direct focus toward the goal. In addition, his current district allows each high school principal to make his or her own decisions regarding how the campus is set up, including master schedule initiatives like block scheduling, and does not mandate a particular structure to the principal.

District Contexts

Karson ISD is a growing suburban district in the greater Houston area. This largely spread out district encompasses 181 square miles in totality. Borders begin 16 miles west of downtown Houston following Interstate 10 and also borders Houston's energy corridor and southern boundary of FM 1093 (Westheimer) where a large portion of the recent population is expanding. The district was established in 1898 with one high school and one elementary school. As growth continued the district expanded to 126

square miles in 1931 and eventually added another 55 square miles after consolidating with several small districts. It grew to incorporate three counties of Harris, Fort Bend and Waller.

Karson ISD was originally rice fields and farm land modernized and expanded after the addition of a railroad was added in the early 1900's. Most early settlers in the area grew rice, peanuts and cotton. The town of Karson has a unique history of having all but two buildings destroyed in the hurricane of 1900, the same storm that is famous for destroying most of Galveston, Texas.

Enrollment in Karson ISD has climbed steadily over the last decade now reaching 60,000 students. Over 7500 employees are hired to service the students with over 4000 being teachers. The district has received a Recognized rating by the Texas Education Agency making it one of the few large districts with this distinction. There are currently 51 campuses including six comprehensive high schools.

This district boasts recent state championships in Academic Decathlon and football and is competitive in all athletics, fine arts, and academics. KISD is 44% white, 33% Hispanic, 9% African American and 10% Asian. Total low income ranks at 29%, Limited English Proficient 14%, Special Education 8%, and Gifted and Talented 6%. Karson is committed to hiring high caliber teachers with 42% having 10 or more years experience and 23% having advanced degrees. The district is proud to be on the forefront of many new initiatives such as random drug testing which is incorporated into all high schools. Academic excellence is a top priority and continues to be the emphasis of the district as Karson ISD faces unprecedented growth, higher accountability from the

state, and reduced funding due to state budget cuts.

My second district involved in this research was Southwest Independent School District. Located in Houston, Texas, this district is more densely populated than Karson ISD and encompasses 44 square miles and 188,000 residents. The area serviced is the area not included in the Houston Independent School District which also includes several small municipalities. Boundaries include Interstate 610, Clay Road to the east, Addicks Dam to the west, Hempstead Road (formerly Highway 290) to the north, and the Buffalo Bayou. In 1856 this district emerged from a local school society which was sponsored by St. Peter's Church. The first school opened in 1889 with a very small amount of students and was segregated. As the years progressed and the Houston metropolitan area developed, the district became more urban with major growth acceleration beginning in the 1950's.

With a total of 47 campuses, nine are rated Exemplary, 16 rated Recognized and 13 rated Acceptable by the Texas Education Agency. The overall rating for the district is Acceptable. The total population is 32,160 students. District percentages for ethnicity are 53% Hispanic, 33% White, 7.5% African American and 6% Asian. Currently SWISD employs approximately 2300 teachers with 24% having a Master's degree. The teachers are overall highly experienced with 45% having 11 or more years of teaching. Only 7% are beginning teachers and 30% have between one and five years on the job. The district also employs nearly 400 professional support staff member, 24 at central office, 137 campus administrators, nearly 300 paraprofessionals, and 1400 auxiliary staff.

The campuses within this district include four traditional high schools, eight

middle schools servicing grades six through eight, 26 elementary schools, and six early childhood centers. There are also three additional high schools that are specialized in nature such as a charter school and an international school. The district is proud that several elementary schools have earned the United States National Blue Ribbon distinction.

Southwest Independent School District takes their charge to prepare students for the future very seriously. Strong academics, fine arts, community service, and athletics as well as many well-rounded opportunities are provided for the students. The district sets goals to be college focused by looking beyond high school graduation. For example, district goals are for beginning freshman to acquire a technical or associates degree within three years of graduation or for students to acquire a Bachelor's degree within five years of graduation. These specific goals reflect the desire of the district to think beyond the years they are entrusted with their teaching and learning and to set the expectation of reaching far and beyond high school.

High School Profiles

For the purpose of understanding in depth how these leaders view Professional Learning Communities in their schools, I focused the remainder of analysis on each school individually. Each campus is profiled with historical data as well as personal data shared by the principal.

Thomas High School

Thomas High School opened in 1979 and is located in Karson Independent

School District. In addition to the data above, Thomas High School works to provide a strong academic focus reflecting the desires of the parents and local community. It utilizes a seven period day offering a wide variety of academic and AP courses as well as electives. The class of 2009 exit survey reveals that 67% of the students will attend a 4-year college, 15% a 2-year college with the remaining 18% being military, vocational training or undecided at that time. For that same class of 2009 comprised of 600 students, 73% have a 3.0 grade point average or better. Thomas High School seniors continue a tradition of scoring higher than the state and national averages on SAT and ACT exams.

Ethnicity breakdowns listed below in Table 1 for Thomas H.S. are 64% White, 14% Asian, 16% Hispanic, 6% African American, 3% English as a Second Language, and 13% Free and Reduced Price Lunch.

Table 1: Profile of Thomas High School, Karson Independent School District

| | |
|---|------------------------------------|
| School: | Thomas High School |
| District: | Karson Independent School District |
| Location: | 30 miles west of Houston, Texas |
| Type: | Suburban |
| District Population: | 60,000 students |
| Campus Population: | 2500 students |
| Campus TEA Rating 2010: | Recognized |
| Percentage of students by Category: | |
| Economically Disadvantaged: 13% | |
| White: 64% | |
| Hispanic: 16% | |
| African American: 6% | |
| Asian: 14% | |
| American Indian: Less than 1% | |
| English as a Second Language Percentage: 3% | |

Thomas High School takes pride in a tradition of competitive athletics and academics. Academic Decathlon knows this school well as having been state champs six times between 1995 and 2001 as well as National Champs in 1997 and 2000. While not walking away with the top title over the last ten years, they remain consistently competitive.

The Texas Lone Star Cup awards schools with points for winning and advancing in district and state play for athletics, academics and fine arts. Thomas High School was the runner-up for this prestigious title in 2000 and 2001. THS boasts state championships in UIL Academics for 2004 and 2007 as well as past state championships in tennis and women's soccer. Today, the school remains consistently active in play-off runs, major

fine arts competitions, etc.

When asked what he was most proud of, Principal King elaborated on the strong work in PLCs, curriculum alignment, common assessments and vertical alignment with feeder schools. He believes that this level of collaboration has transformed the way they do business and as a result they have seen an increase in state testing performance over the last several years. In addition, they are seeing an increase in Advanced Placement participation for the first time in years. He attributes this to strong teaching, goal setting, and recruiting students to reach higher.

These statistics do not happen by accident as Donald King, Principal of Thomas High School in Karson ISD, elaborated on the training for his teachers. Veteran teachers in Karson had been trained about five years ago by a large district initiative led by the Chief Academic Officer at the time. He felt that his teacher leaders, department chairmen and content leaders (leaders by exact subject such as Geometry) are the main players in setting expectations, monitoring work, etc. He believes that PLCs have been used effectively at THS for the past three years. It is his opinion that the foundation for the work that they do is developed within the PLC and that there is valuable time spent dialoguing about best strategies and how to handle student successes and failures. There was a resounding “YES” when asked the question about whether PLC’s positively impact student achievement.

Master schedule development was seen as a key issue driving the initiative at THS. Each content specific team, such as Algebra I, Geometry, Pre-Cal, etc., has their own planning time off together so that the teachers have time to conference built into the

school day. This period of the day allows them time to plan, to develop common assessments and to confer with the Instructional Coach about any data or results which would also drive instruction. As an accountability tool, minutes of the planning meetings are required and occasionally an administrator will attend the meetings. Mr. King felt strongly that the PLC was a foundation for his math program and that it allowed for consistency with regard to assessing, teaching, re-teaching, etc. When asked if there were negative components to using PLC's, discussion ensued more about individual adult personalities not always agreeing. He stated that lack of productivity was not an option and that disagreements had to be worked through. His recommendations included making sure structures are in place so that teachers have time to work as a team and setting clear expectations were key factors. Teachers also needed the necessary tools for success such as technology, resources, space, and constructive feedback.

The department chair at Thomas High School, Natalie, offered her perceptions regarding PLCs and their effectiveness in the math department. After teaching at THS for the last ten years she had a strong understanding of the history and workings of the department. Interestingly, she explained that at first PLCs were perceived as “one more thing we were forced to do” but as they became more familiar with the concept teachers realized that in many ways they had always had them, or at least parts of the initiative. The configuration of their school allowed for each content to be off during the day with a common planning time. They had experienced the entire math department off at the same time, but now hold department meetings after school. While in some regards it had been nice to have all math teachers off at the same time, it proved not to be a necessity.

She even went so far as to say that it often seemed like they got less done when there were so many people available and more opportunity for distraction. Like content teachers meet in their PLC once per week and they talk informally at least every other day. Team leaders record minutes at the meetings. Meetings always focus on lesson planning and sometimes on objectives they did right or wrong. They work to develop common assessments and each person brings test items to the table and at Thomas each like content teacher administers the same test as part of the math department initiative.

This teacher was overall very positive about professional learning communities stating that it provides the structure to get everyone involved, focused, and keeping the same pace throughout the curriculum. Benefits for beginning teachers were elaborated and it was shared that the veteran teachers could take them under their wing and provide them guidance. For example, instead of a new teacher having to go home and develop a thirty question test, they are able to share the load with others which is much less stressful. When asked if there was anything she would change, she mentioned perhaps adding a little more accountability. She elaborated that if administrators were present more often she believed it would lend more accountability when someone does not do their part, although they did not experience a major problem with some teachers not contributing. Notes are turned in to administrators after PLCs meet but she felt their occasional presence would add to the effectiveness. Her overall opinion of professional learning communities was positive and she shared that after staying home for maternity leave and after recently resigning, she will seek out a school that practices the concept when returning to work because she has now developed a respect for the structure and

would want to continue working in it.

A second teacher, Marilyn, at Thomas High School had been teaching there eleven years after completing her student teaching in the same school. Interestingly, she mentioned she had no other school experience from which to compare. She currently taught Algebra I and Block, and had taught Algebra II and Math Models while employed in this school. She had been a part of the same large district-wide initiative training on Professional Learning Communities provided by Karson ISD a few years prior making her training extensive. Her Algebra II team meets every Tuesday during their conference period and the math department meets every other Wednesday allowing the department chair to relay information. The key task within her PLC was planning the upcoming unit. Teachers ask themselves what they did last year, what went right and wrong, etc. They also plan out the calendar and give each other assignments or responsibilities. They try to find time to talk about the best teaching strategies, but find this component to be the most challenging to actually make happen. Her PLC does develop common assessments and believes that if students are enrolled in the same course the expectation should be equivalent. She gave the example of when 300 students take the same test on a given day, word gets out so they create several versions of the same test. This effort reduces cheating opportunities and equity is more likely assured.

When asked her perception of PLCs and their effectiveness she explained that at first she was against them and thought of it as something that teachers were being made to do, but after more reflection she realizes kids see the results from the collaboration as fair, especially when homework is the same, websites can be shared and tutoring can be

interchanged. No one re-invents the wheel. She elaborated about the great help PLCs are to new teachers stating that they can start by totally taking from us then gradually integrating, creating a quiz, taking it slowly, and moving from there. She felt this was a tremendous asset and that the PLC is most effective when they work as a team. The addition of smart boards and greater technological advances has made the PLC even more useful. Teachers who are trained and have greater aptitude for learning programs can show the others how it works during these designated times. For example, a teacher had just shown the team how to use the smart board for a probability unit. She was able to demonstrate to the other teachers the game which had dice and coins that flipped which was a dynamic visual for students and helped solidify the concept. Now this tool would be used in all classrooms rather than just the one teacher who first took the initiative to learn it. She took pride in sharing this type of an example of best practices being used at her school.

When asked what she would improve, she said that more flexibility for when they meet would be ideal. Currently, they have no flexibility for the day or time they meet so that the curriculum assistant principal can join them if needed. They are also required to stay the entire 50 minutes so that the planning cannot be cut short. She would like the flexibility to meet when they want but does understand the reasoning behind it. On the flip side, she believes when it is set in stone, it gets done. She would definitely keep the PLCs if given an option. She believes the leader of the school makes a huge difference in the effectiveness and that they can't be on a "power trip" but instead be a good role model and select positive people who will follow the goals and create results.

The third teacher from Thomas High School, Sally, was in her fourth year on campus and currently taught lower levels of students which she explained was her niche. She preferred teaching TAKS remediation courses and Math Models but had taught Algebra I, Geometry, and Algebra II. She had received the same district training provided when she arrived in Karson ISD which gave her a strong understanding of professional learning communities. She had not had any specific staff development since. She currently serves as the team leader for the Math Models teachers and is responsible for taking minutes during their PLC meetings. She said that the teachers are located near each other and that they meet nearly every day in an unstructured format.

