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Teachers' Perceptions on the Implementation of Professional Learning Communities and the Relationship to Student Achievement

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TEACHERS' PERCEPTIONS ON THE IMPLEMENTATION OF PROFESSIONAL LEARNING COMMUNITIES AND THE RELATIONSHIP TO STUDENT ACHIEVEMENT

By

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Acknowledgments

Dedicated to Bryce and Chandler Thurman

You Are my Purpose

Abstract

For decades, mandates have driven the way we educate our students. Seemingly ever since the inception of No Child Left Behind (NCLB), schools across the nation have struggled to meet federal standards for student success. However, when many schools still failed to show a significant amount of achievement, they became labeled "Priority" or "Focus" schools under the federally mandated laws of NCLB. The vital need to promote best educational practices leads to the educational strategy of teacher collaboration. Research calls for higher levels of teacher collaboration in the educational setting as a strategy to address lackluster performance trends (Anrig, 2015). One form of collaboration that has been trending for decades is a strategy called *Professional Learning Communities.* Carpenter (2015) stated school improvement and student achievement have been positively connected to teacher professional learning communities (p. 682). This study explored the relationship between teachers' perceptions on the implementation of professional learning communities and student achievement. Other dependent variables such as gender, number of years teaching experience in the district, number of years teaching experience total and content matter were also analyzed to determine if these variables play a factor in teacher's perceptions on the implementation of professional learning communities. A cross-sectional survey design was utilized, and the participants were administered the PLCA-R survey created by Hipp & Huffman (2010). Descriptive statistics and one-way ANOVA were used to answer the research questions. Data analysis revealed several statistical significances between the listed dependent variables and various dimensions and attributes. However, a relationship between student achievement and professional learning communities could not be

concluded at this time due to the selected high school not functioning as a professional learning community. Recommendations were made for ways the selected high school could strengthen their professional learning communities' implementation.

Key Words: PLCA-R Survey, Professional Learning Communities, Student Achievement, Teachers Perceptions, Mandates, Quantitative Study, Five Dimensions of PLC, Relationship, NCLB,

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Introduction

For decades, mandates have driven the way we educate our students. Seemingly ever since the inception of No Child Left Behind (NCLB), schools across the nation have struggled to meet federal standards for student success. However, when many schools still failed to show a significant amount of achievement, they became labeled "Priority" or "Focus" schools under the federally mandated laws of NCLB. Under the Obama administration, the reauthorization of the NCLB was then changed to what is now known as the Every Student Succeed Act (ESSA). Under ESSA, states were given more freedom to choose how to measure student performance for improvement efforts. According to the Arkansas Department of Education (ADE), Arkansas chose various methods to measure a school's success in accordance with ESSA (ADE, 2018). Arkansas will look at variable indicators, such as Academic Standards, Assessment, School Quality, Student Success, and Teacher Effectiveness, to list a few. Schools can earn points from any of these indicators to achieve success and not be identified as schools needing support.

ADE has set the path for local LEAs' to be successful. Unlike NCLB, ESSA gives more flexibility to states to choose their paths to school success. ADE has decided to provide support to districts that provide support to the schools that find themselves in distress. Through ADEs' Cycle of Inquiry, each school will design and revise a data-informed plan for improving learning and resource allocation; implement this plan; and then assess, reflect, and act for improvement (ADE, 2018).

The vital need to promote best educational practices leads to the educational strategy of teacher collaboration. Research calls for higher levels of teacher collaboration

in the educational setting as a strategy to address lackluster performance trends (Anrig, 2015). One form of collaboration that has been trending for decades is a strategy called *Professional Learning Communities.* Carpenter (2015) stated school improvement and student achievement have been positively connected to teacher professional learning communities (p. 682). Carpenter (2015) further stated researchers have described essential elements and common features of school culture policies, procedures, and professional learning communities: shared purpose, shared values, shared leadership, a collaborative culture, collective inquiry, and a focus on continuous improvement (p. 683). Understanding best practices for initiating, implementing, and sustaining PLCs is vital to positively affect student achievement, failure rates, and teacher practices.

Background-Statement of the Problem

So many policies and laws mandate how we educate kids. NCLB, now ESSA, brought about a different era of accountability, flexibility, and high stakes testing (U.S. Department of Education, 2015). With these laws and mandates, accountability and how to increase student achievement and lower failure rates are at the heart of how schools operate today. Schools are looking to identify and promote best educational practices to ensure they meet the goals set forth through the current policies and laws.

An abundance of articles and research calls for a move from the long-standing educational tradition of teacher isolation to the practice of teacher collaboration (Dufour; 2007; Kiefer-Hipp, Bumpers, Huffman, Pankake, & Olivier, 2008). *Professional Learning Communities* is a strategy where teachers collaborate and share instructional ideas to lower failure rates and improve state-mandated test scores. According to

McLaughlin & Talbert (2006), professional learning communities are organizational structures in which "teachers work collaboratively to reflect on their practice, examine the evidence about the relationship between practice and student outcomes, and make changes that improve teaching and learning for the particular students in their classes" (p.3-4). Professional learning communities (PLCs) have been around for decades in hopes of improving student achievement and reducing failure rates. In their book *Professional Learning Communities: Best Practices for Enhancing Student Achievement,* Dufour and Eaker (1998) stated, "the most promising strategy for sustained, substantive school improvement is developing the ability of school personnel to function as professional learning communities" (p. xi). By implementing PLCs, schools should see increased student achievement and reduce their overall failure rates.

Although PLCs have been around for decades, schools are still under scrutiny for their low achievement rates and high failure rates. Huffman & Hipp (2010) state, "If researchers are accurate in maintaining that professional learning community (PLCs) are the best hope for school reform; then school leaders must learn how to facilitate systemic processes to develop these instructional cultures" (p. 1). Huffman & Hipp (2010) further state "practitioners and researchers have provided organizations myriad images as to how these learning communities should look, but few school leaders have been successful in sustaining these communities over time" (p.4). Principal leadership is key to successfully implementing the PLC process to see academic growth and lower failure rates.

According to Hipp and Huffman (2010), there are five dimensions of effective PLCs. These include shared and supportive leadership, shared values and vision, collective learning and application, shared personal practice, and supportive conditions.

Leadership is the key to successful implementation; principals must create the necessary structures, provide time and space for teachers to meet, and guide teachers through the collaborative process (Dufour & Marzano, 2011).

Schools are diverse places where everyone has an idea of how to do something. However, as professionals, we know if we fail to implement a strategy, lesson plan, or anything for that matter, without fidelity, it can yield skewed data. If a school or district chooses PLCs as a strategy to reduce failure rates, then factors that lead to the successful implementation of PLCs, as defined by Hipp and Huffman (2010), need to be periodically evaluated by district and school officials. By evaluating PLC efforts, leaders will gauge the next steps, with higher implementation rates of PLC yielding lower failure rates.

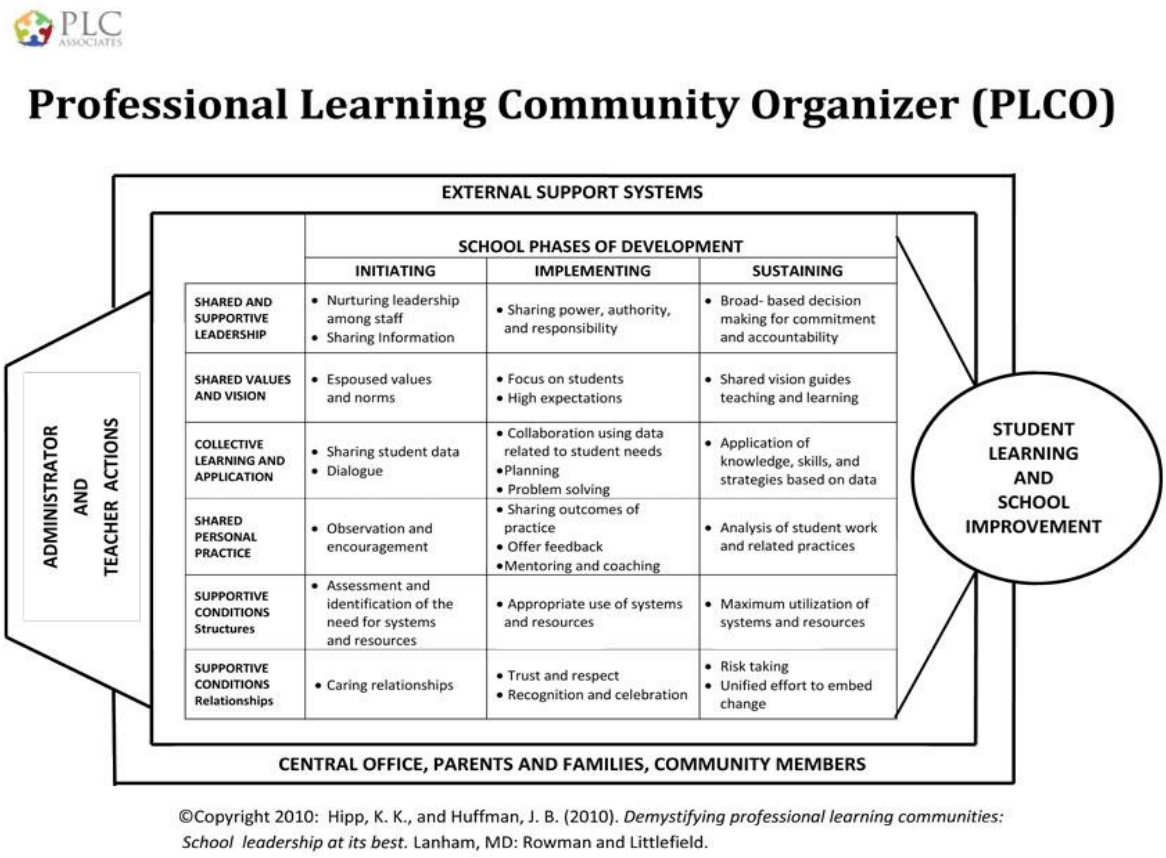
Purpose of the Study

As schools across the nation race to improve student achievement, the strategies or interventions implemented must be producing results. For schools to produce results with the implementation of PLCs, they must sustain their efforts. Huffman & Hipp (2010) state, "success of schools, functioning as PLCs that impact student and adult learning are dependent on how well staff members can sustain their efforts and embed effective practices into the culture of their school" (p. 25). Huffman & Hipp (2010) further state, "If new practices are viewed as short-term or quick fixes to perceived problems, the impact will be superficial, confined to a few participants, and generally ineffective" (p. 25).

The purpose of this study is to determine teacher perceptions of the implementation of the five dimensions of professional learning communities as defined by Hipp and Huffman (2010) in one high school and the relationship of those perceptions to student failure rates. Below in Figure 1 is the Professional Learning Community Organizer.

Figure 1

Professional Learning Community Organizer



As one can see, student learning and school improvement emerge once a school can sustain its PLC efforts. As Hipp & Weber (2008) note, "Creating PLCs in schools is difficult, but sustaining them is even more challenging" (p. 46).

As federal and state lawmakers continue to implement laws and mandates for school improvement, school leaders must evaluate strategies implemented to ensure they impact student achievement by lowering failure rates and raising mandated test scores. Matthews & Crow (2010) state, "the main purpose of evaluating and assessing reform efforts, such as a PLC, is to gain an understanding of the progress, direction, and modifications that may be needed" (p. 254). Matthews & Crow (2010) further state "evaluation helps principals learn so they can understand and shape events" (p. 254). Through evaluation, leaders can analyze sufficient data to monitor and adjust accordingly to ensure results.