The main focus at their scheduled meetings is locating the materials needed for upcoming lessons, learning smart board lessons, calculator lessons, TI-Inspire (calculator) training, and selecting or creating worksheets. She mentioned that they use very little of the same materials from previous years and work to create a fresh approach. The teachers do work to develop common quizzes and common tests. Due to the beginning level nature of the Math Models course, they work as a team to pull ideas from the Algebra I colleagues. They also gather ideas from the textbook and many online resources. In addition to the PLC at Thomas HS, she and her teammates find value in a district level PLC round table. During these meetings they share ideas with other district Math Models teachers and put materials on the K drive to share among each other.

When asking her to focus on perceptions of the PLC's she said that some departments "bad mouth" them but that in her department she felt they were beneficial

and a good opportunity to teach each other, especially the new teachers. She was most appreciative of the time to meet during the school day which eliminated the need to meet after school. She explained that trying to meet from 2:45 p.m. until 3:10 p.m. and trying to make it productive was nearly impossible. If she could change anything about the PLC, she would make them a little more structured and possibly meet twice per week because there is so much to cover and learn. She does not love having to complete the form or minutes required by administration but did acknowledge that there is leeway with what they do and she likes that. She did believe that they could use more training but did not recommend that it had to be a full-blown major training like Karson ISD conducted several years ago as a district-wide initiative. She recommends more refreshers along the way as an alternative.

Stanley High School

My second school to interview was Stanley High School in the Southwest Independent School District. This campus is suburban and located approximately 8 miles west of downtown Houston, Texas. It opened in 1973 and now has a total enrollment of 1946. This school has had enrollment fluctuation due to the fact that some students are allowed to apply and transfer in and that some are coded to other programs but spend part of their day at Stanley. At the time of writing this assignment, they were classified by the University Scholastic League (UIL) as a 5A school. They have subsequently dropped to competing at the 4A level for all athletics and competitions. They have fluctuated between levels over the past few years due to enrollment changes and UIL realignment.

When asked what he was most proud of in his school, Principal Jasper reflected on the culture of SHS and how it has blended to welcome students from all backgrounds and cultures. He explained that they take students from wherever they are and get them to where they need to be and the school's academic performance continues to improve. He was very proud of the supportive faculty and the family atmosphere that has been created. He elaborated about a recent tragedy involving the death of a high profile employee and how everyone pulled together with grace and dignity and supported each other through it.

This school is known for outstanding fine arts, particularly in theatre. It has recently been nominated for 14 Tommy Tune Awards (similar to the Tony Awards of the film industry) for a recent musical production. In addition, the football team won the district championship only a few years ago. This school offers a balance of strong athletics, fine arts, and academics. It is currently rated Recognized by the Texas Education Agency. Below, Table 2 lists specific demographics of the campus.

Table 2: Profile of Stanley High School, Southwest Independent School District

| | |
|--|---------------------------------------|
| School: | Stanley High School |
| District: | Southwest Independent School District |
| Location: | 8 miles west of downtown Houston |
| Type: | Suburban |
| District Population: | 32,326 |
| Campus Population: | 1920 students |
| Campus TEA Rating 2010: | Academically Acceptable |
| Percentage of students by Category: | |
| Economically Disadvantaged: 23% | |
| White: 57% | |
| Hispanic: 21% | |
| African American: 13% | |
| Asian: 10% | |
| American Indian: less than 1% | |
| English as a Second Language Percentage: 10% | |

Dr. Carl Jasper, Principal of Stanley High School, explained that while he had been given opportunity for formal PLC training in his previous district, his teachers had not. Even though various forms of team planning had been used for the last five to six years, during the last three years his leadership had driven the practice of meeting in like content, creating common assessments, sharing effective teaching strategies, etc. He shared that of all the departments in his school, the math department was strongest at incorporating the concept of professional learning communities.

Unique to Stanley High School were two major components. First, was the use of a block schedule. In simple terms, this means that his teachers teach subjects every other day for 90 minute blocks of time. While some argue this is best instructionally, it clearly

sets limits on the ability for the teachers to be off at the same time for common planning. Secondly, was a monetary incentive used across the district based on achievement of targeted goals. Each teacher can earn an additional \$3,000 dollars for improved achievement. They receive \$1500 up front and targeted goals are set by the team of teachers within a department. If goals are met at the end of the year, the remaining \$1500.00 is paid to the teacher. This proves a viable incentive for teachers to target goals and to dialogue about the progress throughout the year. To help make this equitable and a true team effort, each teacher teaches all levels of students so that no teacher just teaches the highest achieving students (Pre-AP or AP) all day. These two factors were important as they impacted the master schedule and professional learning communities and distinguished this school as the only one where all teachers would be involved in more than one PLC.

With the block schedule and the inability to create common planning time teachers at SHS are forced to collaborate on their own time, which is usually during lunches or after school. With more than one course preparation, this also reduces the amount of time available to collaborate with all colleagues teaching the same courses. Dr. Jasper explained that in order to provide the off time for the teachers on this current system, he would have to have additional staffing which was not possible with budget constraints. One new idea being considered is a late start proposal that would allow teachers to meet for about two hours each six weeks. He feels that his teachers have to balance their time extensively as he asks that they meet at least every two weeks. He believes in the flexibility of the teachers and wants them to maintain their creativity and

innovative approaches and does not want them feeling as though they have been ‘put in a box’ and must conform. Overall, he works within the constraints he has inherited as a principal but is working to encourage the positive aspects of professional learning communities and believes that this form of professional collaboration is a part of the reason math scores have been increasing over the past several years on his campus.

Focusing back to teacher leadership was a very informative conversation with the Department Chair, Sharon, who had taught twenty-nine years, twenty-one at Stanley High School and had served as the department leader for seven years. She explained that she had received little, if any, formal training on PLCs but her years of experience reverted her back to the 1980’s when they always focused on some form of teaming. She has seen those practices evolve as the years have gone by. Now at her school sixteen teachers comprise one large team broken down into little teams for every level and subject taught. Her campus focuses on all teachers teaching at least one lower level course so that the strongest teachers are not always teaching the most advanced courses with seniority being the driving force. Teachers meet during lunch or after school due to lack of common planning time.

Key components within their meetings are mapping out the chapter regarding timelines, TAKS testing and planning out the schedule. She mentioned that email is used regularly to wrap up details and further communicate. They do administer the same quizzes, tests, and final exams but have the liberty to teach the lesson the way they feel is best. The team leader of the like subject is in charge of developing the agenda for when they meet. They also discuss how to grade assignments and evaluations, such as

whether to award partial credit, so that they are consistent. The team usually finalizes the development of the test near the end of the unit being taught.

When asked her perception of whether professional learning communities are making a positive difference she replied that it absolutely does and made particular note of how it helps bring weaker and inexperienced teachers along. She said there was a strong sense of fairness among the teachers and that if you did not contribute, others would get angry. She felt math teachers are particularly linear and organized and this sense of everyone doing their share (you work on a quiz, I will start on the test) was important to making them successful. In looking for suggestions, she readily explained that having common planning periods would make a huge impact and would ease a lot of burden centered on time constraints. She would like to see more time dedicated at the beginning of the year to like content planning during staff development designated days.

This veteran teacher believes that a key to success is picking the right teacher leaders to lead and that the principal needs to pick the personalities wisely. They must be people who are fair, good listeners, and who are respectful of each other and their differences. Her particular perception of the math department at Stanley was that they were like a family. They work together and often socialize together after school. There are many teams within the large team and for the most part they are cohesive and have a common desire for success. Even though she knows that some critics believe PLCs stifle teacher freedom, she perceives the structure to be positive and to be benefitting instruction and student results.

Coming in with thirty-four years teaching experience, twenty-eight being at

Stanley, was another dedicated teacher, Janet. She currently teaches three preps with courses of Calculus BC, Pre-AP Pre Cal, and Algebra II Academic. She had received training on PLCs several years back through Southwest Independent School District, although she was not sure the exact name or details. She explained a structure of having to meet every two weeks and write minutes of the meeting which is submitted to campus administration. Meetings are structured so that they develop six week outlines which include homework, website content, and development of tests and quizzes. Since they have no common time during the day they most often meet at lunch. During the meetings the team leader of the subject leads them and helps assign tasks such as writing questions for the exam. She mentioned that they use email and talk frequently about large concept ideas such as whether they really need to include a particular skill on the test, how many times they want to test on this unit, etc. Common meeting time is precious and used wisely and also focuses on new ideas such as WIKI, how to upload homework to the website, and new interactive web-based forums that allow peers to talk to each other about how they worked the problems. She mentioned that new focuses helping them expand the use of technology reduce the questions that students have when they come to class and thereby accomplishing more during the allotted class time.

Her perception was that PLCs do positively impact student achievement. She elaborated that getting everyone's ideas and sharing along with seeing different aspects of teaching and learning made them stronger. She personally felt that they had "really made a difference in her life." She feels that at the high school level getting new ideas to incorporate into the classroom and keeping on track with what colleges expect were

major strengths of her school. She believes that the PLC has to work more in the area of technology and needs training in order to keep up with the students. She also felt that when a small group of teachers intended to share innovative technology a teacher who might not want to do it, really did not have a choice as majority would rule. She said that agreement is usually there 99% of the time. This veteran teacher again put responsibility back on the role of the principal in teacher selection as strong leaders had to be a part of each level in math. According to Janet, the teacher leader hopefully would have taught several levels of courses, know the ropes, and be able to get problems that arise out in the air and not let anyone stew over their frustrations. She also reflected that a strong spirit of teamwork is very important if something happens in a teachers' life and others need to step in with lessons, inputting grades, or whatever it takes to get the job done.

Stanley High School's third teacher, Jennifer, offered a different perspective as she was a newer teacher having just completed her third year on her campus. She had received no formal training on professional learning communities but did have in-service on road mapping, as she described, or planning out how to get from Point A to Point B. She currently teaches AP Statistics, Pre-AP and Academic Geometry. She viewed her entire department as a community and meets formally with her like content teachers every few weeks. She sees the daily informal meetings in nearby doorways, hallways, and at lunch as vital to the process. They do a "divide the task" concept, create common assessments, and plan all together. She believes in the strength of sharing the workload and described that when one creates, the others revise and edit. They often compare how their students did on the same quizzes or tests which help them learn better how to teach.

Her overall perception of professional learning communities was that they are effective and that they particularly helped her as a new teacher just starting out.

Teammates have kept expectations high and helped her to learn. She mentioned that there is a lot of “idea stealing” going on and that the best ideas are taken from each other and that multiple brains always work better than one. In analyzing suggestions for this concept she did mention that there are challenges and sometimes too many ideas are generated so they go with what might have already worked in the past. Even though these obstacles pop up occasionally, there is a sense of dividing the workload and keeping things fair not only for the adults in planning but for the students in their grade point average. If she could change anything she would create common off planning periods during the day but acknowledged that they made it work with what they were given. She affirmed her teammates and shared strong appreciation for the fact that if she were by herself she would not have known what to expect. She has learned a lot from her teammates and was most appreciative.

Midway High School

My third campus to profile was Midway High School in Southwest Independent School District. Midway is located 6 miles west of downtown Houston and is also a suburban school. This school opened in 1962 and is the oldest high school in the Southwest ISD. At the time it was constructed it was surrounded by forests and rice fields which quickly filled with homes as businesses and Houston expanded. Since construction the campus has been renovated with major construction occurring about ten years ago.

Midway High School is proud of its strong academic, athletic, and fine arts programs. In 1988 it was named a National Blue Ribbon School and each year for the last eight it has been ranked as one of the Top 10 High Schools by Texas Monthly. It currently holds a Recognized rating by the Texas Education Agency. Midway prides itself on having SAT and ACT scores significantly above the state and national average. Advanced Placement courses and test results are a part of the culture of high expectations. Currently, MHS posts 85% of the students scoring a 3, 4 or 5 on the AP exam.

This culture of high expectations can be found within the faculty as well as the student body. Nearly 30% of the MHS faculty holds a master's degree or doctorate. Students exiting for graduation self survey and report that 84% will attend a four-year university or college and 10% will attend a two-year college. Of those attending post-secondary studies, 31% will opt to go out of state.

This comprehensive high school has received several awards of distinction throughout the years. In 2010 it received the Texas ACT Council "College Readiness Award" and was rated in America's Best High Schools by Newsweek. Locally, it was rated as one of the Best High Schools in the Area coming in at number four. It is currently a Recognized campus by the Texas Education Agency.

When asked what he was most proud of regarding MHS, Principal Shepard elaborated on the AP Program because of the success they have had increasing the number of students who take exams as well as score high on them. He also explained that the Midway community is a dichotomy in that the school serves a very wealthy population reflecting about 85% and 15% classified in poverty. He does not acknowledge a large middle class population. He is proud that although economics and cultures vary greatly within the school, there is a cohesive co-existence between all students no matter what their background. One example he shared of the compassion was when a student in poverty was killed in an accident, the rest of the community quickly raised enough money to pay all funeral arrangements as well as the families rent for several months. He was very pleased with this type of culture within the MHS family.

Midway High School is the highest socioeconomically of the three the researcher studied. The campus profile consists of 75% white, 12% Hispanic, Less than 1% African American, 11% Asian, 3% ESOL, and 8% Free and Reduced Price Lunch. Table 3 that follows shares demographic data in more detail.

Table 3: Profile of Midway High School, Southwest Independent School District

| | |
|---|---|
| School: | Midway High School |
| District: | Southwest Independent School District |
| Location: | 6 miles west of downtown Houston, Texas |
| Type: | Suburban |
| District Population: | 32,326 |
| Campus Population: | 2274 students |
| Campus TEA Rating 2010: | Recognized |
| Percentage of students by Category: | |
| Economically Disadvantaged: 8% | |
| White: 75% | |
| Hispanic: 12% | |
| African American: Less than 1% | |
| Asian: 11% | |
| American Indian: Less than 1% | |
| English as a Second Language Percentage: 3% | |

Rick Shepard, Principal of Midway High School in Southwest ISD, explained that without formal training in PLCs his school was at a very minimal level with regard to the true concept. He did share that they had been planning as teams and “road mapping” for several years. He explained that they had late arrival monthly allowing one and one-half hours for team planning and that he was adamant that teachers use this time to meet and plan instruction. For example, eighty percent of this designated time was to be used to break out in like content teams. A teacher who teaches two preps had to divide their time to attend both. The department chairman was charged with coordinating the times so that each teacher met with their team at least part of the time. The master

schedule at Midway High School allowed for the Algebra I team to meet each day during fourth period due to a common ninth grade study hall that is handled by the teachers. They were the only like content in the school with the time built in during the day.

Mr. Shepard responded that using the PLC concept of teaming and collaboration, although not formally, has made a positive impact on math instruction on his campus. He sees value in sharing ideas, vertical planning, and horizontal planning and he sees a great benefit for teachers who also coach athletics and cannot be present at every meeting due to their coaching obligations. This allows them to be following the same pace and curriculum as their colleagues. He noted that he has surveyed his teachers twice and they like the system the way it is at their school. They do not desire more time off together but want to see the collaboration they have continue. They enjoy the latitude that is provided to them at this campus. Mr. Shepard did explain that his school is not requiring the same teacher-developed tests but does require the same final exam. He wants to allow a certain amount of professional discretion, and it was clear that there was more latitude given to teachers at this campus than the other two high schools.

The mathematics department at Midway High School was led by a forty-two year veteran teacher, Patty. All forty-two years of teaching had been at the same school. Her current assignment was teaching Calculus and Academic level courses. She has never had any formal training on professional learning communities and was quick to explain that they do not use the term; however, they do meet often and plan lessons together. Sharing of quizzes does occur sometimes within the department but was not a

requirement. Common assessments were used by some but not all. She explained that sometimes a teacher will use another teacher's test as a makeup exam for someone absent. Algebra I teachers meet the most often which was once per week. The other teachers meet once per six weeks for 90 minutes during the late arrival time described by Mr. Shepard. A typical session would include TAKS testing information, technology that needs to be shared by all, campus improvement team information, and then splitting off into like subjects. The Algebra I team was again described as the most cohesive, partly because they have a schedule that lends itself to time to collaborate during the school day. They most often work on TEKS team, data collection, and the development of projects.

When asked if there was a positive outcome to working in a PLC, or in collaboration, Patty responded that it has definitely paid off and that she has used some form of teaming for her entire career. The most effective results were described as strong student performance on TAKS and SAT; people are kept on pace and no one is just "muddling along." There is spirit of sharing the load and taking turns. If she could change anything she would provide the common off period for teachers every day. She feels there must be strong emphasis on the leader selected to lead the PLC. The leader must be someone who is not bossy and does not monopolize the conversations. They must also have structure and knowledge of the master schedule.

Midway High School shared another veteran with me, Cathy, having taught eighteen years in the profession, three at MHS. She has previously taught Algebra I but now teaches Pre-Cal Pre-AP and Academic Geometry and has had no training on

professional learning communities. Her reference term was “teaming”. She was very clear that she had been at another school in her district that did everything “lock step” and she felt it took away from individuality. Her past experience was explained as taking turns making tests which made her feel locked into a situation. Her opinion was that teachers have their own strengths, some certainly more in depth than others, but that a man’s reach should exceed his group. If we give it to them they will reach up. She was not a proponent of all teachers having to be on the same page at the same time.

Their team had a unique way of developing tests. They build the test together then all take it themselves and adjust based what they discover during that process. It is important to the team to create a strong document that they all administer uniformly. They also work together to build a bank of released tests. The geometry team was described as giving several different tests over the same chapter. It was important that she be able to teach to her classes the way she felt best as long as the integrity was present.

One of the greatest strengths described in teaming was the sharing of ideas. Cathy described herself as a teacher who loved to learn from her colleagues and that the day she quit learning was the day she needed to “go away.” When asked if she would change anything, she replied that she would not change anything at Midway High School because they are allowed to teach the way they see best and feels that there is confidence in their teaching ability. She believes in some guidelines, but not too many which make it feel rigid. She does recommend that common planning time or late arrival be given every few weeks because it does allow teachers to sit down and plot out the

next six weeks of instruction, to create tests, presentations, compare how they did on the previous test to know to put more of those problems on the next one, etc. Overall, her opinion of the PLC was that it was valuable as long as it was not going to infringe on the teacher's freedom to do what is best for their classes.

The third teacher from Midway HS, Laura, had spent the last five years at MHS but had over twenty-five years of total experience. She had a unique background of teaching fifteen years in private school. She spent most of her teaching focusing on Algebra I and Rescue Algebra I for students who did not pass the TAKS test. Like her peers, she had received no training on professional learning communities.

In describing her common time with like content teachers she rephrased and answered the questions, "Where are we going?" and "What do we need to do?" Meetings get very specific and involve training teachers on methodology and modeling quadratic formulas and showing others tricks such as how to use the TI-84 calculator. She felt this training was very helpful, especially to the new teachers who do not know the stumbling blocks encountered when teaching these concepts. She also explained that there is a lot of informal discussion that goes on between classes about how kids just did on a quiz, etc. All teammates administer the same test which is developed on a rotation basis. The teacher who develops it is responsible for creating the review sheet as well.

Her opinion clearly articulated that she saw teaming as a benefit and that the more opportunity they have to plan together can only result in good things. The most effective parts of the PLC were brainstorming what was really difficult for the kids, giving great ideas of what works (methods), discussing what the 'meat' is in the

objective, and what must be stressed. If she could change anything she would create more time. She wanted more time to peruse materials and to be creative to find ways to make learning meaningful and practical. She was very clear that if kids feel they will use it, they will learn it because it is practical. The teaming/PLC time is a great way to collaborate on difficult objectives (fractions were mentioned) and how the teachers can work on better ways to address the problems students encounter with them. In addition, she was specific that more time needed to be given to the content team before school started. She believes her content of math is critical to other learning and to student success. She noted that the teachers had an obligation to make sure the students “get it.” This type of configuration (PLC) only strengthens the department and the school.

A Comparison of the Components to the Literature

How do the components of a PLC for each of the three schools compare to what was found in the literature? Specific activities found within PLC’s can create direct benefits to the teachers and ultimately to student achievement. For example, talking with one another about what is being taught and the best ways to teach the concepts and analyzing the results can decrease feelings of isolation and expose teachers to different teaching philosophies, models, and teaching styles (Collins, 1998). Table 4 lists activities for PLCs referenced by Collins in *Breaking Ranks II* and the researcher’s analysis of each of the three schools’ levels of involvement in each criterion. Schools were rated high, moderate or low to describe their involvement as described in the key. These ratings were based solely on the interviewers’ synthesis of the information shared by the participants.

Table 4: Comparison of High School Campuses to Collins' Criteria for PLCs

| Key: | | | |
|--|---------------------------|---------------------------|----------------------------|
| High – Defined as school has strong emphasis and involvement in this activity/practice | | | |
| Moderate – School has Moderate emphasis and involvement in this activity/practice | | | |
| Low – School has little emphasis and involvement in this activity/practice | | | |
| Learning Community Activities | Thomas High School | Midway High School | Stanley High School |
| Using shared planning to develop units, lessons, and activities. | High | Moderate | High |
| Learning from one another by watching each other teach. | Moderate | Moderate | Moderate |
| Collectively studying student work to identify weaknesses and plan new ways to teach to those weaknesses. | Moderate | Low | Moderate |
| Sharing articles and other professional resources for ideas and insights; conducting book studies of books on teaching and learning. | Low | Low | Low |
| Talking with one another about what and how you teach and the results your teaching produces. | Moderate | Moderate | Moderate |
| Providing moral support, comradeship, and encouragement. | High | High | High |
| Jointly exploring a problem, including data collection and analysis; conducting action research. | Moderate | Low | Moderate |
| Attending training together and helping each other implement the content of the training. | Moderate | Low | Moderate |
| Participating in continual quality improvement activities. | Moderate | Moderate | Moderate |
| Using collective decision making to reach decisions that produce collective action. | High | Moderate | Moderate |
| Providing support for “help-seeking” as well as “help-giving”. | Moderate | Moderate | Moderate |
| Sharing the responsibility for making and/or collecting materials. | High | Moderate | High |

Source: Collins (1998). *Breaking Ranks II: Strategies for Leading High School Reform*

Based on the criteria provided by Collins (1998), the researcher found Thomas High School to be aligned most with his recommended activities. Each of the three schools were determined to be High in providing moral support, comradeship, and encouragement but were Low in sharing articles and other professional resources for ideas and insight. This was mainly due to time constraints and not the lack of desire to do so.

Likewise, each of the three schools was compared to the recommendations of veteran researcher Shirley Hord. Hord was a pioneer and researched for over nine years before identifying five common characteristics that should be present in an effective professional learning community. These characteristics were to be utilized collectively and not in isolation. According to Hord (1997), these components are shared beliefs and values, supportive leadership, appropriate structural conditions, respect and caring among the community and collective learning and continual sharing by peers. These criteria for a successful PLC are listed in Table 5 below aside the researcher's analysis of the level from Thomas, Midway and Stanley High Schools using the same key and definitions for determining High, Moderate and Low levels of participation.

Table 5: Comparison of High School Campuses to Hord’s Criteria for PLC’s

| Key: | | | |
|--|--------------------|--------------------|---------------------|
| High – Defined as school has strong emphasis and involvement in this activity/practice | | | |
| Moderate – School has Moderate emphasis and involvement in this activity/practice | | | |
| Low – School has little emphasis and involvement in this activity/practice | | | |
| | Thomas High School | Midway High School | Stanley High School |
| Supportive and shared leadership which includes providing the structure. | High | Moderate | Moderate |
| Shared values and vision. | Moderate | Moderate | Moderate |
| Collective learning and application of learning; involves a collective creativity and collegial relationship. | High | Moderate | High |
| Supportive conditions which included one’s environment as well as encouragement for learning structural conditions and collegiate relationships. | High | Low – Moderate | Moderate |
| Shared personal practice which emphasized collaboration of staff, sharing resources and providing feedback to each other. | Moderate | Low | Moderate |

Again, Thomas High School was rated high in three out of five categories Hord deemed critical to successful professional learning communities. As noted throughout

the chapter, THS was the only school of the three campuses that provided consistent time for teachers to be off together to plan and learn. This greatly impacted the ability to meet the criterion Hord advocates. While Midway and Stanley High Schools are progressing and have strengths, especially in collective creativity and collegial relationships, the fact that they do not provide common time together on a regular basis impeded their ability to grow and develop deeply was impeded.

Integrated Themes

Just as teachers in a professional learning community continually analyze the results of their students, I analyzed the results of the twelve interviews and searched for commonality and the messages that the interviewees were trying to convey. By continually demanding and seeking better results, we lead to adult and student learning which leads to continuous improvement (Fullan, 2005). Upon review of the twelve interviews, three with administrators, and nine with teachers, common themes emerged from the data. Perceptions centered on categories of structure/time, leadership, collaboration, effective components of the PLC, and professional development which are elaborated by topic.