Definition of Terms. Below are terms that are relevant to this study.

Professional Learning Communities: "Organizational structures in which teachers work collaboratively to reflect on their practice, examine the evidence about the relationship between practice and student outcomes, and make changes that improve teaching and learning for the particular students in their classes" (McLaughlin & Talbert 2006)

DESE: Department of Elementary and Secondary Education

LEA's: Local Education Agency's

ESSA: Every Student Succeeds Act:

NCLB: No Child Left Behind:

School Improvement: This is the continuous process of leadership and teachers working together to ensure all teachers and students continue to learn and grow academically

Failure Rates: Percentage of students who do not meet or master the content; percentage of students underperforming in their classes.

Shared and Supportive Leadership: "School administrators share power, authority, and decision making while promoting and nurturing leadership" (Hipp & Huffman, 2010).

Shared Values and Vision: "The staff share visions that have an undeviating focus on student learning and support norms of behavior that guide decisions about teaching and learning" (Hipp & Huffman, 2010).

Collective Learning and Application: "The staff share information and work collaboratively to plan, solve problems, and improve learning opportunities" (Hipp & Huffman, 2010).

Shared Personal Practice: "Peers meet and observe one another to provide feedback on instructional practices, to assist in student learning, and to increase human capacity" (Hipp & Huffman, 2010).

Supportive Conditions:

Relationships: "include respect, trust, norms of critical inquiry and improvement, and positive, caring relationships among the entire school community" (Hipp & Huffman, 2010).

Structures: "include systems (i. e., communication, and technology) and resources (i.e., personnel, facilities, time, fiscal and materials) to enable staff to meet and examine practices and student outcomes" (Hipp & Huffman, 2010).

Research Questions. The overarching question for this research study is stated as, is there a relationship between PLC implementation as perceived by teachers and student achievement? To gain insight into this question, the following questions are posited:

1. Is there a difference in the perceptions of teachers about the implementation of PLC at the selected high school based on total years of teaching experience?
2. Is there a difference in the perceptions of teachers about the implementation of PLC at the selected high school based on gender?
3. Is there a difference in the perceptions of teachers about the implementation of PLC at the selected high school based on content matter taught by the teacher?
4. Is there a difference in the perceptions of teachers about the implementation of PLC at the selected high school based on years of experience at the selected high school?
5. What is the level of teacher strength in the content areas at the selected high school in the six PLC dimensions defined by Hipp and Huffman (2010)?
6. Is there a relationship between student failure rates and the perceived level of PLC implementation at the high school level?

Significance of the Study

Ever since No Child Left Behind, students' academic achievement across the nation has been under scrutiny. Not only has student performance been under scrutiny, but teacher performance as well. With student and teacher performance under scrutiny, it is clear that educational reform is needed to ensure students succeed and teacher practice continues to improve. Academic research is being done to find the best educational

practices to improve student outcomes and enhance teacher practices, thus enacting the continuous improvement cycle for schools.

Now known as DESE (Division of Elementary and Secondary Education), ADE has a cycle of inquiry for LEAs to follow as they work for continuous improvement. There are three steps involved in the inquiry cycle: plan, do and check (Department of Elementary and Secondary Education, 2015). DESE's *Cycle of Inquir* (2015), states, "LEAs continuous inquiry and improvement processes will play a critical role in focusing educator's efforts on what matters most for learning in order to achieve long-term improvement outcomes" (p. 1). DESE's *Cycle of Inquiry* (2015) further states, "the school-level improvement plan will track leading indicators for school-level actions to monitor, assess, reflect, and adjust planned actions in a continuous inquiry cycle for improvement" (p. 1). By assessing or evaluating school improvement initiatives, leaders can adjust when necessary to meet the goals they initially set in their improvement plans.

In the U.S. Department of Education's *Evaluation Matters: Getting the Information You Need From Your Evaluation*, they specify why schools should evaluate programs, how to evaluate, and how to use the results. Evaluation is essential so that we can be confident the programs we are using in our schools and classrooms are successful (ww2.ed.gov, p.2). The U.S. Department of Education further states, "building evaluation into your educational programs and strategies enables you to make midcourse corrections and informed decisions regarding whether a program should be continued, expanded, scaled-down, or discontinued" (p. 3). Through evaluation, money, time, and resources can be saved if the program, strategy, etc., is not producing results.

The study is significant because it will enable leaders to see where they are with the implementation of PLCs at their high school. Evaluating their process of implementing PLCs will allow them to make adjustments where necessary, so time or money is not wasted on an initiative that produces no results. This study can also show areas for improvement with implementing PLCs that will help guide necessary professional development (PD) for teachers and staff. As the U.S. Department of Education states, "Evaluation enables you to identify and use better quality practices more effectively to improve learning outcomes" (p. 3).

Assumptions

The researcher made the following assumptions about this study:

1. Each participant is active in a professional learning community within their school.
2. Each participant will answer the questions honestly without bias.
3. Each participant knows enough about professional learning communities to answer the survey questions.

Delimitations

Delimitations narrow the scope of the study. The following were delimitations of this study:

1. Participants will only include teachers from one district at the high school level.
2. This information will only be relevant to one geographical area and one school organizational level.

3. Teachers participating in this study will be required to participate in PLC training and fully participate in PLCs at their school.
4. Participation in this study is voluntary.

Limitations

Limitations of this study identified by the researcher were as follows:

1. The research study will only be conducted at one high school within one district in a southern state.
2. Teachers might be unfamiliar with the terms used in the survey or have differing views on their current school practices.
3. The information gathered from the survey is not factual and will be biased based on the teacher's own experiences and attitudes.

Summary/Organization of Study. In this era of federal mandates and accountability pressures for improved student achievement, educators continue to search for a reform model to assist them in attaining desired results—improved teaching and enhanced student learning. One such model that provides many benefits for both students and teachers while concentrating on continuous learning and student achievement is a professional learning community model that focuses on improving teaching practices to increase student learning. As teacher practice improves and learning increases, so should student achievement along with lower failure rates.

The following chapters will take an in-depth look at the evaluation of PLCs at one high school. Chapter two's literature review will look at the history of PLCs and mandates that, over time that has called for reform efforts. The literature review will also

explore the five dimensions of professional learning communities defined by Hipp & Hufffman (2010). Finally, we will look at the conceptual framework guiding this study. Chapter three will explore the research design for this study. Also, participant and sampling information such as population, sample size, and study setting will be examined. Results of the survey and failure rates, along with analysis, will be in Chapter Four. Lastly, Chapter Five will discuss the study's findings and implications for future research.

Chapter II

Review of Literature

Chapter 2 reviews the research and related literature on school reform, professional learning communities, the five dimensions of PLCs, and the impact these five dimensions have on the implementation of PLCs and student achievement. First, a look at school reform efforts over the decades that lead to many schools implementing PLCs. Secondly, a look at the history of PLCs, including defining what they are. Then the five dimensions that serve as a foundation for Professional Learning Communities will be discussed in detail. Finally, we will examine the research questions and conceptual framework that guides this study.

The Era of Reform

A Nation at Risk was one catalyst that began the era of reform. In 1981, the U.S. Department of Education, under the direction of Education Bell, created the National Commission on Excellence in Education (NCEE). Bell commissioned the NCEE to write a report on the quality of education in the United States due to his concern about "the widespread public perception that something seriously remiss in our education system" (Cover Letter within *A Nation at Risk,* 1983). The NCEE's ensuing report titled *A Nation at Risk: The Imperative for Educational Reform* (April 1983) confirmed Bell's concern in saying, "Our society and its educational institutions seem to have lost sight of the basic purposes of schooling, and of the high expectations and disciplined effort needed to attain them" (p. 1). *A Nation at Risk* led to widespread reform, most notably in the portions for

teaching and learning (Birman et al., 2013). These expectations would lay the foundation for decades to come for reform efforts.

In 1994, President Bill Clinton signed *Goals 2000: Educate America Act* (Goals 2000). This piece of legislation offered grants to states committed to specific plans of systematic reform efforts. Testing in reading and mathematics was included in Goals 2000 to ensure students met the standards. At the same time that Goals 2000 was implemented, the reauthorization of the Elementary and Secondary Education Act (ESEA) titled *The Improving America's Schools Act* (IASA) was implemented. While Goals 2000 focused on content areas, IASA narrowed in on mathematics and English-language arts performance outcomes. Particularly, federal Title I monies specified identical academic standards for both Title I and non-Title I students (Riley, 1995). IASA had set new expectations for schools: all students should meet the same performance standards and outcomes.

Although numerous pieces of legislation during this era supported standards and outcomes, public perception was diminished when Trends in International Mathematics and Science Study (TIMSS) was released. The initial TIMSS report claimed that U.S. students performed lower than their international counterparts (National Center for Educational Statistics, 2000). With the news that our students were performing lower than their counterparts and ESEA due for reauthorization, President George W. Bush would bring about a new era of reform: accountability. President Bush signed No Child Left Behind into law, which brought reform efforts to impose sanctions for low-performing schools.

President Bush signed the No Child Left Behind (NCLB) Act in 2002, a reauthorization of ESEA. The primary initiative of this act required 100% of United States students to be proficient in English and mathematics by 2014 (U.S. Department of Education, 2004). Performance targets were set, and schools were expected to meet these targets with 100% proficiency by 2014. Schools that meet these annual performance targets were labeled as meeting their Adequate Yearly Progress (AYP). There were sanctions broken into different phases for schools that did not meet these performance targets, depending on how many years they did not make their AYP. The more years you did not make your AYP, the more severe the sanctions became. Also, under NCLB, more choices were given to students and parents. Often this was referred to as school choice. According to Essex (2015), the law stated:

1. Local education authorities must give students attending schools identified for improvement, corrective action, or restructuring the opportunity to participate in a better public school
2. For students attending persistently failing schools (those that have been unable to meet state standards for at least three of the four preceding years), LEAs must permit low-income students to use Title I funds to obtain supplemental educational services
3. The choice and additional service requirements provide a substantial incentive for low-performing schools to improve (p. 295).

In 2009 Race to the Top was funded by Obama through the American Recovery and Reinvestment Act of 2009. This initiative offered bold incentives to states to spur

systemic reform to improve teaching and learning. Race to the Top was centered on reform in four specific areas:

1. Building data systems that measure student growth and success and inform teachers and principals about how they can improve instruction
2. Adopting standards and assessments that prepare students to succeed in college and the workplace and to compete in the global economy.
3. Recruiting, developing, rewarding, and retaining effective teachers and principals, especially where they are needed most
4. Turning around our lowest-achieving schools (U.S. Department of Education).

As the 2014 deadline approached for schools to meet 100% proficiency in mathematics and English, many schools would not meet the goals outlined in No Child Left Behind. With many schools struggling to meet these goals, in September of 2011, President Obama and the U.S. Department of Education Secretary Duncan announced waivers. These waivers would allow LEAs to waive specific requirements set forth within No Child Left Behind. The process allowed states to write a waiver for NCLB flexibility by developing a reform plan to address particular needs per LEAs. As of December 2015, 45 states had submitted ESEA flexibility plans, and 42 states had been approved (U.S. Department of Education, 2015).