Structure/Time

An overarching component repeated by most of the educators interviewed centered on the concept and the structure of the professional learning community and specifically the time that was or was not allotted. By making the PLC's mandatory, we set up norms and structures that we did not have prior to getting trained," Natalie stated, "we have a team leader who kind of just, I guess, keeps us organized, keeps us going and

we record minutes and all that good stuff now, kind of keep it more formal than it was in the past.” In addition she continued, “the structure and pace of the meetings are important factors. PLC’s keep us on the same pace, everyone is responsible for something. In the past I’ve seen where someone will be, ‘Oh, we were supposed to cover that?’, but the PLC really kind of sets the path of what we are doing.” Producing minutes was viewed as an overall good thing knowing that it held teachers accountable. Sally stated, “If there wasn’t a form (minutes) to hold us accountable, I think some probably wouldn’t meet.” This sense of organizational structure was found throughout, although some were stronger at it than others. Setting team guidelines or norms were important to being respectful of each other. According to Sharon, these guidelines were “developed at the beginning of each year so that everyone knows the expectations, gets in the routines, and are reminded that they are accountable.”

The structure of the team was centered on the like content subject that they taught. All schools described having one big team (math) and several small teams of specific subjects like geometry, Algebra II, etc. Many felt that this smaller team needed to be distinguished from a department meeting. When too many teachers are gathered it is more for business, and teachers are less able to focus on planning instruction and the details of the course. Much collaboration was focused on what to teach, when to teach it, for how long, as well as details of grading. Janet described it as,

We’re going to make one test and we’re going to collaborate on it and we’re going to make sure that everyone gives the same number of points per problem, where we are going to give the partial credit if we give partial credit at all. That

way we have fewer hassles. In other words, our parents are pretty happy with us. We have to stay the same because if we deviate in any way, matter or form, it gets out there.

It was a universal opinion that regardless of the amount of likeness of the lessons, testing, quizzes, projects, etc., the teacher autonomy was found in the delivery of instruction. Sharon, who serves as department chair, described it as,

You can teach it whichever way you want as long as by the end of the chapter, you have finished that test. We do require that they give a team test and team final exam which has helped everybody cover all the TEKS and it kind of ensures that all children are treated fairly as far as content goes.

In addition she summarized the opinions of many teacher leaders by describing, “Some people think teaming doesn’t give the teacher the ability to teach the class the way they would want, but we don’t go in and say, ‘you have to be on page five and so on.’ It’s your style and it has to be you or you’re not going to be good at it.”

Throughout the entire interview process, the concept of adequate time was of prevailing importance to all participants. Teachers in all schools saw value in having time provided to meet during the school day. They found this component to be crucial to the success. As described by Sally, “It’s nice that you don’t have to try to meet after school and it helps you organize your day a little better. I’m a person who stays after too long, so it kind of forces you to get stuff done during the day.” Teachers who did not already have this built-in time requested it. These schools had teachers who were creative and still found time to take care of business in a collaborative manner. One

example was Janet who stated, “We meet every two weeks usually or if we can’t meet because of testing, then we meet once a month. We have also met after school, like when we learned the Wiki.”

Other teachers without the luxury of planned time during the day found that meeting during lunch worked best for them. Sharon described their meeting time during lunch; “We all eat lunch together. That in itself is a giant meeting and we pass around a lot of ideas while we’re eating lunch-anything from schedules to what do we do because we’re going to be testing. How should we treat this? What kind of points will we give for it? We make a lot of decisions very informally while we’re eating.” MHS, which had the least amount of training and emphasis on a true PLC when compared to THS and SHS, offered a unique late start once per month to allow for two hours of collaboration. Laura described the session as, “We definitely talk about lesson plans and any pitfalls, if there is going to be any kind of activity or something coming up or something we need to be aware of. We also discuss how each other is counting off on tests. We work answers and make sure we all have the same answers and we check for accuracy.” There was a desire from this campus to have more time to meet in PLC’s because they did not have the planning period built into the school day. There was frustration about time constraints as shared by Laura, “By the time you get all the stuff that you need to get done, there’s little time left over to be creative.” There was also emphasis on needing more time than what was provided, “We need consistent time during the school year, to plan and brainstorm and really make it effective because math is-it’s just so critical. It affects everything.” The use of technology and email was a common thread as many

teachers communicate using this approach continually throughout the day or when they have a quick question for a colleague. There are informal conversations going on through email all the time, and while technology has aided in the ease of communication, it was not perceived as a replacement for face-to-face meeting time.

Teachers also shared that being located in close proximity within the building lended to the ease of collaborating. Laura shared, “We had all geometry teachers on the same floor two years ago and everybody was on the same page. It was very strong, ran very, very well. I think the room location is really important if you can pull it off.”

Department chairs are entrusted with the responsibility for organizing meetings that affect all teachers teaching math. This is part of the structure that was practiced on all three campuses. Each of the department chairs were interviewed and had a similar approach to their role in organizing and providing leadership. They were clear on their expectations of a department meeting when time permitted, but all agreed that the main focus was what occurred in the professional learning community of like content teachers. Patty described a typical day when the entire department gathers on a two-hour late arrival designated time,

We all meet together to start with and then I may have some departmental things I need to talk with them about, maybe an upcoming TAKS test or I need to tell them when they get in their groups—in their subject groups—that they need to write a TAKS plan. We might have the tech person share (we have a member of our department who meets with the technology committee). They may have something they want to talk to the teachers about. We have a campus

improvement team member and they may want to talk. We try to keep it very minimal, so that teachers can then meet and do their planning. Because sometimes we have teachers who teach Algebra I and Geometry, so we'd want to have time for them to meet with both groups.

While each teacher leader disseminated information and planned their comprehensive department meetings, each acknowledged the primary value to the work that needed to be done with like content teachers.

Leadership

The perceptions of leadership can be divided into two distinct categories; teacher leadership and administration. Teachers have high expectations for their team leaders, department chairs, and principals which were evident during the interviews. For example, the importance of everyone doing their part was elaborated by Marilyn, "As a team leader, this means that I make sure we're on task, but it has to be a group thing. Everybody has to take turns, contribute, and it should not be a power trip. The leader has to be a good role model. They can't be one that whines about doing PLC's because that's going to rub off on everyone else." Universally, there was consensus that team leaders should be selected wisely and that they needed to be teachers that others respected and who would treat people fairly.

Many interviewed felt that the teacher leader should be experienced and have taught more than just one course; another words, someone seasoned. It was also common to hear that it is often challenging picking the right leader as stated by Sharon, "picking the right leaders is sometimes a hit and miss thing. We've had one we're trying,

for instance, that's been teaching here for a long time and every year, I try to push him in that responsibility and you know, some people are just not organized enough to lead an entire team, but they are a great working member of the team." All schools recommended that the team leader be currently teaching the same course. Specific leadership traits were shared by Patty, "I think you need to pick a leader that is not bossy. She doesn't monopolize. You might not even know she's the leader if you come in there, but she's the one who gets them directed on their lesson or whatever they are planning." Most agreed that experience was important but not that the most experienced teacher was necessarily the best recommendation.

A teacher leader, particularly a Department Chairman, has to listen to the teammates and yet encourage them to go to the team leader first if they have a problem. The DC can often become an arbitrator if needed. The experience of the teacher leader placed in the role of department chair was universal. It must be a strong leader who is willing to work hard. In praise of her department chair, Janet said, "Our DC sits down and talks to us and she'll say, 'well, are you willing to put in the time?' and 'this is how I feel about you'. She will make you feel really great and will appraise you and say, 'that's the reason why I want you to do this.'"

With regard to building leadership, particularly that of the principal, many teachers expressed the importance of this key role on their campus. Sharon captures a common opinion when stating, "The building leader makes a big difference. You have to have that kind of support-the kind you know has to be there. If you don't give teachers time to plan, especially if it's the first time that you're ever teaming-that's not going to

work because it's new and foreign to them.”

Collaboration

A strong sense of belonging and relying on teammates was resounded. Natalie from THS stated,

I've never felt like I was on my own and didn't have someone to collaborate with. There was a feeling that in years past those that worked the hardest got things done, but the push for the PLC has pulled in everybody. One example of dividing the responsibilities is when we talk about the next test. We break it up, give everybody a little bit to work on, then bring it back together and look at – if everybody does five problems (we have five in our PLC), then we work them (problems) and tweak them.

Teacher sharing can go deeper than just a campus by sharing materials and ideas on a district wide K drive accessible to all. One participant described collaboration in a different way. Janet stated, “I don't have all the ideas, it (PLCs) really helps kind of like the idea of stealing, they have this idea, I want to take it and use it.” Common among all teacher perceptions was the idea of dividing the workload so that not one person had too much burden. “Having three brains instead of one” was used to describe the benefits of putting heads together to plan, create tests, etc. by Jennifer. Similarly, Janet stated that she liked “getting new ideas so I can incorporate those in the classroom and talking with each other about what the colleges are recommending. Teachers share what graduates come back and say so we can keep up and not be behind the times.”

In general, collaboration was seen in a positive light by the participants. One

teacher, however, shared that occasionally,

You will have somebody that just sticks to their guns, they won't change, and you try to enlighten them and say, "Look, this is what needs to be done". A majority rule usually works and then whereas you get everybody's opinion and then go that route, so if you have four on the team and three out of four agree and you have one that disagrees, somebody is not going to be happy, but most of the time we are.

Overall, it was shared that when disagreement occurred teachers felt it best to talk things out and come to resolution. Janet stated that if someone is not happy with something it is "better to have a team meeting, get it out on the table, than have somebody not happy with you. The more we talk, the better off we are."

PLCs were viewed as being a reliable system when a teacher had an emergency or something happened taking them away from their responsibilities. The other members of the PLC can step right up and help so that instruction does not suffer in that classroom. As an example of how the group helped personally, Janet shared,

My mom, she died not too long ago of cancer, my department just chipped in and helped out because I had to leave suddenly. They graded my papers, did my grades for me, took over my classes, went in and taught my classes. Even with a substitute provided my teammates went in to help answer questions my students might have.

This sense of caring and fellowship as Janet described, appeared to create an environment of trust and appreciation. Levels of this kind of camaraderie varied from

school to school. One teacher leader reported that, “I’m not sure how it happened but everyone that leaves our school reports back that we are really quite a unique group. I mean, we party together. We go to happy hours together. We are like an old family. We might be mad one day at somebody but the next day, we’re throwing them a party.”

One noteworthy contrast to the positive interpretation of teamwork with regard to developing teacher-made tests was shared by Cathy,

I’ve been on a campus where everyone is ‘lockstep’ and I see advantages to that if you have a weaker teacher within your group, but I think it takes away our individual strengths and I don’t like the lockstep situation. There were five of us that planned together and mapped out each semester and we took turns making out the test which is what I did not like because some people give weaker tests, some people give stronger tests, but you are locked into the situation where you all give exactly the same test. I feel like as a teacher that we all have our own strengths and we emphasize different things sometimes.

Despite some preference not to be “lockstep” as described above, there was an overwhelming agreement that teacher collaboration led to better teaching and much of how collective capacity is described as, “The best professional development occurs in the context of the workplace rather than the workshop. Teachers work together to address the issues and challenges that are relevant to them” (DuFour, Eaker, & DuFour, 2005).

Components of the PLC

Planning for instruction was the most common use of PLC time noted by all the participants. A common meeting day might mirror thoughts shared by Sharon, “Bring all your stuff. We’re going to talk about what we are going to do for Chapter 12. People bring their ideas, their calendars, and some projects that they might want to do and we look at the timeline.” Similarly, Natalie noted that a great deal of effort must be made to make sure that meetings are not always just about planning,

Our meetings are always focused on planning. We have to go out of the way to say, ‘Okay, today we really do need to talk about that test we gave last week and make sure that everybody’s on the same page and we had the same objectives that we did well on or did poorly on or whatever.’ But if someone doesn’t consciously do that, they’re always focused on planning it seems like, just what we do next week, do we have the stuff ready, going to get it turned in, all that kind of stuff.

Some teachers, such as Marilyn, believed that if all were giving the same test but your grades were bad, then it was a direct reflection on your teaching. In addition, teachers often focused on planning timelines needed for teaching particular objectives as noted by Patty, “one teacher says, ‘I’m having real trouble with this topic’ and we spend another day on it.” Many times these discussions would lead to refocusing the agenda to allow for the time requested.

Variation occurred in the day-to-day operation of a PLC based on whether teachers had taught the course before. For example, Sally was teaching a new course this

year and explained the following, “A lot of our PLC time is spent coming up with material since math models is new. Now instead of ‘going over a test’ or ‘seeing how we can tweak it’, we are making a new one.”

This example of developing common assessments was echoed by many teachers at two of the schools, THS and SHS. Time together is sometimes spent pulling resources, such as textbooks, and looking online to develop quality tests and quizzes. Most teachers believed that developing and utilizing common assessments was preferred although it does present problems with the ‘word getting out’ and students cheating by sharing what’s on the test throughout the day. Overall, a sense of fairness dominated the opinions and most gave common tests. In high school stakes are high for grade point average, particularly in all three of these high schools and this was a definite issue for the teachers. Some teachers even commented that if one teacher gave a test or quiz that was easier, the parents would definitely talk about it and complain. Sally shared, “We give common assessments for every single test in Algebra II. We feel that’s the only fair way to do it because an A in one person’s class should be equivalent to an A in another person’s class.”

Similarly, Jennifer commented on the use of common assessments, “I like it. It shares the workload and we can really compare the students then, but they’ve all taken the same test or the same quiz and it’s good to see how they’re doing. Our school is competitive and we know that for the kids it’s a fair playing field no matter who they have, no matter what they do, they have the same materials on the assessment.” Patty relayed similar concept by saying, “I have had parent calls where, ‘well, my daughter is

in Mr. Jones' class and she says her best friend is in Ms. Smith's class and they got two points bonus on the last test.' A lot of parents now know that we are similar. There is not one that they like more than the other for whatever reason and that helps a lot. The teachers know not to go it alone."

At the third high school, MHS, less common assessment was used on a consistent basis. Only one team, Algebra I, developed their tests together on a regular basis. Coincidentally, this was also the team that was the only one provided common planning time during the day three times per week. More often, teachers took turns making out the tests and shared them. Sometimes when they created their own test, they would use a colleagues' test as a make-up exam when someone had been sick. Teachers at this campus were not told they had to give common assessments so the flexibility was there for them to choose. The principal at MHS took a more "hands off" approach and allowed greater flexibility. There was a definite correlation to the principal's encouragement of PLCs and common assessments, and the level of implementation at the school.

Professional Growth

Teachers at all levels benefit from being a part of a group and most feel they grow professionally as a result. With regard to new teachers, professional learning communities make a huge impact on novice teachers and helping them to learn the craft. There was overwhelming agreement that the structured guidance provided by the veterans to the beginners was invaluable. Natalie stated,

At first, we take the new teachers under our wing and –as bad as it sounds, they don't get much say. We talk about what we need to cover and when we need to

cover it, how fast we need to cover it, and they get to see all that, and then we just start slowly giving them stuff. The responsibility of the new teachers grows gradually as they acclimate to the process.

Veteran teacher, Sharon, described how PLCs assist beginning teachers by saying,

I think it brings the weaker teacher or the inexperienced teacher to the forefront and the team itself will help. I mean, the survival of the fittest is really not what it is. If we know that someone is not particularly good at creating tests, we'll team them up with someone and say, "why don't you two work together on this?"

Here's a copy of a test we've given in the past. See what you can come up with."

And we sort of tutor our teachers along the path-trying to help them out.

Similarly, Laura shared the example related to teaching factoring, "It's really hard and it takes them (the students) two days to really get that well. It's especially helpful to share ideas with a new teacher which would be invaluable because they don't know what the stumbling blocks are." There was repeated emphasis on "easing them into it" after starting off with veteran teachers handing over materials then gradually expecting more of the newer teacher as time went on.

Many times teachers share particular instructional strategies for how to best teach an objective. If one teacher finds her students not to have done well on a test or objective they can ask their colleagues for ideas about more effective ways to deliver the instruction. "And that is one thing that we get into sometimes that gets very lengthy because it takes a lot of time to convince another teacher that 'you should teach

something this way,' but I think it's worth it because we've gotten into some good discussions," said Natalie. Laura reinforced this desire and gave the example that, "Melanie (her colleague) has given me some great ideas on how she presents the material and I think, 'oh man, I didn't think about doing it that way.' It's very valuable because it gets through to the kids. I will ask her 'What are you stressing about this?' and 'What is it that they're going to have to remember'? The sharing of teaching strategies was a clear desire on the part of all the teachers interviewed; however, several shared honest feedback that this gets less priority than the tasks that must be completed. Marilyn summarized it this way,

The main task is that we talk about the upcoming unit, how the last unit went and if we need to make any changes. One thing we try to do at the beginning of the year, but it goes on the back burner, is sharing teaching strategies. 'Oh, I taught like this way and the kids really learned it and it was great,' but then as the year goes on, you kind of lose time for that because we have to get this done, and that done.

It appears that teachers have great intentions of this component being a priority, but in reality, the day-to-day stresses of creating lesson plans, writing quizzes and tests, usually consumes the bulk of the time.

Technology was mentioned multiple times by teachers in the field. Learning new equipment, such as Smart Boards, was a major component to the PLC time. Regarding demonstrating lessons, Sally stated, "It was nice to show them, especially the one who also teaches Statistics. I was showing him stuff he could do with statistics and he thought

that was pretty amazing. He wasn't ready to make the switch to Smart Boards yet, but at least I could show him during our PLC time." Likewise, Laura shared that one of the teachers showed her and the others how to use the TI-84 calculator which she did not have experience with so another teacher would show her the way and she would run across the hall for advice as needed. Similar examples of professional development in technology were a focus for many during the PLC time and were thought to be a major factor in student success and preparation for college.

While not always getting the most minutes of a PLC allotted, staying current with strategies and the newest methods for teaching key concepts was an important use of the common planning time together. Patty gave a specific creative example of how Thursday fourth period was used in her Algebra I team, "They were interested in the TAKS TEAMS project which is an activity-based program. They were interested in using some equipment, a data collector with their kids. So, I brought a retired teacher in to work with them on that on a couple of Thursdays." This type of activity was a definite goal of many teachers interviewed.

Chapter Summary

In summary, perceptions of the professional learning communities were positive with regard to the impact on learning and relationships among the teachers. Thomas High School and Stanley High School with clear structured PLC's, were more positive than Midway High School with teaming and some components of it, but no direct training and specific expectation. This research revealed that the emphasis placed on the PLC by the campus principal was also found to be a factor in the level of

implementation and the teacher attitudes towards it. This was evident at Midway High School when the principal had a more “hands off” approach and allowed for more teacher latitude which correlated to less emphasis on the PLC, common planning time, and the use of common assessments. What the principal did not stress did not get accomplished to as great of a degree as in the schools where it was a priority for the leadership.

There is a strong perception that while there may have been reluctance at first by veteran teachers, even they have come to appreciate the strengths of many on their content team. Marilyn stated,

But looking back to what I’m doing now and then what I did when I first started, it’s (the PLC) helping the kids out immensely because it’s completely fair. We also kind of provide more tutorials because everybody’s doing the same thing. We even have the same homework, everything exactly the same. So we have a common website where they can go to get solutions to homework. Tutoring you can pretty much go to anybody. No one is re-inventing the wheel, so I’d say it’s a very positive thing.

Laura described the value of PLC time as sharing what makes sense and wanting to present the material in its most useful form. She summarized the value of collaboration by stating, “If we don’t do that (present material in its most meaningful form) then we are not doing a very good job. That’s why it is important to collaborate and I think it’s for the students benefit. The more we can plan, the less we have to wing. There’s only good that’s going to come out of that in my humble opinion.”

The overarching themes of structures/time, leadership, collaboration, components within a PLCs, and professional growth framed the genuine feedback and opinions of the professional learning communities and their effectiveness. It is obvious the merits of working in a professional learning community are there, but the most important factor in the success and improvement of any school will depend on the collective commitment of all the educators.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

If most schools and districts are not good learning organizations (or good professional learning communities if you like) this means they are not good employers. They are especially not good employers for teachers who want to make a difference.

– Michael Fullan (2001, p. 252)

Before making recommendations to future researchers and educators, a quick review of the processes for this study is important to understanding what transpired leading to the conclusions.

Summary

This study centered on the perceptions of teachers and principals about the effectiveness of professional learning communities. The focus was on large comprehensive 5A high schools in the state of Texas, all of which were located in the suburban Houston area. Expectations in education have never been higher and accountability more rigid than it is today. Movements such as No Child Left Behind have necessitated more intervention and a need to find better ways to service all children. In Texas, education reform is necessary to reach the new milestones set out by the Texas Education Agency as well as the federal government. Educators are given the daunting task of searching for best practices to meet the needs of their changing populations. Professional learning communities is one reform that spawned from the concept of teaming and collaboration which was a thrust of the 1980's and 1990's.

While there are some studies that have been conducted about the effectiveness of professional learning communities, overall there is little research showing that implementing PLC's in a high school will lead to increased student achievement. The purpose of this study was to interview and document teachers and principals in order to gain their perceptions of the effectiveness of this PLC movement. A total of nine teachers, three of which were the Department Chairmen, and three principals were selected representing three high schools and interviews were conducted using a qualitative method of study. From that analysis, conclusions were formulated and recommendations for practice and further research developed.

To determine which schools would be appropriate to interview, the researcher decided to select only from those with a Recognized or higher rating from the Texas Education Agency and who were acknowledged for performance in Mathematics. In addition, schools were acknowledged by the Just For Kids Foundation as high performing in mathematics. This was important because it can be inferred that something is going right in these schools for achievement to be at such a high level. This study zeroed in on mathematics teachers because there is such a need to assist students in this subject as state test scores are lower in that area than other subjects and because mathematics is a gateway to understanding many sciences and for students to succeed in higher education. Of nine eligible campuses in the Houston area, the interviewer first contacted principals personally to obtain their permission and willingness to help. Geographic location and omitting the interviewers' school were factors in final selection. After completing necessary research applications and approvals for districts of

KarsonISD and Southwest ISD, interviews were scheduled. All interviews were conducted at the school site for the ease of the interviewees and to create a natural and relaxed atmosphere for the participants. Interviews were hand-scribed, tape recorded, and then professionally transcribed. These conversations were then read, synthesized, and analyzed. Data was used to group and label forming categories or themes (Strauss & Corbin, 1990) in order to articulate findings and recommendations. Themes of relevance emerged in categories of structure/time, leadership, collaboration, components of the PLC, and professional growth and each of those areas were elaborated.

Conclusions of the Study

After interviewing the twelve participants and reading current literature, it was clear that professional learning communities were perceived by those in the field to be making a positive difference and that they do enhance instruction. A PLC does not suddenly emerge from a checklist of things to do, but is more of an evolution if the right components are in place. So what did this research study reveal that will now add to the knowledge base of practitioners and those in academia? Overarching conclusions emerged related to capacity building, relationships, and a sense of urgency in our profession. These themes encompassed the smaller themes involving structures, components, time, leadership, collaboration, and professional growth. Each of these larger themes will be explored and related to the literature studied and qualitative findings.

Capacity Building

The first major theme that emerged from my study was the importance of building capacity within the organization and among the stakeholders. Michael Fullan (2001) describes the importance of capacity building in an organization as he states,

There is no chance that large-scale reform will happen, let alone stick (be sustained) unless capacity building is a central component of the strategy for improvement” (p. 10-11). Leaders must pay close attention to how they lead and whether they are generating passion, purpose and energy and therefore developing intrinsic motivation. There must be a strong focus on capacity building which involves developing the collective ability, disposition, skills, knowledge, motivation, and resources to act together to bring about positive change (p. 4). Fullan (2001) stated, “Deep and sustained reform depends on many of us, not just on the very few who are destined to be extraordinary. (p. 2)

Building on the strengths of those within the organization requires that the leader set up the system for success. For example, the concept of time and structure was continually mentioned by those interviewed as paramount to creating positive results in student achievement. By creating a system whereby educators have this time built into the school day in such a structured manner, teachers are able to grow professionally, maintain consistency, learn from each other, and not be overly stressed about the paperwork, grading, emails, etc. which can often distract them when they are meeting in a PLC. The school leadership should seek creative ways to empower teachers and give them opportunities to dialogue and learn from one another. Sometimes this takes

creativity and willingness to veer from the ordinary and seek structures that are above and beyond a typical planning period.

My research revealed that what teachers do on a daily basis makes a difference and that developing the capacity for the teachers was a major indicator of success. The interviewees shared stories and examples of how their daily decisions impact student learning and the ease to which they are able to teach. The structures that are in place involving the rules and roles that shape behavior in schools are critical to determining the quality of school life (Schlechty, 1997). We must ask ourselves, “Should teachers be viewed as leaders, facilitators, and coaches, or should they be perceived primarily as organizers and transmitters of information and evaluators of student performance?” (p. 103). The structures of the school impact the ability for teachers to be empowered. Cathy from Midway High School described one innovative structure of late arrival by saying,

The late arrival time like we have, I think that’s better, just a specific time every few weeks to sit down with those people and plan. No one misses late arrival because it’s too valuable. It’s valuable within the department when presentations are made and it’s valuable for us as teams.

Structures such as this that allow teachers time and opportunities for planning are part of the collective capacity that was prevalent throughout the study. “This capacity building is the daily habit of working together and you can’t learn it from a workshop or course. You learn it by doing it and getting better on purpose” (Fullan, 2001, p. 69).

Relationships

As teachers work together to make crucial decisions in the teaching/learning process they build capacity in their organization. As this capacity is developed key relationships are fostered from the collaborative efforts. The development and power behind relationships was continually evident throughout the interview process as well as embedded in the literature explored. The power of strong relationships surfaced as an underlying foundation during the conversations with the teachers as well as from the researchers studied. The atmosphere within the PLC must be supportive and encourage the building of relationships through a sense of community building. Wheatley and Kellner (1997) validate the sense of community that is important to most people. “Life is systems-seeking; there is the need to be in a relationship, to be connected to others” (p.2).