On December 10th, 2015, President Obama signed the Every Student Succeeds Act (ESSA), which reauthorized ESEA. ESSA's foundation was built on policies initially set within NCLB and the state waivers, inclusive of yearly statewide assessments for

accountability purposes. In addition to these assessments, ESSA called for college and career readiness along with pre-kindergarten programming access. Not only had ESSA laid the foundation for a new era of reform, but it also shifted authority to states in determining sanctions or support to LEAs who were performing poorly.

Under ESSA, states were given more freedom to choose how to measure student performance for improvement efforts. According to the Arkansas Department of Education (ADE), Arkansas chose various methods to measure a school's success in accordance with ESSA (ADE, 2018). Arkansas will look at variable indicators, such as Academic Standards, Assessment, School Quality, Student Success, and Teacher Effectiveness, just to list a few. Schools can earn points from any of these indicators to achieve success and not be identified as needing support. The impact of the shift of authority and how this will affect Arkansas children's education remains to be seen.

Professional Learning Communities

Defining PLCs. With origins in many pieces of literature over the decades (Stenhouse, 1975; Senge, 1990; McLaughlin & Talbert, 1993; Hord, 1997; Dufour, 1998), the term professional learning communities have evolved. As PLCs gained momentum in the educational setting to increase student achievement, more clarity about what they are, how they operate, and characteristics of a PLC have been established to guide implementation and sustaining efforts. For this study, we will use the definition from *Demystifying Professional Learning Communities: School Leadership at its Best* (Hipp & Huffman, 2010). According to Hipp & Huffman (2010),

> "Our intent is to demystify the concept of PLC; therefore, our definition explains the focus of our work as related to sustaining teacher and student learning: *Professional educators working collectively and purposefully to create and sustain a culture of learning for all students and adults*" (p. 12).

This definition sets the foundation for the five dimensions of PLCs that Hipp & Huffman define later in the book and is this study's backbone. The definition embraces educators working together and ensuring all students and adults learn through collaboration.

The Emergence of PLCs. The concept of Professional Learning Communities dates back to 1975 when Stenhouse wrote *An Introduction to Curriculum Research and Development.* This book focuses on curriculum development; however, he proposes the model for this curriculum development. Stenhouse (1975) argues that teachers should be researchers of their classrooms and actively develop the curriculum. They should play an active role in the planning, developing, and assessing the content and bring their learning expertise together so all can learn. As Stenhouse (1975) states, "allow other teachers to observe one's work- directly or through recordings – and to discuss it with them on an open and honest basis" (p. 144). Stenhouse (1975) further states, "the outstanding characteristics of the extended professional is a capacity for autonomous professional self-development through systematic self-study" (p. 144).

In 1989, Rosenholtz published the *Teachers Workplace: The Social Organization of Schools.* In his book, Rosenholtz notes that teachers who have a sense of support with their peers and leaders were more committed to their teaching profession than those who

did not feel supported (Rosenholtz, 1989). Teachers who sensed they were supported showed a high self-efficacy which improved their classroom practices. Rosenholtz also found that teachers who exhibited more confidence in their teaching abilities were more likely to try and implement new instructional strategies in their classrooms (1989). As stated by Rosenholtz (1989), "individuals who are provided opportunities for independent and successful action in challenging work increase not only their motivation to excel but also their willingness to attempt new tasks" (p. 149).

Senge published *The Fifth Discipline: The Art and Practice of the Learning Organization* (1990). Within this book, Senge defines what a learning organization is by stating:

> an 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)

Also, within this publication, Senge defines the role of an administrator within a learning organization by stating, "the job of the superintendent is to find principals and support (such) principals to create the learning organizations" (p. 21).

Three years later, McLaughlin and Talbert published the book, *Contexts That Matter for Teaching and Learning: Strategic Opportunities for Meeting the Nation's Educational Goals* (1993). Their findings showed that teachers who stayed in the traditional practice of isolating themselves saw higher behavior issues and lower student achievement. Also, teachers who work collaboratively in professional communities to

define standards for their classrooms and receive support from peers saw lower behavior issues and higher achievement. This notion supported Rosenholtz's findings that teachers who are supported showed improvement in their classroom practices.

In 1997, Shirley M. Hord published *Professional Learning Communities: Communities of Continuous Inquiry and Improvement.* Working from the Southwest Educational Development Laboratory, Hord sought to define and describe a PLC. Within this study, Hord noted the processes for developing learning communities, the outcomes from such communities for students and staff, and the attributes of Professional Learning Communities. The attributes that Hord outlined within this study were: (1) Supportive and Shared Leadership (2) Collective Creativity (3) Shared Values and Vision (4) Supportive Conditions (5) Shared Personal Practice. (Hord, 1997). These attributes would lay the foundation for research to come.

Over the next decade, Dufour would publish several articles and books that summarized other research done on the topic of PLCs. One work, in particular, *Professional Learning Communities at Work: Best practices for Enhancing Student Achievement,* a thorough review of literature brought them to the same conclusion as Hord, "The most promising strategy for sustained, substantive school improvement is developing the ability of school personnel to function as professional learning communities" (p. xi). Dufour's later work would define three big ideas that drive what work should be done during a PLC. In *Learning By Doing: A Handbook for Professional Learning Communities at Work,* Dufour captures the three big ideas as:

1. The purpose of our school is to ensure all students learn at high levels

2. Helping all students learn requires a collaborative and collective effort
3. To assess our effectiveness in helping all students learn, we must focus on results-evidence of student learning-and use results to inform and improve our professional practice and respond to students who need intervention or enrichment (p. 14)

These three ideas set the foundation for results orientation. As Dufour (2010) states, "members of a PLC realize that all of their efforts in these areas- a focus on learning, collaborative teams, collective inquiry, action orientation, and continuous improvement must be assessed based on results" (p. 13). Dufour (2010) further states, "this focus on results leads each team to develop and pursue measurable improvement goals that align with school and district goals for learning" (p. 13)—focusing on results rather than intention allows educators to capture if a student has learned promptly. If a student's results show they have not learned a concept, then extra time and support can be offered to students who have difficulty mastering a concept.

As we moved into the 21st century, these works laid a foundation for other researchers to build on. Hipp, Huffman, and Olivier, who wrote *Demystifying Professional Learning Communities: School Leadership at its Best* (2010), built on the works of Shirley Hord and others, would clearly define the five dimensions of a PLC and the attributes that correlate with each dimension. Also, a conceptual framework and an assessment tool would be made available for practitioners to evaluate their journey with implementing PLCs within this publication.

Conceptual Framework. The overreaching question for this research study is: Is there a relationship between PLC implementation as perceived by teachers and student failure rates? To gain insight into this question, the following questions are posited:

1. Is there a difference in the perceptions of teachers about the implementation of PLC at the selected high school based on total years of teaching experience?
2. Is there a difference in the perceptions of teachers about the implementation of PLC at the selected high school based on gender?
3. Is there a difference in the perceptions of teachers about the implementation of PLC at the selected high school based on content matter taught by the teacher?
4. Is there a difference in the perceptions of teachers about the implementation of PLC at the selected high school based on years of experience at the selected high school?
5. What is the level of teacher strength in the content areas at the selected high school in the six PLC dimensions defined by Hipp and Huffman?
6. Is there a relationship between student failure rates and the perceived level of PLC implementation at the high school level?

In their book *Demystifying Professional Learning Communities* (2010), Hipp & Huffman's conceptual framework is based on research from high-performing schools, the integration of Fullan's three phases of changes, and depicting these phases of changes in the PLCO Organizer. First, Hipp & Huffman researched high-performing schools that have implemented PLCs. According to Hipp & Huffman (2010), "Researchers analyzed interviews using a variety of related indicators to examine and substantiate the thoroughness of Hord's (1997) model of the five dimensions that constitute a PLC" (p.

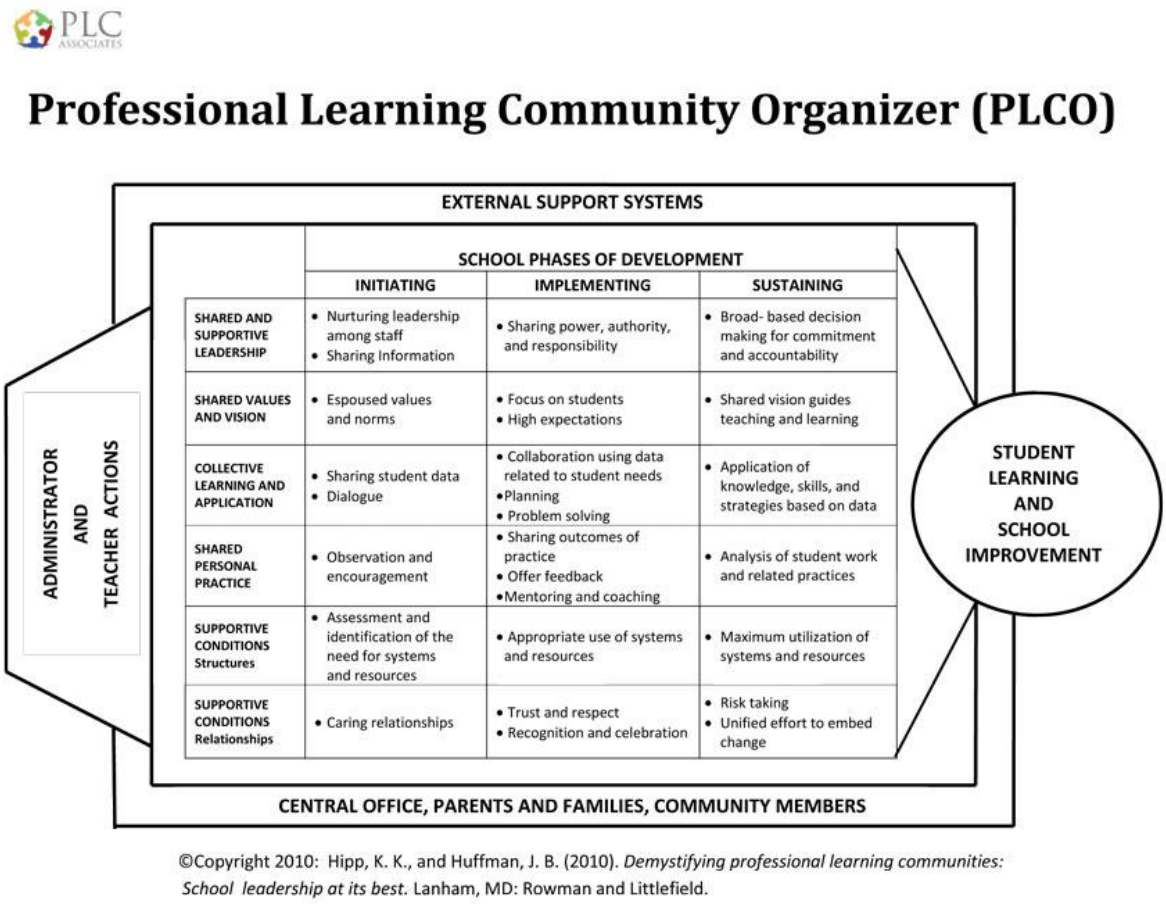
24). Through analysis of their research, they found overlapping characteristics which allowed them to demystify PLCs into five dimensions (Hipp & Huffman, 2010).