McGill and Slocum (1994) describe aspects of a supportive learning culture as they might be manifested in observable organizational behavior:

Everyone-management, employees, customers, and suppliers see opportunities to learn and grow. Groups engage in active dialogue and conversation, not discussions. These conversations are reflective, as opposed to argumentative, and they are guided by leaders who facilitate the building of strong relationships among key stakeholder groups. (p. 11)

Teachers interviewed talked favorably about the power behind the relationships they built while working in a PLC. They got to know each other, valued their time to share ideas, and in many cases began to rely on each other outside the classroom becoming

friends and socializing on a personal level. Though not perfect, the relationships were valued and were perceived to provide strength to their mission of educating the students. This was explained by Patty, “People get along or make themselves get along in some cases because you don’t always have perfect personalities and I think that’s been a real strength in our department and I think it has paid off in what these kids accomplish.”

Relationships that were developed through the continual interactions among the teachers resulted in sharing of knowledge and best practice. Von Krogh, Ichijo, and Nonaka (2000) studied knowledge as it relates to people and reminds us,

Knowledge creation puts particular demands on organizational relationships. In order to share personal knowledge, individuals must rely on others to listen and react to their ideas. Constructive and helpful relations enable people to share their insights and freely discuss their concerns. Good relationships purge a knowledge-creation process of distrust, fear, and dissatisfaction, and allow organizational members to feel safe enough to explore the unknown territories. (p. 45)

The relationships within the three schools were found to grow stronger through collaborative efforts. By developing the relationships among the teammates and creating a positive relationship with their principal, a culture of trust was established which was perceived to have contributed to higher mathematics performance by the students.

A Sense of Urgency

Developing organizational capacity and fostering relationships among the professionals fell naturally from the efforts to work in professional learning communities. The formation of PLCs at this day and time was spawned from the

necessity to seek out new ways to meet the challenges of today's accountability. Though not blatantly stated, teachers and principals felt pressure to improve student achievement and/or to maintain the excellence already established. There was a sense of necessity to keep performance ratings high; a sense of urgency within the profession reminding us that this is not a casual business. Teachers and principals do not come to work in such a relaxed state that each day does not matter to the fullest. Instead, they plan for collaborative meetings, take minutes, and focus directly on the tasks of planning, creating assessments, and sharing ideas and teaching strategies. While none of the teachers or principals interviewed seemed overly stressed, there was a definite sense of awareness and focus on keeping academic achievement high; their eye was on the ultimate goal of student achievement.

Standards have changed over the last twenty years and more mandates have been established requiring more of the educators. During the 1990's only a small percentage of states had adopted academic standards. Now the use of standards is a matter of federal law and all 50 states have adopted one version or another (Reeves, 2005). High stakes testing has added to the complexity of our accountability system both at the state and federal levels. Additions of No Child Left Behind legislature and increased TAKS test standards in Texas combine with a desire to be perceived by the community as schools doing the right things for kids. Leaders are continually searching for ways to meet the higher standards. Southwest ISD has gone so far as to pay teachers for increased student achievement as explained by Principal Dr. Jasper:

Two years ago, the district implemented a \$3,000.00 payment. It's kind of like a merit-type pay for our math and science teachers. They receive \$1500. up front and then they earn the other \$1500. They set target goals as a department, and then they work for those goals as a department. And if they achieved those goals then everyone in the department receives that \$1500.00 at the end of the year. If they do not achieve those goals, then no one receives the money. So they are all in the same boat regardless of who they teach and this is one reason they are so open to teaching all levels of students. I think that this has made a big difference.

Increased accountability and desire to maintain excellence as represented in campus ratings (remember that each of these schools were rated Recognized or higher by the Texas Education Agency) play a role in the need for continued educational reform and seeking out best practices, such as professional learning communities. Policy makers and school leaders who insist on evaluating schools and those who rate them solely on the basis of test scores make the same mistake as persons who base their evaluation of corporate performance solely on profit/loss statements (Schlechty, 2002, p. 93).

Although current accountability standards do not measure the importance of teacher collaboration, strong teaching strategies, or other adult behavior that directly impacts student achievement, my research found them to be critical. Professional learning communities add value to standards not by merely delivering them to the schoolhouse door, but by also analyzing, synthesizing, and prioritizing them in a way that allows every teacher to wisely allocate time and instructional focus (Reeves, 2006, p. 52).

Recommendations for Practice

Secure Adequate Structure/Time. Of all themes to emerge from the study, there was an overwhelming consistency with regard to desiring time to meet and collaborate during the school day. One of the three high schools provided common time daily while the other two were occasional. Those that did not have it on a regular basis requested it. When asked what they would do differently, first and foremost this desire for time provided during the school day was mentioned. The structure of a large comprehensive high school centers on the master schedule. This schedule determines how many periods of the day there are, how many minutes each class meets, passing time between classes, and whether classes meet daily (traditional) or every other day (block scheduling). The leadership of the school must make it a high priority to find adequate time for teacher collaboration to be provided during the school day. Teachers are similar to students in that they do want structure given to them, not always in full detail, but certainly outlined as described by Cathy, “For planning time, we want some guidelines, but not too strict. Seems like administrators have to find a delicate balance between setting up structures and high expectations but not micro-managing.”

Provide Strong Leadership. In order to bring concepts of a professional learning community to fruition, we must focus on strong leadership. Senge (1990) reminds us that leadership in learning organizations is both “collective and highly individual” (p. 360). Therefore, when goals are established it is important to remember that they must reflect goals for the individuals (teachers and students) and goals for the organization. According to Elmore and Burney (1999), leaders must create conditions

that value learning as both an individual and collective good. Leaders must create an environment in which individuals expect to have their personal ideas and practices subjected to the scrutiny of their colleagues, and in which groups expect to have their shared conceptions of practice subjected to the scrutiny of individuals (p. 20). “The bottom line is that the leader is the primary culture carrier for the organization,” Carol Schweitzer (2000) concludes, “If the leader’s attitudes and behaviors do not match the culture that you are intending to build, it will not work. The leader and the culture must be in sync” (p. 35).

Only a limited number of empirical studies examining the leader’s role in creating professional learning communities exist and many of those have been explored in this paper. Most studies focus on the leadership behaviors of the principal (Leithwood, et.al, 1998). What exactly must the principal do to be an effective leader of a professional learning community?

The campus principal must advocate the use of PLCs and genuinely believe that they are the structure necessary to move the organization forward. The school leader sets the tone for the campus and is the primary person responsible for the performance of the organization. According to Michael Fullan (2001), when leaders model and reflect the values and practices indicative of leaders of learning community they “improve the performance of the organization while simultaneously developing new leadership all the time. In this sense, organizational performance and leadership development are one and the same” (p. 132). The principal must create the development of “commitments and

capacities” of all within the organization. These commitments develop around shared vision and unity of purpose (Leithwood, et.al., 1998).

Principals must model and articulate that professional learning communities are strong avenues for collaboration and expect that they become a part of the school culture. A principal must be involved in the teacher collaboration, not on a daily basis, but as needed. A case study by Huggins (2010) revealed,

school leadership involvement in PLC’s is significant not only because school leadership assists professional learning communities in becoming successful in increasing student achievement, like in the case of the math PLC at Riverside Academy, but also because school leadership involvement is perceived as needed in PLCs (Huggins, p. 93).

Empower Teachers in Decision Making. Teachers must be empowered and know that their opinions are valued and that they genuinely make a difference in the success of the organization and ultimately in student achievement. Michael Fullan (2001) believes that “teachers are moral change agents” (p. 16) and that schooling should make a difference in the lives of students in ways that matter. While teacher collaboration is worthwhile, Fullan argues it is likely to be weak unless participants are bound by moral commitments and shared responsibility. He believes this “is fundamentally related to whether teachers are likely to find the considerable energy required to transform the status quo” (p. 48).

A sense of collaboration is paramount to effectiveness within a professional learning community. The public places a lot of responsibility on teachers today. Society

asks teachers to change their “habits of mind” (Mezirow, 2000) and approach to problems to improve schools. Teachers are continually making judgments, inferring best solutions, and debating the results of past decisions.

Teachers need leaders to make things clear and logical; the initiatives must make sense to all constituents. Sparks (1997) wrote, “It’s been said that someone who has a ‘why’ can endure any ‘how’; few things are more important to motivation than a purpose that is regarded as profound and morally compelling” (p. 2).

Provide Necessary Training. A strong PLC environment must contain effective staff development for teachers. Training must be up-to-date, including advances in technology and teachers must be taught how to use new materials and instructional strategies. The National Research Center on English Learning & Achievement (2002) claims successful professional development assists teachers in “being reflective in their practice within professional communities” in which teachers rely on collective expertise and mutual support of each other.

Recommendations for Further Study

Based on what I have learned from this research, it is clear that much remains to be unfolded on the topic of professional learning communities and that much is still to be learned which can enhance student instruction. I recommend the following areas for future students to explore:

1. Since the PLC movement has been developed more in the last decade, I recommend that it be studied over time. In education terms, PLCs have been implemented for a relatively short time and seeing progress over another decade

might help to discover more strengths and weaknesses of the implementation and effects on student achievement.

2. My research focused on comprehensive 5A high schools. Similar research involving a qualitative approach of interviewing school leaders and teachers could be conducted at the elementary and junior high levels. Likewise, similar research could be conducted in medium-sized high schools and small high schools who advocate the use of professional learning communities. There could also be a change from suburban schools to rural or urban schools to see if the dynamics of those schools would lead to different results.
3. Quantitative or mixed method research could be conducted using surveys or questionnaires to ascertain whether participants perceive the PLCs to be effective. This could be utilized over a greater scope of schools from any of the above mentioned areas in order to strengthen the pool of feedback.
4. My research revealed that very few case studies have been conducted allowing the researcher to study a school and its participants over time and to embed their observations into the research. I interviewed a total of twelve participants in three schools, so taking one school and becoming a part of the culture for a longer period of time would be an excellent follow-up to my research. A doctoral student could actually sit in PLC meetings, listen to conversations, and follow the participants in their daily routines so that detailed perceptions could be captured and documented.

5. Mathematics was the focus of the teachers that I interviewed. Another researcher could consider selecting English Language Arts, Science or Social Studies to gain insight from a different content. Would the nature of the content lead to different personalities of the teachers which might affect the culture of a professional learning community? Does pressure of the TAKS test performance affect teachers who teach historically more difficult subjects (math and science) play a role in the way they rely on each other? Much could be explored in these teaching fields.
6. In the recommendations I have made, I have attempted to give some specific detailed suggestions of what actions leaders could take to develop and cultivate professional learning communities in their organizations. Another researcher could study more organizations with specific structures in place and delineate more of a step-by-step process to establish and develop PLCs within a school. This research could be an excellent resource for new administrators or for any school leader that is looking for a team approach to problem solving and best practice development.
7. Becoming a school that is a true professional learning community is a learning curve for all participants. I had the unique opportunity to open a high school so I was able to interview teaching candidates and secure teachers who were proponents of teamwork and who did not prefer to work in isolation or who at least had the willingness to try new and different approaches to teaching and learning. Most school leaders are not this fortunate and inherit an existing staff

and would be tackling change in the work structure to implement the PLC concept. Development of professional learning communities in a school that does not have them is really a matter of educational reform and requires a lot of adult training. It is important to note that steps to beginning the process are slow and that many educators, like some at Midway High School in my study, value teaming and collaboration, but may not have had the formal training of a professional learning community. When there is a basis of recognition that multiple ideas and brainstorming are more effective than isolation, the sky is the limit for what can be produced. The leader will need to have patience and work to provide the teacher education necessary. I recommend that future research be conducted regarding how adult learning and organizational learning are connected.

Insights

As I reflect on my research and begin to conclude the process, I know that I have learned the value of qualitative research. Until I got to this level of the Ph.D. process, I did not truly understand the power behind hearing and interpreting the human experience. Throughout my life, I had attended class, read literature, listened attentively to teachers and professors, studied notes and materials, and, eventually, demonstrated my knowledge of the content through a test or written assignment. I was actually always a “good student,” perhaps even a teacher pleaser. Never before had I taken the time to interview and analyze to this depth and work to draw conclusions from what the people in the field are telling us. If we are wise researchers and students of the future, we will

stop and listen before we make crucial decisions in the teaching learning process. How powerful it can be to hear what others say and to validate them by taking their viewpoints into consideration and seeking solutions based on that reflection.