Next, Hipp & Huffman sought to answer the following question: *"How Do Schools Maintain Momentum and Long-Term Success in the Change Process"* (p. 25). To answer this question, they utilized Fullan's (1990) three phases of changes: initiation, implementation, and institutionalization, including 14 success factors (Hipp & Huffman). Hipp & Huffman further explain that school officials connect student needs to the values and norms during the initiation phase. According to Hipp & Huffman, "A strong leader promotes a shared vision and staff begin to dialogue, share information, seek new knowledge, and commit to the effort to achieve their goals" (p. 26). Schools can move from the initiation phase to the implementation phase once the vision is clear to all staff through sharing information and encouragement. During this stage, data is continually shared, and so is leadership. According to Hipp & Huffman (2010), "During the *implementation phase,* a leader encourages the staff to set high expectations and enables them to meet their goals by sharing power, authority, and responsibility" (p. 26). This stage is where collaboration occurs, decisions are made, and student gains are made. However, as Hipp & Huffman (2010) state, "progress is not always smooth" (p. 26). In the final stage, institutionalization or sustaining, change becomes embedded in the culture (Hipp & Huffman). In this phase, schools see the most student improvement with the implementation of PLCs. As stated by Hipp & Huffman (2010), "that institutionalization across the five PLC dimensions is essential for schools to engage in sustained improvement and for continuous learning to occur" (p. 27).

Next, Hipp & Huffman created the PLCO. Below in Figure 2.1 is the PLCO created by Hipp & Huffman (2010). This figure organizes the conceptual framework of PLCs.

Figure 2

Professional Learning Community Organizer



This PLCO-Professional Learning Community Organizer gives a visual representation of inputs and outputs of teachers and administrators. It also describes each phase of change defined by Fullan (1990), beginning with the initiating phase.

From the visual we see in the initiation phase, leaders begin to connect the change initiative to staff and students by sharing information and forming caring relationships. The change process is still occurring; however, the leader encourages and shares power and authority. In the final stage, sustaining or institutionalizing the change becomes embedded in the school's culture, resulting in continuous learning for teachers and students. Also, one should note from viewing the PLCO that support (central office, parents, community) is key to sustaining PLCs and improvement initiatives.

This conceptual framework gives us the basis for evaluating PLCs. To see academic achievement and continuous improvement, a school's implementation of PLCs should be at the sustaining stage. "Our reconceptualization reflects a more fluid process to emphasizes continuous improvement (Hipp & Huffman). It should be noted that Hipp & Huffman changed Fullan's last stage of change from institutionalized to sustaining. As Hipp & Huffman (2010) stated, "from our experience which is supported by research (Fullan, 2005; Hipp, Huffman, Pankake & Olivier, 2008), institutionalization is more accurately represented by the term *sustainability*" (p. 27)

Five Dimensions of Professional Learning Communities

In *Demystifying Professional Learning Communities: School Leadership at its Best* (2010), Hipp & Huffman demystifies the concept of PLCs and defines the five dimensions of a PLC, which illustrates how PLCs operate. After reviewing the literature and research, these dimensions were identified; these standard practices emerged (p. 13). The five dimensions of PLCs as defined by Hipp & Huffman (2010) are:

- Supportive and shared leadership

- Shared values and vision
- Collective learning and application
- Shared personal practice
- Supportive conditions
    - Relationships
    - Structures (Hipp & Huffman, 2010)

These five dimensions, along with the attributes, are the backbone of the PLCA-R instrument used in this study, which evaluates the implementation of PLCs at one high school. Olivier & Hipp state, "These items illustrate actual school-level practices" (p.35). A brief description of each dimension and some of their attributes are shared.

Supportive and shared leadership. Hord (1997) states, "The literature on educational leadership and school change recognize clearly the role and influence of the campus administrator (the principal, and sometimes as assistant principal) on whether change will occur in the school" (p. 14). Nappi (2014) states "school and student success are more likely to occur when distributed, or shared leadership is practiced" (p. 29). An abundance of articles and research calls for a move from the long-standing educational tradition of teacher isolation to the practice of teacher collaboration (Dufour; 2007; Kiefer-Hipp, Bumpers, Huffman, Pankake, & Olivier, 2008), then this change is dependent on the administrators. As Hord (1997) states, "[Leaders] plant the seeds of community, nurture, fledgling community, and protect the community once it emerges" (p. 17).

Hipp & Huffman (2010) define supportive and shared leadership as "School administrators share power, authority, and decision making while promoting and nurturing leadership" (p. 13). Some attributes of this dimension as defined by Hipp & Huffman (2010) are:

- Staff members have accessibility to key information
- The principal is proactive and addresses areas where support is needed
- Leadership is promoted and nurtured among staff members
- The principal participates democratically with staff, sharing power and authority

Shared values and vision. Dufour (2010) states, "An effective school system and its leaders build a shared sense of purpose and a shared vision of what schools and the school system would look like if that shared purpose was acted on "(p. 32). Hord (1997) states, "Sharing vision is not just agreeing with a good idea: it is a particular mental image of what is important to an individual and to an organization" (p. 19). Huffman (2003) states, "The creation of a school vision, as an integral component of the change process, emerges over time and is based on common values and beliefs" (p. 2).

Hipp & Huffman (2010) define shared values and vision as "staff share visions that have an undeviating focus on student learning and support norms of behavior that guide decisions about teaching and learning" (p. 13). Some attributes of this dimension as defined by Hipp & Huffman (2010):

- Decisions are made in alignment with the school's values and vision
- A collaborative process exists for developing a shared vision among staff
- Policies and programs are aligned to the school's vision

- Data are used to prioritize actions to reach a shared vision

Collective learning and application. Doos & Wilhelmson (2011) note "collective learning brings about shared knowledge and understanding concerning something that was not previously known or understood among the interacting" (p. 489). Dufour (2010) writes, "Collective inquiry enables team members to develop new skills and capabilities that in turn lead to new experiences and awareness" (p. 12).

Hipp & Huffman (2010) define collective learning and application as "staff share information and work collaboratively to plan, solve problems, and improve learning opportunities" (p. 13). Some attributes of this dimension as defined by Hipp & Huffman (2010)

- Professional development focuses on teaching and learning
- School staff members are committed to programs that enhance learning
- Staff members plan and work together to search for solutions to address diverse student needs
- School staff members and stakeholders learn together and apply new knowledge to solve problems.

They shared personal practice. Teachers within a PLC community share student achievements and failures. They assess data and adjust their teaching where necessary. Hord (1997) notes "teachers find help, support, and trust as a result of the development of warm relationships with each other" (p. 23). Hord (1997) further states, "A goal of reform is to provide appropriate learning environments for students; teachers, too, need an environment that values and supports hard work" (p. 24).

Hipp & Huffman (2010) define shared personal practice as "Peers meet and observe one another to provide feedback on instructional practices, to assist in student learning, and to increase human capacity" (p. 13). Some attributes of this dimension as defined by Hipp & Huffman (2010)

- Opportunities exist for staff members to observe peers and offer encouragement
- Staff members regularly share student work to guide overall school improvement
- Staff members informally share ideas and suggestions for improving student learning
- Opportunities exist for coaching and mentoring

Supportive Conditions.

Relationships: Carpenter (2018) notes "evolving personal and professional relationships between group members impacts practice in the shared workplace" (p.131). Carpenter (2018) further states, "the shared workspace provides opportunity for rich, deep intellectual interactions that form relationships where teachers and administrators approach conflicting values and beliefs in a respectful, mutually caring way" (p131). Hipp & Huffman (2010) state "underlying such a culture is an emphasis on both individual and whole school improvement, which is rendered possible only after mutual respect and trustworthiness have been established among staff members" (p. 20).

Structures: Gray et al. (2014) note "that for PLCs certain structural conditions must be in place: time to meet and talk, physical proximity, interdependent teaching roles, communication structures, and teacher empowerment (p. 83).

Hipp & Huffman (2010) define supportive conditions as "relationships include respect, trust, norms of critical inquiry and improvement; structures include systems and resources to enable staff to meet and examine practices and student outcomes" (p. 13). Some attributes of this dimension as defined by Hipp & Huffman (2010)

Relationships:

- Caring relationships exist among staff and students that are built on trust and respect
- A culture of trust and respect exists for taking risks
- Outstanding achievement is recognized and celebrated regularly in our school

Structures:

- Time is provided to facilitate collaborative work
- The school schedule promotes collective learning and shared practice
- Fiscal resources are available for professional development

Professional Learning Communities Impact on Student Achievement. Hipp & Huffman's conceptualization of the PLC dimensions, related attributes, and the PLCO enabled them to develop a tool to assess PLCs, the PLCA-R. The literature review highlights the impact the PLC dimensions have on student achievement.

Carpenter (2015) conducted a qualitative study that examined shared leadership and supportive structures, their relationship to school culture, and their influence on two schools' professional learning communities. The results showed that at Roosevelt, the administrators and teachers shared the beliefs of the continuous improvement cycle. They shared in training and the continuous growth of teaching and learning. At Washington, no shared belief in the continuous improvement cycle caused isolation, and a culture of continuous improvement did not form. Carpenter states, "Shared leadership is a central component of effective professional learning in collaborative groups such as professional learning communities" (p. 689).

A quantitative study conducted by Zheng et al. (2016) focused on leadership practices, trust in colleagues, the influence of faculty on leadership practices, and their effects on PLCs. The results showed leadership practices and trust in colleagues have a positive impact on PLCs. Leadership practices shaped the values and set the foundation for how colleagues shared and communicated. With trust formation through leadership practices, colleagues worked more freely within a PLC to share and exchange instructional practices for student achievement and teacher learning.

In a qualitative study done by Kilbane, four schools were examined after participating in a CSR effort. The study investigated CSR's impact on these schools' current efforts to sustain PLCs by collecting documents, interviews, and observations. Each of the schools experienced different factors that led to them sustaining their PLC efforts; however, administrative support and other factors were common themes. As Kilbane (2009) states, "administrative support was critical in the strength of the learning

community sustained" (p. 199). The study also showed how the lack of administrative support created barriers in sustaining PLCs.

Burns et al. (2018) conducted a quantitative study that examined data from 181 schools to see to what extent student achievement is related to the implementation of PLCs and assess the performance of PLCs at each school. Schools' achievement data and an implementation rubric addressed these research questions. The findings showed a correlation between PLCs and student achievement, with the two major PLC factors being collaborative leadership and data driven-systems.

In a study sponsored by SEDL, the researchers focused on eighteen schools that had developed PLCs over five years, and the role shared values and vision played in the process. The research was qualitative, which consisted of interviews centered around the five dimensions of PLCs. The research showed each school's achievements and barriers that have to be overcome when implementing PLCs. The study also reiterated how each dimension of PLCs is equally essential to students' and teachers' success. However, as Huffman (2003) states, "it is critical, however, to understand that the emergence of a strong shared vision based on collective values provides the foundation for informed leadership" (p. 32).

In a mixed-method study done by Williams (2013), the researcher examined students reading levels across two hundred schools to see if there was an increase due to teachers meeting weekly to collaborate. The results showed an increase in student achievement using ANOVA for the quantitative data. The qualitative data revealed 16 categories with two subcategories. Collaborative teaching-learning was a theme that

emerged where teachers stated, "the process of building knowledge and support was collaborative, either by learning from colleagues or learning from other sources" (p. 35).

Wells & Feun (2008) conducted a mixed-method study. Researchers selected participants from PLC high schools then sent them to a PLC training that showed them practical ways to collaborate to improve student learning. For the quantitative aspect of the study, researchers developed a survey that included the five attributes as defined by Hord (1997). Once participants finished the survey, they were asked to "qualify each answer." This study was implemented over three years to see any growth within each high school's PLC. Although the results showed the little forward movement of the PLCs within these schools, the results did show that Hord's (1997) elements of a PLC were essential for the implementation of PLCs, inclusive of shared practices and collective inquiry. The researchers also suggest how to overcome resistance from staff members who do not wish to work collectively.

In another mixed-method study done by Linder et al. (2012), the researchers examined factors for implementing PLCs and how faculty enabled PLCs to create and form positive relationships. One of the themes that emerged as a factor for implementing PLCs was selecting/sharing/implementing/discussing results. This theme was one of the top three highly valued factors, with a mean of 4.63. As stated by Linder (2012), "these results were consistent with Little (2003), who "identified PLCs as places where teaching and learning can be challenged through sharing and discussing results of the activities led to the evaluation of current practices and, in some cases, changes of current practices" (p. 19).

Hipp et al. (2008) conducted a qualitative study that examined two schools' journey of implementing PLCs. The underlying research questions focused on sustaining a PLC and any relationship between school culture and PLCs. As both schools went through implementing PLCs, there were similarities and differences. One theme that emerged that schools should consider for sustaining PLCs is teamwork and shared responsibility. "Everybody's working together, like pieces of a puzzle" (p. 181). "We put the pieces together, and that's why it works" (p. 181).

Another study conducted by Munoz & Bhanham (2016) was a mixed-method study that utilized a survey to measure student achievement with the implementation of PLCs. The method chosen assessed three components of PLCs (a) learning as a fundamental process, (b) collaborative culture (c) results in orientation. The results showed that schools that used these components (labeled high-dosage) and ones that had supportive structures saw significant gains in student achievement. One participant said of collaborative culture, "we had to learn to trust one another and be flexible" (p. 42). Learning to trust enabled a constant flow of sharing practices.

Researchers Sleegers et al. (2014) used a mixed model analysis of longitudinal data to examine how instructional practices influence improvement efforts. Four concepts were studied that showed in previous research to impact instructional practices. One of those concepts was school organizational conditions. The results showed that instructional practices changed over time by engaging professional learning activities, "in particular experimentation and reflection." As stated by Sleegers et al. (2014), "Cooperative, friendly, and collegial relationships; open communication; and the free

exchange of ideas may provide emotional and psychological support for teachers' work and promote opportunities for critical reflection" (p. 625).

In a qualitative study by Lujan & Day (2010), the researchers examined PLCs' implementation as defined by DuFour and DuFour and possible roadblocks. Previous research showed a roadblock for implementation being time and resources. Although the data in this study showed the current teachers had allotted time to meet and collaborative suggestions for overcoming this roadblock are given and the importance of time and resources for PLCs.

Gray et al. (2014) completed a quantitative study that examined school structures, trust, and collective efficacy. The researchers used the PLCA-R and the C.E. to measure these variables concerning the development of PLCs. Enabling school structures had a mean of 3.9 and were in the top three positively correlated PLCs development. As Gray & Tater (2014) state, "The empirical findings emphasize the importance of establishing enabling school structures as an antecedent of professional learning communities" (p 92).

In a qualitative study done by Dehdary (2017), the researcher wanted to examine the strengths and threats of PLCs. Dynamic work context, management policy, and a nexus of communities were the strengths that evolved from the data. Threats were teachers' sense of belonging, view of professions, and infrastructure. Dehdary (2017) states, "Teachers are a major building block of a community" (p. 652). Dehdary (2017) further says, "taking care of PLC means taking care of teachers" (p. 652).

Wong (2010) conducted a qualitative study; math teachers were interviewed to explore how collaboration helps shape a school's culture and what factors play a vital role

in developing PLCs. One theme that emerged in the findings is partnerships to create and sustain PLCs. As Wong states, "The experience of the Mathematics teachers studied shows that a partnership relationship with outside teacher education institutions is another key to success" (p. 138).

Summary

A literature review shows how laws, mandates, and policies have shaped the need for school improvement initiatives. Next, we looked at PLCs and their emergence into the mainstream education field. A review of the conceptual framework and research questions shows how PLCs have evolved and eventually conceptualized into five dimensions. Finally, we reviewed literature where there has been an impact on student achievement with the implementation of PLCs and center dimensions of PLCs.

Chapter III

Methodology

The purpose of this study is to determine teacher perceptions of the implementation of the five dimensions of professional learning communities as defined by Hipp and Huffman (2010) in one high school and the relationship of those perceptions to student failure rates. A quantitative survey study will be used to answer the research questions. According to Edmonds and Kennedy (2013), "Research in quantitative methods essentially refers to the application of the systematic steps of the scientific method, while utilizing quantitative properties (i.e., numerical systems) to research the relationships or effects of specific variables" (p. 20).

Research Design

This study will utilize a cross-sectional survey design. Specifically, the participants will be administered the PLCA-R survey created by Hipp & Huffman (2010). According to Creswell & Creswell (2018), "survey research provides a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population" (p. 12). They further state that for "experimental designs with categorical information (groups) on the independent variable and continuous information on the dependent variable, researchers use *t*-tests or univariate analysis of variance (ANOVA)" (p. 173). This study will investigate teacher perceptions of implementing PLCs at one high school and determine if there is a relationship between the perceived implementation and student failure rates. It will further analyze the data based on specific demographic information. Collecting data utilizing the PLCA-R survey should reveal

strengths and weaknesses in the PLC implementation at the chosen high school. Once this data has been analyzed, the second research question will be answered after failure rates for the past three years are obtained.

Participants/Sampling Information

Population/Sample. Edmonds & Kennedy (2013) state, "when developing quantitative, qualitative, and mixed methods studies, it is important to identify the individuals from whom you plan to collect data" (p. 15). The invited participants in this study will consist of high school staff members, including all certified personnel, the administration team, the literacy facilitator, a certified career coach, and the School Improvement Specialist (SIS). The certified personnel consist of 31 male teachers and 24 female teachers. The administrative team consists of four assistant principals, one for each grade in the high school. The participants of this study were selected because they meet the following criteria. First, they are certified personnel at the school in which this study will be conducted. Second, all have participated in PLCs and are knowledgeable enough about professional learning communities to answer the survey questions.

Context/Setting of Study. The setting for the study is a high school located in a suburb of a major city. A military base lies within the school district boundaries; consequently, student turnover is relatively high. The district is relatively new, going into its sixth year since it was separated from its former district. There is only one high school in the district, and it is home to approximately 1,050 students. The high school has roughly 66 teachers, five administrators, and various non-certified personnel. The high school's ACT Aspire scores for spring of 2021 have an average math proficiency score of

9% Ready at the 9th-grade level and 4.5% Ready at the 10th-grade level. ACT Aspire scores for reading for spring 2021 are 14.8% for 9th grade and 9.8% for 10th grade. The graduation rate for 2020 was 82.6% (ADE Data Center).

The student body is predominantly African-American (67%), followed by Caucasian (33%). A small minority comprises Hispanics, Hawaiian, American Indian, and two or more races (adedata.gov). Two percent of the student body is classified as Limited English Proficiency, and 57% are classified as coming from low-income backgrounds. Roughly 14% of students receive special education services. The average class size is 14, with most teachers having at least seven years of experience. Each year the high school has a significant turnover in staff, making staff retention a priority.

Sampling Method. The purpose of this study is to determine teacher perceptions of the implementation of the five dimensions of professional learning communities as defined by Hipp and Huffman (2010) in one high school and the relationship of those perceptions to student failure rates. This study will utilize purposive sampling. Edmonds and Kennedy (2013) state, "the researcher, selects individuals to participate based on a specific need or purpose (i.e., based on the research objective, design, and target population)" (p. 17). This sampling method was selected because these individuals meet specific criteria. They all were certified employees at the high school where the study will be conducted. Also, they all participate in PLCs and possess an understanding of PLCs to answer the survey questions.

Instruments. To collect perception data for this study, an adaptation of the *Professional Learning Communities Assessment-Revised* (PLCA-R) survey instrument will be utilized but without the comment box. A written response will not be a component of this study. Olivier & Hipp (2010) published the complete instrument and discussion of research to create the survey. The PLCA-R has a total of 52 statements for which the survey participants respond to a four-point Likert scale:

- 1 – strongly disagree;
- 2 – disagree;
- 3 – agree;
- 4 – strongly agree;

According to Olivier & Hipp (2010), the PLCA-R is "a formal diagnostic tool to help educators determine where their school lies on the continuum" (p. 30). They further state,

> rather than determining that a school is or is not functioning as a PLC, it is more beneficial to assess its progress along a continuum by analyzing specific school and classroom practices. Such analysis can be enhanced by the assessment of organizational variables related to PLC development, such as collective efficacy and leadership capacity (p. 29).

They intended this survey to utilize descriptive statistics to identify the school's strong and weak PLC dimensions. This study will use the instrument to evaluate the degree of implementation of PLCs within the selected school. This survey will help determine where the school lies on the continuum and the relationship to failure rates.

Reliability and Validity. The PLCA-R survey will be used to evaluate the perceived implementation of PLCs in a selected high school. Olivier & Hipp (2010) "initially created the PLCA-R to assess the everyday classroom and school-level practices in relation to PLC dimensions" (p. 30). They stated, "the widespread use of the instrument provided an opportunity to review the dimensions for internal consistency" (p. 30). The survey authors used a sample size of 1209 individuals. Cronbach Alpha reliability coefficients for factored subscales were calculated for each dimension. Internal consistency for each dimension was as follows:

- Shared and supportive leadership (.94)
- Shared values and vision (.92)
- Collective learning and application (.91)
- Shared personal practice (.87)
- Supportive conditions-relationships (.82)
- Supportive conditions-structures (.88)
- One-factor solution (.97) (Olivier & Hipp, 2010, p.30).

The authors' and various researchers' ongoing use of this instrument has contributed to verifying the instrument's validity (Olivier & Hipp, 2010, p. 30).

Data Collection

The data collection instrument that will be used in this study is a survey. This study will utilize a survey created by Olivier & Hipp (2010) generated using google docs. The survey will be administered at the monthly faculty meeting. I will briefly summarize why the survey data is needed before the teachers take the survey, and then a link will be

emailed to each participant so they can take the survey. I will follow up with staff not present within a week to administer the survey individually. Once all participants have been administered the survey, the survey data will be put into a spreadsheet for analysis.

Data Analysis

The overarching question for this research study is stated as, is there a relationship between PLC implementation as perceived by teachers and student failure rates? To gain insight into this question, the following questions are posited:

1. Is there a difference in the perceptions of teachers about the implementation of PLC at the selected high school based on total years of teaching experience?
2. Is there a difference in the perceptions of teachers about the implementation of PLC at the selected high school based on gender?
3. Is there a difference in the perceptions of teachers about the implementation of PLC at the selected high school based on content matter taught by the teacher?
4. Is there a difference in the perceptions of teachers about the implementation of PLC at the selected high school based on years of experience at the selected high school?
5. What is the level of teacher strength in the content areas at the selected high school in the six PLC dimensions defined by Hipp and Huffman?
6. Is there a relationship between student failure rates and the perceived level of PLC implementation at the high school level?

Data from the PLCA-R survey will be collected and entered into SPSS. To answer the first four questions, an Analysis of Variance (ANOVA) will be computed. The dependent

variable will be teachers' perceptions, and the independent variables will be total years of experience, gender, content matter taught, and years at the high school.