As predicted, I realized I brought some bias into the research since I am a high school principal of a comprehensive 5A school that does embrace the concept of professional learning communities. I believe that the research in this case served as a validation for this practice in my school; therefore, I will now work not only to continue it, but to make it easier and more effective for my teachers. PLC's must continue to be a way of life, and not just something on a "to do" list. Sergiovanni (2000) says, "Members of the school community are committed to thinking, growing and inquiring and where learning is an attitude as well as an activity, a way of life as well as a process" (p. 59). I must cultivate this concept of working with our collective mind which is a continual process.

I have learned that I am not finished gaining insight but rather that I am a life-long learner and that regardless of which positions I hold in the future, I must remember that it is my responsibility as a leader to instill that love of learning in those that work with me. Barth (2001) emphasized that those who will thrive in the future will be the people whose educational experience and beyond is that of a "voracious, independent life-long learner" (p. 17). Teaching teachers and students to share and become learners naturally is one of the positive outcomes of effective PLC's. Vaill (1996) expanded the definition of lifelong learning when he added the quantifier about learning, "To be a life-long learner about learning describes the Professional Learning Community" (p. 82).

On the quest to strengthen my leadership, I must continually search for best practices and work to develop a positive climate and culture. Michael Fullan (2001) summarized effective leaders by saying,

Effective leaders make people feel that even the most difficult problems can be tackled productively. They are always hopeful and conveying a sense of optimism and an attitude of never giving up in the pursuit of highly valued goals.
(p. 7)

Teachers and principals who view their vocations as more of a calling than just a job, know the difference between going through the motions and genuinely starting each day with a purpose of not only helping the next generation learn, but learning ourselves. I will summarize by concurring with interviewee, Cathy, as she stated in the reflection of what she gained from working within a professional learning community, “I feel like if the day I say I quit learning, I need to go away, because I think we learn from each other.”

Chapter Summary

The professional learning community, along with any reform, cannot be a fly-by-night idea, flavor of the month, or concept that is there one minute and gone the next. It must be carefully implemented and given time to develop and cultivate into the true culture of the school and work place to be sustained over time. Michael Fullan (2001) explained,

Developing a PLC is not a one-time attempt, but rather a continual cycle of self-reflection and constantly seeking ways to improve leading to continual growth in

the organization. According to DuFour, DuFour, Eaker and Many (2006),
“Members of a professional learning community continually assess their
effectiveness on the basis of results; tangible evidence their students are
acquiring the knowledge, skills and dispositions essential to their future success”
(p. 117).

My study revealed various aspects of the professional learning community centering on the development of capacity building, formation of relationships, and a sense of urgency to introduce and institutionalize school reform that will result in higher academic achievement. My conversations and findings fell in line with many researchers and practitioners who are advocating the use of PLC's in our schools. I conclude by acknowledging and agreeing with Mike Schmoker (2005) who states, “The right kind of continuous, structured teacher collaboration improves the quality of teaching and pays big, often immediate dividends, in student learning and professional morale in virtually any setting (p. xii).

REFERENCES

- Anderson, S., Rolheiser, C. & Gordon, K. (1998). Preparing teachers to be leaders. *Educational Leadership*, 55(5), 59-61.
- Barth, R. (2001). *Learning by heart*. San Francisco, CA: Jossey-Bass.
- Berliner, D. C. (1986). In pursuit of the expert pedagogue. *Educational Researcher*, 15(7), 5-13. doi: 10.3102/0013189X015007007
- Bezzina, C. (2004). The road less traveled: Professional communities in secondary schools. *Theory into Practice*, 45(2), 159-167.
- Carmichael, L. (1982). Leaders as learners: A possible dream. *Educational Leadership*, 40(1), 58-59.
- Center for Research on the Context of Secondary School Teaching. (1998). Retrieved on October 15, 2010 from www.stanford.edu/group/CRC
- Cicchinelli, L., Gaddy, B., Lefkowitz, L., & Miller, K. (2003). No child left behind: Realizing the vision [policy brief]. Aurora, CO: Mid-continent Research for Education and Learning.
- Cobb, P., McClain, K., Lamberg, T. D., & Dean, C. (2003). Situating teachers instructional practices in the institutional setting of the school and district. *Educational Researcher*, 32(6), 13-24.
- Collins, D. (1998). *Achieving your vision of professional development: How to access your needs and get what you want*. Greensboro, NC: SERVE.
- Creswell, J. W. (1998). *Qualitative inquiry and research design*. Thousand Oaks, CA: Sage.

- Creswell, J. W. (2003). *Qualitative, quantitative, and mixed methods approaches*, 2nded. Thousand Oaks, CA: Sage.
- Cross, C. (2001). Assessment, TIMSS-R, and the challenge to change. *Basic Education*, 45(5), 1-4.
- Darling-Hammond, L. (1997a). *Doing what matters most: Investing in quality teaching*. New York, NY: National Commission on Teaching & America's Future.
Retrieved on September, 20, 2010 from
www.tc.columbia.edu/~teachcomm/DoingWhatMattersMost.pdf
- Darling-Hammond, L. (1997b). *The right to learn: A blueprint for creating schools that work*. San Francisco, CA: Jossey Bass.
- Dillenbourg, P. (Ed.) (1999). What do you mean by 'collaborative learning'? In *Collaborative-learning: Cognitive and computational approaches* (pp. 1-19). Oxford, UK: Elsevier.
- Dilley, P. (2004). Interviews and the philosophy of qualitative research. *Journal of Higher Education*, 75(1), 127-132.
- DuFour, R. (2000, Sept.) The superintendent as staff developer. *School Administrator*, 57(8), 20-24.
- DuFour, R., & Eaker, R. (1998). *Professional learning communities at work: Best practices for enhancing student academic achievement*. Bloomington, IN: National Educational Service.
- DuFour, R., DuFour, R. & Eaker, R. (2005). *On common ground*. Bloomington, IN: National Education Service.

DuFour, R., Eaker, R., & Many, T. (2006). *Learning by doing*. Bloomington, IN: Solution Tree.

Eastwood, K., & Louis, K. (1992). Restructuring that lasts: Managing the performance dip. *Journal of School Leadership*, 2(2), 213-224.

Edmonds, R. (1979). *A discussion of literature and issues related to effective schooling*. Paper retrieved from ERIC doc. ED170394.

Education Commission of the States. (2000). Retrieved on July 6, 2010 from <http://www.eric.ed.gov/ERICWebPortal/search>

Elmore, R., & Burney, D. (1999). Investing in teacher learning. In L. Darling-Hammond & G. Sykes (Eds.), *Teaching as the learning profession: Handbook of policy and practice*. (pp. 263-291). San Francisco, CA: Jossey-Bass. Retrieved from www.nctaf.org/publications/Elmore.pdf

Erlandson, D. A., Harris, E. L., Skipper, B. L., & Allen, S. D. (1993). *Doing naturalistic inquiry: A guide to methods*. Newbury Park, CA: Sage.

Fisher, D., & Frey, N. (2008). *Better learning through structured teaching: A framework for the gradual release of responsibility*. Alexandria, VA: Association for Supervision and Curriculum Development.

Fullan, M. (2001a). *Leading in a culture of change*. San Francisco, CA: Jossey-Bass.

Fullan, M. (2001b). *The new meaning of educational change* (3rd ed.). New York, NY: Teachers College Press.

Fullan, M. (2005). *Leadership and sustainability: System thinkers in action*. Thousand Oaks, CA: Corwin Press.

- Fullan, M. G., & Miles, M. B. (1992). Getting reform right: What works and what doesn't. *Phi Delta Kappan*, 73(10), 744-752.
- Garmston, R. J., & Wellman, B. M. (1999). *The adaptive school: A sourcebook for developing collaborative groups*. Norwood, MA: Christopher-Gordon Publishers.
- Gates, B., & Gates, M. (2001). *High schools for the new millennium*. Retrieved on July 10, 2010 from <http://www.gatesfoundation.org>.
- Glickman, C. (2002). *Leadership for learning: How to help teachers succeed*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Glaser, B., & Strauss, A. (1967). *The discovery of grounded theory*. Chicago, IL: Aline.
- Goals 2000, (1994). *Educate America Act*. Retrieved on August 1, 2010 from <http://www.2.ed.gov/G2K/g2k-fact.html>.
- Guskey, T. (2000). Twenty questions? Twenty tools for better teaching. *Principal Leadership: High School Edition*, 1(3), 5-7.
- Hammond, L., & McLaughlin, M. (1995). Policies that support professional development in an era of reform. *Phi Delta Kappan*, 76(8), 597-604.
- Hord, S. (1997). *Professional learning communities: Communities of continuous inquiry and improvement*. Austin, TX: Southwest Educational Development Laboratory.
- Hord, S. (2008). Professional learning communities. *Staff Development Journal*, 30(1), 40-43.
- Huffman, J. (2003). The role of shared values and vision in creating professional learning communities. *National Association of Secondary School Principals' Bulletin*, 87(637) 21-34.

- Huggins, K. (2010). *Professional learning communities as a leadership-initiated reform strategy for math and science teaching in urban high schools*. Ph.D. Dissertation, Texas A & M University, College Station, TX. Retrieved from Pro Quest Digital Dissertations Database. (Publications No.AAT 3436801)
- Jonassen, D.H. (2004). *Learning to solve problems: An instructional design guide*. San Francisco, CA: John Wiley and Sons.
- Just for Kids Campaign. (2010). *National Center for Educational Achievement*. Retrieved on May 15, 2010 from http://www.just4kids.org/en/texas/school_data/chart_announcement.cfm
- Kornelis, P. (2006). *Professional learning communities*. Retrieved on June 3, 2010 from <http://homepages.dordt.edu/kornelis/plchtm>
- Kruse, S. D., Louis, K S, & Bryk, A. (1995). An emerging framework for analyzing school-based professional community. In K.S. Louis, S.D. Kruse, & Associates (Eds.), *Professionalism and community: Perspectives on reforming urban schools* (pp. 23-44). Thousand Oaks, CA: Corwin Press.
- Lambert, L. (1998). *Building leadership capacity in schools*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Lee, V., Smith, J. B., & Croninger, R. G. (1995). *Another look at high school restructuring more evidence that it improves student achievement, and more insight into why*. Madison, WI: Center on Organization and Restructuring of Schools.
- Leinhardt, G. (1992). What research on learning tells us about teaching. *Educational*

Leadership, 4, 20-25.

Leithwood, K., Leonard, L., & Sharratt, L. (1998). Conditions fostering organizational learning in schools. *Educational Administration Quarterly*, 34(2), 243-276. DOI: 10.1177/0013161X98034002005

Lieberman, A. (1996). Creating intentional learning communities. *Educational Leadership*, 54(3), 51.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage.

Little, J. W. (1982). Norms of collegiality and experimentation: Workplace conditions of school success. *American Educational Research Journal*, 19(3), 325-340.

Little, J. W. (1997). *Excellence in professional development and professional community*. Washington, DC: Office of Educational Research and Improvement.

Little, J. W., Horn, I., & Bartlett, L. (2000). *Teacher learning, professional community, and accountability in the context of high school reform* (Reports-Descriptive). Washington, DC: National Partnership for Excellence and Accountability in Teaching.

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

Louis, K. S., & Marks, H. M. (1998). Does professional community affect the classroom? Teachers' work and student experiences in restructuring schools. *American Journal of Education*, 106(4), 532-575.

Marcoulides, G.A., & Heck, R. H. (1993). Organizational culture and performance: Proposing and testing a model. *Organization Science*, 4(2), 209-225.

- Marshall, C., & Rossman, G. B. (1995). *Designing qualitative research*. (2nd ed.). Thousand Oaks, CA: Sage.
- McCune-Cohn, M. S. (2007). *Building capacity for sustainability: High school staffs and the improvement of teaching and learning*. Ed.D. dissertation, University of Washington, Seattle, WA. Retrieved from ProQuest Digital Dissertations database. (Publication No. AAT 3275858)
- McGill, M., & Slocum, J. (1994). Leading learning. *Journal of Leadership Studies*, 1(3), 7-21.
- McLaughlin, M. W. (2005). Listening and learning from the field: Tales of policy implementation and situated practice, In A. Lieberman (Ed.), *The roots of educational change*. (pp. 58-72). Dordrecht, NL: Springer. Doi: 10.1007/1-4020-4451-8_4
- Meier, D. (1999). A conversation about schools with Deborah Meier. *New England Board of Higher Education*. (Fall/Winter), 20-23.
- Merriam, S. B. (1998). *Qualitative research and case study applications in education* (2nd ed.). San Francisco, CA: Jossey-Bass,
- Mezirow, J. (2000). Learning to think like an adult: Core concepts of transformation theory, In J. Mezirow (Ed.), *Learning as transformation: Critical perspectives on a theory in progress*. (pp. 3-34). San Francisco, CA: Jossey-Bass.
- Miner, A. S., & Mezirow, S. J. (1996). Ugly duckling no more: Pasts and futures of organizational learning research. *Organizational Science*, 7(1), 88-99.
- Mitchell, C., & Sackney, L. (2000). *Profound improvement: Building capacity for a*

learning community. Lisse, NL: Swets & Zeitlinger.