To answer the fifth question, descriptive statistics will be computed. Knapp (2018) states, "to better comprehend and communicate the nature of a data set, we use descriptive statistics" (p. 46). Using descriptive statistics, perceptions of strengths and weaknesses of PLC implementation will be determined by content area and within the six dimensions. The mean and standard deviation of each PLCA-R survey question (attribute) will be determined for the entire group of participants and for each subgroup of content areas (math, English, science, social studies, and others). Next, the mean of the attributes for each dimension will be computed for the entire group of participants and each subgroup of content areas. For example, statements 1-11 of the PLCA-R survey pertain to the dimension of "shared and supportive leadership." Statements 12-20 pertain to the dimension of "shared values and vision," and so on. Means of 3.0 or higher show a general agreement with the attribute (Olivier & Hipp, 2010).

To answer the sixth question, student failure rates will be obtained from the school's database, eSchool, for the preceding three years and analyzed by year in aggregate and by content area. The number of students who fail to meet the cutoff score for passing will be determined, and the percentage failing will be computed for each year. A three-year average will be computed. A comparison will be made between the three-year average and the mean of each dimension for the entire group of participants and each subgroup of content areas.

Summary

The purpose of this study is to determine perceptions of the implementation of the five dimensions of professional learning communities as defined by Hipp and Huffman (2010) in one high school and the relationship of those perceptions to student failure rates. Archived student failure rates, retrieved from eSchool, by content area will be analyzed with the results of the PLCA-R survey to determine if a relationship exists.

CHAPTER IV

Results

This research study's overreaching purpose was to determine if there was a relationship between PLC implementation as perceived by teachers and student failure rates. Six research questions were posited. Four examined teacher perceptions regarding the implementation of PLC based on a demographic factor of the teacher; one examined the level of teacher strength measured by Hipp and Huffman's model; one examined the student failure rates and tried to determine a causal relationship between failure rates and teacher support of a PLC. The research questions were:

1. Is there a difference in the perceptions of teachers about the implementation of PLC at the selected high school based on total years of teaching experience?
2. Is there a difference in the perceptions of teachers about the implementation of PLC at the selected high school based on gender?
3. Is there a difference in the perceptions of teachers about the implementation of PLC at the selected high school based on content matter taught by the teacher?
4. Is there a difference in the perceptions of teachers about the implementation of PLC at the selected high school based on years of experience at the selected high school?
5. What is the level of teacher strength in the content areas at the selected high school in the six PLC dimensions defined by Hipp and Huffman?
6. Is there a relationship between student failure rates and the perceived level of PLC implementation at the high school level?

The PLCA-R Survey Instrument

As noted in Chapter Two, the PLCA-R survey instrument addresses five dimensions of PLC implementation: (1) Supportive and shared leadership, (2) Shared values and vision, (3) Collective learning and application, (4) Shared personal practice, (5) Supportive conditions – Relationships, and (6) Supportive conditions – Structures. Each dimension was measured using a set of statements, 52 total, to which the participant responded with either strongly disagree, disagree, agree, or strongly agree, coded as 1, 2, 3, or 4 respectively. The average response for each dimension was computed for each participant and used in the analysis. Table 1 shows the number of attributes for each dimension, and Appendix B contains the list of attributes.

Table 1

PLCA-R Dimensions and Number of Attributes

PLC Dimension	Number of Attributes
Shared & Supportive Leadership	11
Shared Values & Vision	9
Collective Learning and Application	10
Shared Personal Practice	7
Supportive Conditions – Relationships	5
Supportive Conditions – Structures	10

Findings

Research Question 1

The first research question asked whether there was a difference in the perceptions of teachers about the implementation of PLC at the selected high school based on total years of teaching experience. Participants were grouped into four groups: 1-4 years of total teaching experience (n = 21), 5-10 years of experience (n = 17), 11-20 years of experience (n = 3), and 21+ years of experience (n = 12). The mean rating for each dimension was computed for total years of teaching experience. Results are presented in Table 2.

Table 2

Mean Rating for Each Dimension by Total Years of Teaching

PLC Dimension	N	Mean	Std. Dev	Mean Rank
Shared & Supportive Leadership				
1-4 years	21	2.70	.57	27.05
5-10 years	17	2.58	.50	23.12
11-20 years	3	3.10	.17	39.50
21+ years	12	2.78	.65	29.29
Shared Values & Vision				
1-4 years	21	2.61	.40	23.57
5-10 years	17	2.56	.51	25.32
11-20 years	3	2.83	.21	34.00
21+ years	12	2.85	.38	33.63
Collective Learning and Application				
1-4 years	21	2.76	.42	22.71
5-10 years	17	2.90	.49	27.50
11-20 years	3	2.97	.25	30.67
21+ years	12	3.08	.46	32.88
Shared Personal Practice				
1-4 years	21	2.47	.42	23.95
5-10 years	17	2.61	.38	27.97
11-20 years	3	2.48	.36	22.83
21+ years	12	2.76	.51	32.00

PLC Dimension	N	Mean	Std. Dev	Mean Rank
Supportive Conditions – Relationships				
1-4 years	21	2.50	.57	21.24
5-10 years	17	2.72	.46	27.32
11-20 years	3	2.87	.23	32.83
21+ years	12	3.07	.51	35.17
Supportive conditions – Structures				
1-4 years	21	2.58	.42	23.69
5-10 years	17	2.62	.46	26.47
11-20 years	3	2.67	.06	26.17
21+ years	12	2.78	.46	31.54

A one-way ANOVA statistical test was performed to determine if there was a significant difference between teacher perceptions of implementing a PLC for each dimension and the teacher's total years of teaching experience. Results are presented in Table 3.

Table 3

Teacher Perceptions of PLC Implementation by Total Years of Experience

PLC Dimension	F	*p* value
Shared & Supportive Leadership	.850	.473
Shared Values & Vision	1.333	.274
Collective Learning and Application	1.401	.254
Shared Personal Practice	1.314	.281
Supportive Conditions – Relationships	3.118	.034
Supportive conditions – Structures	.557	.646

As noted in Table 3, the only dimension in which teacher perceptions and total years of teaching experience had a significant difference was Supportive Conditions –

Relationships. The Sidak post hoc analysis revealed that the mean difference from 1-4 years to 21+ years was statistically significant (p = .024), but no other group differences were statistically significant.

A One-Way ANOVA test was conducted to determine if there were differences in responses to individual attributes by teachers based on their total number of years of teaching experience. Four attributes among the five dimensions indicated a statistically significant difference in response. The four attributes and the dimension are listed in Table 4 below.

Table 4

Question 1 Statistically Significant Attributes

PLC Dimension	F	*P* value
Shared & Supportive Leadership (L9)	.755	.026
Shared Values & Vision (V6)	.696	.025
Supportive Conditions – Relationships (R3)	.714	.037
Supportive Conditions – Relationships (R5)	.686	.034

For the attribute R3, the Sidak post hoc analysis revealed that the mean difference from 1-4 years to 21+ years was statistically significant (p = .037). Likewise, for attributes R5, V6, and L9 the mean difference from 5-10 years to 21+ years, respectively, were statistically significant (p = .034, .025, and .026, respectively).

Because the number of participants in three of the four total teaching experience groups was less than 30, the Kruskal-Wallis H test was conducted for each dimension to

determine if the results were like those obtained using the ANOVA. Results are presented in Table 5. Median rankings were not statistically significantly different between the dimensions and different levels of teaching experience for any dimension, whereas the ANOVA test produced a significant difference for one dimension. Further analysis of individual attributes using the Kruskal-Wallis H test found a significant difference in the same four attributes as was found using the ANOVA, as noted below. Consequently, only ANOVA results for subsequent research questions will be reported unless there is a serious violation of assumptions for using the ANOVA test.

Table 5.

Teacher Perceptions Based on Total Years of Teaching Experience

PLC Dimension	Kruskal-Wallis H	df	Asymp. Sig.
Shared & Supportive Leadership	3.325	3	.344
Shared Values & Vision	4.102	3	.251
Collective Learning and Application	3.565	3	.312
Shared Personal Practice	2.398	3	.494
Supportive Conditions – Relationships	6.978	3	.073
Supportive conditions – Structures	2.068	3	.558

A Kruskal-Wallis test was conducted to determine if there were differences in responses to individual attributes by teachers based on their total number of years of teaching experience. Of the 52 attributes, there were four in which there was a significant difference in the participants' responses. There was a significant difference in response to the L9 statement, "Decision making takes place through committees and communication

across grade and subject areas," χ^2 (3) = 9.395, p = .024. Further analysis revealed that teachers with 5-10 years' total experience (mean rank = 11.59) responded significantly differently to the statement than teachers with 21+ years of experience (mean rank = 19.83), $\chi^2(1) = 8.225$, p = .004.

There was also a significant difference in responses to the S6 statement, "School goals focus on student learning beyond test scores and grades," χ^2 (3) = 8.284, p = .040. Further analysis revealed that teachers with 5-10 years' total experience (mean rank = 12.09) responded significantly differently to the statement than teachers with 21+ years of experience (mean rank = 19.13), $\chi^2(1) = 6.393$, p = .011. Teachers with 21+ years of experience (mean rank = 21.29) also responded significantly differently to the statement than teachers with 1-4 years of experience (mean rank = 14.55), χ^2 (1) = 4.913, p = .027.

There was also a significant difference in responses to the R3 statement, "Outstanding achievement is recognized and celebrated regularly in our school," χ^2 (3) =8.790, p = .032. Further analysis revealed that teachers with 1-4 years' total experience (mean rank = 14.19) responded significantly differently to the statement than teachers with 21+ years of experience (mean rank = 21.92), $\chi^2(1) = 5.973$, p = .015.

Furthermore, there was a significant difference in responses to the R5 statement, "Relationships among staff members support honest and respectful examination of data to enhance teaching and learning," χ^2 (3) =9.977, p = .019. Teachers with 21+years total experience (mean rank = 22.00) responded significantly differently to the statement than teachers with 1-4 years of experience (mean rank = 14.14), $\chi^2(1) = 7.230$, p = .007. And,

they responded significantly differently (mean rank = 19.17) to the statement than teachers with 5-10 years of experience (mean rank = 12.06), $\chi^2(1) = 7.935$, $p = .005$.

Research Question 2

The second research question asked if there is a difference in the perceptions of teachers about the implementation of PLC at the selected high school based on gender. Descriptive statistics were computed to compare teachers' perceptions of PLC implementation and gender. The mean rating for each dimension was computed by gender. Results are listed in Table 6.

Table 6

Mean Dimension Response by Gender

PLC Dimension	Gender	N	Mean	Std. Dev
Shared & Supportive Leadership				
	Female	31	2.68	.54
	Male	22	2.72	.611
Shared Values & Vision				
	Female	31	2.60	.45
	Male	22	2.73	.39
Collective Learning and Application				
	Female	31	2.83	.45
	Male	22	2.96	.44
Shared Personal Practice				
	Female	31	2.49	.39
	Male	22	2.69	.44
Supportive Conditions – Relationships				
	Female	31	2.70	61
	Male	22	2.70	.44
Supportive conditions – Structures				
	Female	31	2.60	.43
	Male	22	2.60	.42

To determine if there was a significant difference between teacher perceptions of the implementation of a PLC by attribute-based on gender, an independent samples *t*-test was computed. The *t*-test indicated attribute P1 and attribute S9 showed a statistically significant relationship. P1 statement, "Opportunities exist for staff members to observe peers and offer encouragement" indicated that men were significantly higher (M = 2.59, SD = .908) than for women (M =2.16, SD = .638, p = 0.47). Also, for attribute S9, "Data are organized and made available to provide easy access to staff members," men were also significantly higher (M =2.86, SD =.727) than women (M = 2.47, SD = .629, p = .003). Finally, Cohen's test was conducted to compute the effect size for the P1 and S9 attributes that showed statistically significant. The effect size for the P1 attribute (d = .761) and attribute S9 (d=.567) indicated a medium effect size for both.

An analysis of variance showed that of the teacher's responses to the 52 survey items, only two attributes showed statistically significant that gender plays a factor in teachers' perceptions of the implementation of PLCs. Those two attributes also fell within two dimensions. Shared & Supportive Leadership, Shared Values & Visions, Collective Learning & Application, and Supportive Conditions: Relationships were the four attributes that showed gender as a non-significant factor in teachers' perceptions in implementing PLCs.

The third research question asked if there was a difference in teachers' perceptions on the implementation of professional learning communities at the selected high school based on content matter taught by the teacher. Table 7 depicts the mean rating for each dimension for each content matter.

Table 7

Teacher Perceptions of PLC Implementation by Content Matter-Dimensions

PLC Dimension		N	Mean	Std. Dev
Shared & Supportive Leadership				
	English	8	2.44	0.66
	Math	10	2.75	0.42
	Science	6	2.75	0.52
	Social Studies	5	2.70	0.47
	Other	24	2.76	.63
Shared Values & Vision				
	English	8	2.63	0.35
	Math	10	2.65	0.54
	Science	6	2.58	0.34
	Social Studies	5	2.74	0.32
	Other	24	2.68	0.47
Collective Learning and Application				
	English	8	2.96	0.49
	Math	10	2.72	0.42
	Science	6	2.92	0.20
	Social Studies	5	3.38	0.36
	Other	24	2.83	0.47
Shared Personal Practice				
	English	8	2.43	0.40
	Math	10	2.69	0.37
	Science	6	2.62	0.33
	Social Studies	5	2.86	0.54
	Other	24	2.52	.44
Supportive Conditions – Relationships				
	English	8	2.75	0.56
	Math	10	2.70	0.58
	Science	6	2.63	0.48
	Social Studies	5	2.72	0.41
	Other	24	2.74	0.60
Supportive conditions – Structures				
	English	8	2.59	0.43
	Math	10	2.54	0.38
	Science	6	2.60	0.53
	Social Studies	5	2.72	0.51
	Other	24	2.70	0.43

A one-way ANOVA statistical test was performed to determine if there was a significant difference between teacher perceptions of the implementation of PLC for each dimension and teacher's content matter taught. Results are presented in Table 8.

Table 8

Teacher Perceptions of PLC Implementation by Content Matter

PLC Dimension	F	*p* value
Shared & Supportive Leadership	.506	.732
Shared Values & Vision	.114	.977
Collective Learning and Application	2.18	.084
Shared Personal Practice	1.09	.371
Supportive Conditions – Relationships	.053	.995
Supportive conditions – Structures	.304	.874

As noted in Table 8, there were no dimensions in which content matter taught by teachers showed a statistical significance with teachers' perceptions on the implementation of PLCs.

A one-way ANOVA test was conducted to determine differences in teachers' responses to individual attributes based on content taught. Two attributes within the Collective Learning & Application dimension showed statistically significant. An analysis of variance showed that attribute A1, "staff members work together to seek knowledge, skills, and strategies and apply this new learning to their work," is statistically significant between math and social studies $p = .019$. An analysis of variance also showed that attribute A3, "staff members plan and work together to search for

solutions to address diverse student needs." was statistically significant between other and social studies p = .013. The results are presented in Table 9 below.

Table 9

Teacher Perception by Content Matter for Attributes

	F	*p* value
Collective Learning & Application (A1)		
Social Studies	3.251	.019
Collective Learning & Application (A3)		
Other	3.54	.013

An analysis of variance showed that of the teachers' responses to the 52 survey items, only two attributes showed statistically significant that content matter taught plays a factor in teacher's perceptions of the implementation of PLCs; and those two attributes also fell within one dimension, Collective Learning & Application. That left four dimensions that showed content matter taught as a non-significant factor in teachers' perceptions in the implementation of PLCs.

The fourth research question asked if there was a difference in teachers' perceptions about the implementation of PLC at the selected high school based on years of experience at the selected high school. Participants were grouped into three groups: 1-2 years of experience at the selected high school, 3-4 years of experience at the selected high school, and 5+ years of experience at the selected high school. To determine if there was a significant difference based on years of experience at the selected high school and teacher perceptions of the implementation of a PLC on each dimension, a one-way

ANOVA was conducted between years of experience at the selected high school to compare the effect on teachers' perceptions of PLC implementation.

As noted in Table 10, there were no dimensions in which the teacher's years of experience at the selected high school showed a statistical significance with the perceptions on the implementation of PLCs. The results are below in Table 10.

Table 10

Teacher Perceptions of PLC Implementation Years of Experience At Selected High School-Dimensions

PLC Dimensions	F	*P* value
Shared & Supportive Leadership	.616	.544
Shared Values & Vision	.676	.513
Collective Learning and Application	.475	.625
Shared Personal Practice	1.234	.300
Supportive Conditions – Relationships	.327	.723
Supportive Conditions – Structures	.521	.597

A one-way ANOVA test was conducted to determine differences in teachers' responses to individual attributes based on years of experience at the selected high school. One attribute showed a statistical significance that fell within the Shared Values & Vision dimension. The results can be seen below in Table 11.

Table 11

Teacher Perception by Years of Experience at Selected High School for Attributes

		F	*P* value
Shared Values & Vision (V1)			
	1-2 years	.584	.029

For research question 4, the attribute that showed statistical significance fell within the Shared Values & Vision dimension. For attribute V1, the Sidak post hoc analysis revealed that the mean difference between 1-2 years and 5+ years was statistically significant (p = .029).

An analysis of variance showed that of the teacher's responses to the 52 survey items, only one attribute showed statistically significant that years of experience at the selected high school plays a factor in teachers' perceptions of the implementation of PLCs. The attribute and dimensions are outlined in Table 11. Shared & Supportive Leadership, Collective Learning & Application, Supportive Conditions: Structures, and Supportive Conditions: Relationships were the five attributes that showed years of experience at the selected high school as a non-significant factor in teachers' perceptions in the implementation of PLCs.

The fifth research question posited the level of teacher strength in the content areas at the selected high school in the five PLC dimensions defined by Hipp and Huffman? To answer this question, first descriptive statistics were used to determine perceptions of strengths and weaknesses of PLC implementation by content area and within the six dimensions. The results in Table 12 show the mean and standard deviation of each PLCA-R survey question (attribute) for the entire group of participants and each

subgroup of content areas (math, English, science, social studies, and others). A key for the labels of attributes can be found in Appendix B.

Table 12 shows all attributes' mean and standard deviation by dimension by content area. The whole group or participant mean and standard deviation were also computed. Means of 3.0 or higher show a general agreement with the attribute (Olivier & Hipp, 2010). All six dimensions had one or more attributes that had a mean of 3.0 or higher within the various content areas. Two attributes had a mean of 3.0 or higher per dimension, per content area.

Table 12

Mean and SD of Each PLCA-R Question

Attribute	Results	English	Math	Science	Social Studies	Other	WG
Dimension Shared & Supportive Leadership							
L1	Mean	2.38	2.80	2.67	2.60	2.75	2.68
	SD	1.06	.632	.516	.894	.794	.779
L2	Mean	2.38	2.90	2.83	2.60	3.21	2.92
	SD	.916	.316	.753	.894	.779	.781
L3	Mean	2.38	2.70	2.67	2.80	2.70	2.66
	SD	.518	.823	.830	.447	.690	.678
L4	Mean	2.88	3.20	2.83	3.20	2.83	2.94
	SD	.641	.919	.754	.447	.702	.718
L5	Mean	2.25	2.5	2.67	2.6	2.71	2.58
	SD	.886	0.527	.816	.548	.955	.819
L6	Mean	2.38	2.6	2.83	2.2	2.71	2.6
	SD	.916	.516	.983	.837	.908	.84
L7	Mean	2.63	2.7	2.83	2.6	2.67	2.68
	SD	.916	.483	.983	.894	.917	.827

Attribute	Results	English	Math	Science	Social Studies	Other	WG
	Dimension Shared & Supportive Leadership						
L8	Mean	2.38	3	3.17	2.6	2.71	2.75
	SD	.744	.471	.408	.894	.859	.757
L9	Mean	2.38	2.7	2.67	2.6	2.92	2.74
	SD	1.06	.483	.816	.548	.654	.711
L10	Mean	2.38	2.4	2.33	3.2	2.38	2.45
	SD	.744	.516	.516	.447	.875	.748
L11	Mean	2.38	2.34	2.5	2.88	2.6	2.67
	SD	.743	.526	. 547	.534	.533	.714
Attribute	Results	English	Math	Science	Social Studies	Other	WG
	Dimension Shared Values & Vision						
V1	Mean	3.13	2.70	3.00	3.00	2.63	2.79
	SD	.354	.483	.000	.000	.647	.532
V2	Mean	2.50	2.70	2.67	3.00	2.83	2.75
	SD	.535	.675	.516	.000	.482	.515
V3	Mean	3.00	2.70	2.50	2.40	2.71	2.70
	SD	.535	.483	1.04	.548	.690	.668
V4	Mean	2.75	2.70	2.67	3.00	2.67	2.72
	SD	.463	.675	.516	.707	.702	.632
V5	Mean	2.75	2.80	2.33	2.80	2.83	2.75
	SD	.463	.789	.516	.447	.702	.648
V6	Mean	2.50	2.60	2.67	2.4	2.96	2.74
	SD	.535	.843	.516	1.14	.464	.655
V7	Mean	1.88	2.20	2.17	2.60	2.50	2.32
	SD	.835	.789	.983	1.14	.780	.850
V8	Mean	2.75	2.60	2.50	2.80	2.75	2.70
	SD	.463	.843	.548	.447	.608	.607

Attribute	Results	English	Math	Science	Social Studies	Other	WG
	Dimension Shared Values & Vision						
V9	Mean	2.70	2.70	2.50	2.20	2.33	2.40
	SD	.675	.675	.548	.837	.816	.768
V10	Mean	2.80	2.80	2.83	3.20	2.62	2.75
	SD	.632	.632	.408	.447	.770	.648
Attribute	Results	English	Math	Science	Social Studies	Other	WG
	Dimension Collective Learning & Application						
A1	Mean	2.70	2.70	3.00	3.60	2.83	2.98
	SD	.675	.675	.632	0.548	.565	.635
A2	Mean	3.20	3.20	3.17	3.60	0.55	3.13
	SD	.632	0.632	.408	.548	.751	.708
A3	Mean	2.60	2.60	3.00	3.80	2.92	3.00
	SD	.516	.516	.632	.447	.654	.679
A4	Mean	2.60	2.60	2.60	3.40	2.60	2.68
	SD	.699	.699	.516	.548	.711	.701
A5	Mean	2.90	2.90	3.30	3.60	2.96	3.04
	SD	.568	.568	.516	.548	.624	.619
A6	Mean	2.80	2.80	2.60	3.00	3.00	2.89
	SD	.789	.789	.816	1.00	.780	.776
A7	Mean	2.60	2.60	2.80	3.40	2.50	2.68
	SD	.699	.699	.408	.548	.717	.728
A8	Mean	2.70	2.70	3.10	3.20	2.90	2.98
	SD	.675	.675	.408	.447	.654	.604
A9	Mean	2.40	2.40	2.60	3.00	2.70	2.74
	SD	.843	.843	.516	.707	.624	.655
A10	Mean	2.70	2.70	2.60	3.20	2.67	2.77
	SD	.675	.675	1.03	.447	.637	.669