Morrissey, M. (2000). *Professional learning communities: An ongoing exploration*.

Austin, TX: Southwest Educational Development Laboratory.

Murata, R. (2002). What does team teaching mean? A case study of interdisciplinary teaming. *Journal of Educational Researcher*, 96(2), 67-77.

A Nation at Risk. (1983). *The imperative for educational reform*. Retrieved on May 20, 2010 from <http://www.ed.gov/pubs/NatAtRisk/index.html>.

National Association of Secondary School Principals. (2004). *Breaking Ranks II*, Providence, RI: The Education Alliance.

National Commission on Mathematics and Science Teaching for the 21st Century. (2000). *Before it's too late: A report from the National Commission on Mathematics and Science Teaching for the 21st Century*. Retrieved on May 30, 2010 from www.ed.gov/americaaccounts/glenn/toc.html.

National Commission on Teaching and America's Future. (1996). Retrieved on June 1, 2010 from <http://www.nctaf.org/resources/archives>.

National Research Center on English Learning and Achievement. (2002). *Boosting reading comprehension: Improving understanding through classroom conversation*. Retrieved on June 1, 2010 from <http://cela.albany.edu/booklets.htm>

Neuman, M., & Simmons, W. (2000). Leadership for student learning. *Phi Delta Kappan*, 82(1), 9-12.

Newmann, F. (1992). *Student engagement and achievement in America's Secondary schools*. New York, NY: Teachers College Press.

- Newmann, F. (1996). *Center on organization and restructuring schools: Activities and accomplishments, 1990-1996*. Madison, WI: CORS.
- Newmann, F. M., & Wehlage, G.G. (1995). *Successful school restructuring*. Madison, WI: Center on Organization and Restructuring of Schools, School of Education, University of Wisconsin-Madison.
- Peck, S. (1987). *The different drum: Community making and peace*. New York, NY: Simon & Shuster.
- Pfeiffer, M. B. (2006). High school principals and student achievement: An analysis of high performing schools as professional learning communities. Ph.D. dissertation, University of Wisconsin, Madison, WI. Retrieved from ProQuest Digital Dissertations database. (Publication No. AAT 3245624)
- Quinn, J. B., Anderson, P., & Finkelstein, S. (1998). Managing professional intellect: Making the most of the best. In *Harvard Business Review on Knowledge Management*. (pp. 181-206). Boston, MA: Harvard Business School.
- Reeves, D. B. (2005). Putting it all together: Standards, assessment, and accountability in successful professional learning communities, In *On common ground: The power of professional learning communities*. R. DuFour, R. Eaker, & R DuFour. (pp. 45-64). Bloomington, IN: National Education Service.
- Reeves, D. B. (2006). *The learning leader: How to focus school improvement for better results*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Reyes, P., Scribner, J. D., & Paredes Scribner, A. (Eds.). (1999). *Lessons from high*

- performing Hispanic schools: Creating learning communities*. New York, NY: Teachers College Press.
- Roberts S., & Pruitt, E. (2003). *Schools as professional learning communities*. Thousand Oaks, CA. Corwin Press.
- Rubin, H. J., & Rubin, I. S. (1995). *Qualitative interviewing*. Thousand Oaks, CA: Sage.
- Sashkin, M., & Burke, W. (1990). *Understanding and assessing organizational leadership*. In K. Clark & M. Clark (Eds.). *Measures of leadership* (pp. 297-325). Greensboro, NC: Center for Creative Leadership.
- Schlechty, P. (1997). *Inventing better schools*. San Francisco, CA: Jossey Bass.
- Schlechty, P. (2002). *Working on the work: An action plan for teachers, principals, and superintendents*. San Francisco, CA: Jossey-Bass.
- Schlechty, P. (2005). *Creating great schools: Six critical systems at the heart of educational innovation*. San Francisco, CA: Jossey-Bass.
- Schmoker, M. (1996). *Results: The key to continuous school improvement*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Schmoker, M. (2004). Start here for improving teaching and learning. *School Administrator*, 61(10), 48-49.
- Schmoker, M. (2005). No turning back: The ironclad case for professional learning communities. In R. Dufour, R. Eaker, & R. Dufour (Eds.), *On common ground: The power of professional learning communities*. (pp. 135-154). Bloomington, IN: National Education Service.
- Schwandt, T. (2001). *Dictionary of qualitative inquiry*. Thousand Oaks, CA: Sage.

- Schwartz, K. H. (2007). *Leading the way: The effective implementation of reform strategies and best practices to improve student achievement in math*. Ed.D. dissertation, University of Southern California, Los Angeles, CA. Retrieved from ProQuest Digital Dissertations database.(Publication No. AAT 3261846)
- Schweitzer, C. (2000) Creating a dot-com compatible culture. *Association Management*, 52(13), 28-35.
- Seidman, I.E. (1991). *Interviewing as qualitative research*. New York, NY: Columbia University, Teachers College Press.
- Senge, P. (1990). *The fifth discipline: The art and practice of the learning organization*. New York, NY: Currency Doubleday.
- Senge, P. (2000). *Schools that learn: A fifth discipline field book for educators, parents, and everyone who cares about education*. New York, NY: Currency Doubleday.
- Sergiovanni, T. J. (1994). *Building community in schools*. San Francisco, CA: Jossey Bass.
- Sergiovanni, T. J. (1994). Organizations or communities? Changing the metaphor changes the theory. *Educational Administration Quarterly*, 30(2), 214-226.
doi:10.1177/0013161X94030002007
- Sergiovanni, T. J. (2000). *The lifeworld of leadership: Creating culture, community and personal meaning in our schools*. San Francisco, CA: Jossey-Bass.
- Sergiovanni, T. J. & Moore, J. H. (1989). *Schooling for tomorrow: Directing reforms to issues that count*. Needham Heights, MS: Simon and Schuster.
- Smylie, M.A., & Hart, A. W. (1999) School leadership for teacher learning and change:

- A human and social capital development perspective. In J. Murphy & K.S. Louis (Eds.), *Handbook of research on educational administration* (2nd ed., pp. 421-441). San Francisco, CA: Jossey-Bass.
- Sparks, D. (2002). *Designing powerful professional development for teachers and principals*. Oxford, OH: National Staff Development Council.
- Stanton, M. (2009). *What are the factors of success for professional learning communities in high school?* Ph.D. dissertation, University of New Mexico, Albuquerque, NM. Retrieved from Pro Quest Digital Dissertations database. Publication No. AAT 3359800)
- Steinberg, L., Brown, B., & Dornbusch, S. (1996). *Beyond the classroom: Why school reform has failed and what parents need to do*. New York, NY: Simon and Schuster.
- Stier, J. P. (2007). *The relationship between professional learning communities and student achievement in high schools*. Ed.D. dissertation, University of La Verne, LaVerne, CA. Retrieved from ProQuest Digital Dissertations database.(Publication No. AAT 3290095)
- Stiggins, R. (2001). The principal's leadership role in assessment. *National Association of Secondary School Principals Bulletin*, 85(621), 13-26.
- Stiggins, R. (2002). Assessment crisis: The absence of assessment for learning. *Phi Delta Kappan*, 83(10), 758-765.
- Stiggins, R. (2004). New assessment beliefs for a new school mission. *Phi Delta Kappan*, 86(1), 22-27.

- Strauss, A., & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Newbury Park, CA: Sage.
- Suppovitz, J.A. (2002). Developing communities of instructional practice. *Teachers College Record*, 104(8), 1591-1626.
- Symonds, W. (2001). How to fix America's schools. *Business Week*. Retrieved from <http://aol.businessweek.com/magazine/content>.
- Texas Education Agency. (2010). Retrieved on June 5, 2010 from http://www.tea.state.tx.us/index3.aspx?id=3631&menu_id=793
- Ulrich, D., Glinow, M.A.V., & Jick, T. (1993). High-impact learning: Building and diffusing learning capability. *Organizational Dynamics*, 22(1), 52-66. DOI: 10.1016/0090-2616(93)90053-4
- University Interscholastic League. (2010). Retrieved on June 2, 2010 from <http://www.uiltexas.org/files/alignments/rr-release-information-2010.pdf>
- U.S. Department of Education. (2004). *No child left behind: A tool kit for teachers*. Public Law No. 107-110, 115 Stat. [Electronic (2004) Version] Retrieved on June 15, 2010 from <http://www.ed.gov/teachers/nclbguid/nclb-teachers-toolkit.pdf>.
- U.S. Department of Education. (2006). *Meeting the challenge of a changing world: Strengthening education for the 21st century*. Retrieved on June 15, 2010 from <http://www.ed.gov/about/inits/ed/competitiveness/index.html?src=pb>
- Vaill, P.B. (1996). *Learning as a way of being: Strategies for survival in a world of permanent white water*. San Francisco, CA: Jossey-Bass.

- Vinella, M.W. (2007). *The relationship between student achievement and the scores on the learning organizational survey*. Ph.D. dissertation, Walden University, Minneapolis, MN. Retrieved from ProQuest Digital Dissertations database. (Publication No. AAT 3252462)
- Von Krogh, G., Ichijo, K., & Nonaka, I. (2000). *Enabling knowledge creation: How to unlock the mystery of tacit knowledge and release the power of innovation*. Oxford, UK: Oxford University Press.
- Wagner, T. (2001, Jan). Leadership for learning: An action theory of school change. *Phi Delta Kappan*, 82(5), 378-383.
- Weick, K.E., & Roberts, K. H. (1996). Organizations as cognitive maps: Charting ways to success and failure. In H.P. Sims, & D.A. Gioia (Eds.), *The thinking organization*,(pp. 102-135). San Francisco, CA: Jossey-Bass.
- Wheatley, M. J., & Kellner-Rogers, M. (1997). The paradox and promise of community. In F. Hellelbein (Ed.), *The community of the future*, (pp. 9-18). New York, NY: Drucker Foundation for Non-Profit Management.
- Yankelovich, D. (1999). *The magic of dialogue: Transforming conflict into cooperation*. New York, NY: Simon and Schuster.
- Zamanou, S & Glaser, S. R. (1994). Moving toward participation and involvement. *Group & Organization Management*, 19(4), 475-502.

APPENDIX

Research Questions for the Principal

1. How many years have you been a principal?
2. Have you had specific training regarding Professional Learning Communities?
What about your teachers?
3. How long have PLC's been used at your school?
4. What is your perception of the use of the PLC's in your math department?
5. Do you feel their use positively impacts student achievement? Specific examples?
6. Does the use of the PLC impact your master schedule development or other factors within your responsibility?
7. What are the benefits of using PLC's in your math department?
8. Are there any negative issues resulting from using the concept?
9. What else would you like to add regarding PLC's?
10. Is there anything you would like to add to recommend to others considering implementing the PLC's in their schools?

Research Questions for the Teachers

1. Tell me about your years of experience. How long have you been on this campus?
2. Have you had specific training on professional learning communities?
3. How are the professional learning communities structured within your department/team? How often do you meet? Are your meetings focused on a particular task?
4. Do you develop common assessments?
5. Do you believe that PLC's positively impact your student achievement? If so, how? If not, why not?
6. What are the most effective parts of working in a PLC?
7. Has the use of technology affected your PLC? Please explain how.
8. If you could change anything, what would you change regarding the PLC?
9. How do you utilize data when you meet?
10. What suggestions would you offer for leaders trying to implement PLC's effectively?
11. Do you have any other comments/questions?

VITA

Christie Branson Whitbeck graduated from Missouri State University in 1982 with a degree in elementary education and began teaching first grade in a private school in Houston, Texas. She pursued a Master's degree in administration supervision and graduated in 1987 from the University of Houston. She worked as a teacher and language arts specialist before accepting an Assistant Principal position in Katy Independent School District in Katy, Texas. After working in that capacity for three years she became Principal of Diane Winborn Elementary. In 1998 she opened Roosevelt Alexander Elementary and in 2001 opened Cinco Ranch Junior High continuing to serve as the Building Principal. In 2004 she began working on her Ph.D. at Texas A&M University in College Station, Texas. While pursuing the doctorate she was honored to open her third campus, Seven Lakes High School, in 2005 where she has served as Building Principal for the past 6 years. Located in a major growing area of Katy Independent School District, this campus began as a small school with 850 9th and 10th graders and currently boasts nearly 3500 students and climbing. At the conclusion of this dissertation Ms. Whitbeck has just been named Assistant Superintendent of Academics for the Alvin Independent School District located in Alvin, Texas. She will graduate from Texas A&M University with a Ph.D. in Public School Administration in August of 2011. She may now be reached at her new work address of Alvin Independent School District, 301 E. House Street, Alvin, Texas 77511. Her email address is cwhitbeck@alvinisd.net.