Attribute	Results	English	Math	Science	Social Studies	Other	WG
				Dimension Shared Personal Practice			
P1	Mean	2.70	2.70	2.33	2.80	2.21	2.34
	SD	.675	.675	.816	1.09	.721	.783
P2	Mean	2.60	2.60	2.67	2.80	2.25	2.38
	SD	.843	.843	.516	.447	.676	.713
P3	Mean	2.90	2.90	3.00	3.00	3.08	3.06
	SD	.588	.568	.632	1.00	.584	.602
P4	Mean	2.40	2.40	2.33	2.80	2.33	2.40
	SD	.966	.966	.816	1.09	.637	.768
P5	Mean	2.90	2.90	2.67	3.00	2.71	2.75
	SD	.568	.568	.516	.707	.751	.648
P6	Mean	3.00	3.00	3.00	3.00	2.76	2.87
	SD	.667	.66	.000	0.447	.588	.590
P7	Mean	2.30	2.30	2.00	2.40	3.00	2.26
	SD	.483	.483	.816	.548	.676	.655
Attribute	Results	English	Math	Science	Social Studies	Other	WG
				Dimension Supportive Conditions – Relationships			
R1	Mean	3.10	3.10	3.33	3.40	3.00	3.13
	SD	.568	.568	.516	.894	.659	.621
R2	Mean	2.40	2.40	2.17	2.20	2.67	2.49
	SD	.843	.843	.753	.837	.816	.823
R3	Mean	2.60	2.60	2.50	2.40	2.71	2.64
	SD	.699	.699	.837	.548	.751	.736
R4	Mean	2.80	2.80	2.17	2.60	2.50	2.51
	SD	.632	.632	.983	.548	.834	.775
R5	Mean	2.60	2.60	3.00	3.00	2.83	2.83
	SD	.966	.966	.000	.707	.702	.672

Attribute	Results	English	Math	Science	Social Studies	Other	WG
Dimension Supportive Conditions – Structures							
S1	Mean	2.10	2.10	2.33	2.40	2.54	2.34
	SD	.738	.738	.816	.548	.779	.758
S2	Mean	2.00	2.00	2.00	2.40	2.42	2.23
	SD	.943	.943	.632	.548	.717	.750
S3	Mean	2.60	2.60	2.50	2.60	2.46	2.51
	SD	.966	.966	.837	.548	.779	.775
S4	Mean	2.90	2.90	2.83	3.20	2.96	3.00
	SD	1.10	1.10	.408	.447	.624	.679
S5	Mean	2.30	2.30	2.83	2.80	2.79	2.74
	SD	.823	.823	.408	.837	.509	.625
S6	Mean	3.40	3.40	3.50	2.60	3.38	3.32
	SD	.516	.516	.548	.894	.647	.644
S7	Mean	2.50	2.50	2.33	2.80	2.96	2.75
	SD	.707	.707	1.21	.837	.751	.830
S8	Mean	2.60	2.60	2.67	2.80	2.58	2.55
	SD	.843	.843	1.03	.837	.717	.845
S9	Mean	2.70	2.70	2.67	2.60	2.57	2.63
	SD	.675	.675	.516	.548	.662	.595
S10	Mean	2.30	2.30	2.33	3.00	2.42	2.40
	SD	.823	.823	1.03	.707	.776	.817

Collective Learning & Application was one of the dimensions with an attribute of 3.0 or higher within all content areas. Attribute 2 states, “Collegial relationships exist among staff members that reflect a commitment to school improvement efforts” had a 3.0 or higher for every content area. Social studies came in with the highest mean of (M = 3.6, SD = .548). Within that attribute science had the lowest with a (M = 3.17, SD =

.632). The other dimension with an attribute of 3.0 or higher for each content area was Supportive Conditions: Relationships. Attribute 1 within this dimension, which states, “Caring relationships exist among staff and students that are built on trust and respect,” had 3.0 or higher for each content area. Social studies came in with the highest mean of (M = 3.40, SD = .548) within that attribute other came in with a mean of (M = 3.0, SD = .659).

All other dimensions had a range of two to five attributes that had a 3.0 or higher across content areas, showing general agreement with that attribute. Although each dimension had attributes with 3.0 or higher, there were still a majority of attributes that did not go above a 3.0. Out of 52 attributes, only 26 of them had a 3.0 or higher in one or more content areas. That leaves half, which did not show a general agreement. The lowest attribute fell within Shared Values and Vision. Attribute 7, which states, “Policies and programs are aligned to the school’s vision,” had a mean of 1.88 (SD = .84). A mean calculation for the whole group or all participants showed that the lowest attribute fell within Shared Personal Practice, attribute 7. Attribute 7 states, “staff members regularly share student work to guide overall school” had a mean of 2.26 (SD = .65).

For the second part of research question 5, the mean of the attributes for each dimension was computed for the entire group of participants and each subgroup of content areas. For example, statements 1-11 of the PLCA-R survey pertain to the dimension of "shared and supportive leadership." Statements 12-20 pertain to the dimension of "shared values and vision," and so on.

These results showed that only one dimension had a mean of 3.0 or higher and was within one content area. Collective Learning and Application had a standard an of (M = 3.38) for the social studies content. Science came in with the following mean of 2.91. The lowest mean score was tied within the Shared & Supportive Leadership and Shared Personal Practice dimensions, with English having a mean of 2.43. Only one content area within one dimension generally agreed with that overall dimension. That was social studies within the Collective Learning & Application dimension. Table 13 shows the mean for each dimension per content area.

Table 13

Mean Score for Each Dimension per Content

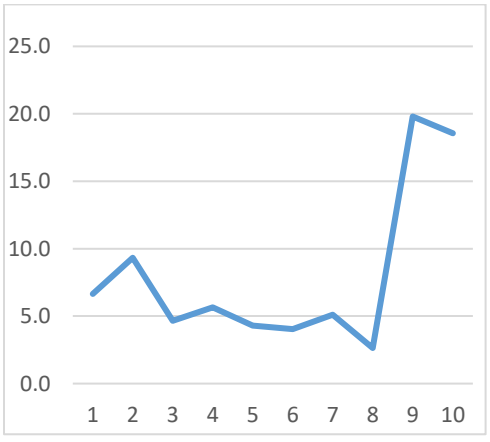
PLC Dimension	Results	English	Math	Science	Social Studies	Other
Shared & Supportive Leadership	Mean	2.43	2.75	2.74	2.70	2.75
Shared Values & Vision	Mean	2.62	2.65	2.58	2.74	2.68
Collective Learning and Application	Mean	2.96	2.72	2.91	3.38	2.82
Shared Personal Practice	Mean	2.43	2.68	2.61	2.85	2.51
Supportive Conditions – Relationships	Mean	2.75	2.70	2.63	2.72	2.74
Supportive Conditions – Structures	Mean	2.58	2.54	2.60	2.72	2.69

Research question 6 posited a relationship between student failure rates and the perceived level of PLC implementation at the selected high school level. To answer the

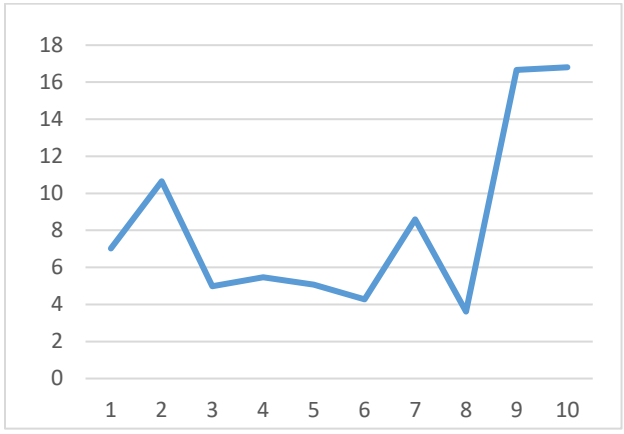
sixth question, student failure rates were obtained from the school's database, eSchool, for the preceding five years and analyzed by year in aggregate and by content area. The number of students who failed to meet the cutoff score for passing was determined, and the percentage failing was computed for each year. A five-year average was calculated. A comparison was made between the five-year average and the mean of each dimension for the entire group of participants and each subgroup of content areas. Failure rates were obtained by fall and spring semester for that given school year for each core content. Failure rates were by semester because scholars earn credits at the high school level. A total of 10 semesters of failure rate data was from the fall of 2017 through the spring of 2021. Figure 3 shows failure rates, per content area, for each semester since 2017.

Figure 3

Failure Rates by Semester, Per Content

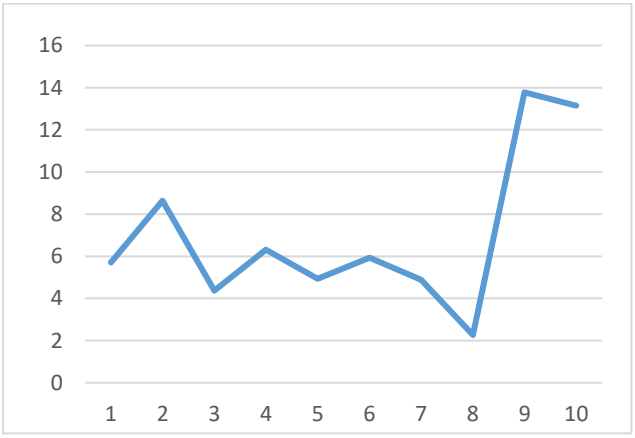


Fall of 2017-Spring of 2021



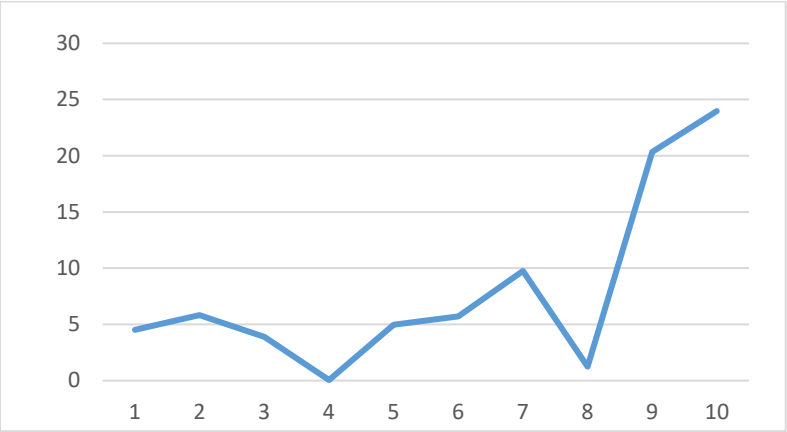
English Failure Rates

Fall of 2017-Spring of 2021



Social Studies Failure Rates

Fall of 2017-Spring of 2021



As shown in Figure 3, much of the failure rate data stayed within the 4.0-6.5 percentage range from fall of 2017 until spring of 2019 for all content areas; except math which saw an increase in failure rates from the fall of 2017 of 7.015 to 10.6 for the spring of 2018. Also, in the fall of 2019, math had an increase of failure rates from 3.6 from spring of 2019 to 8.5 failures for the fall of 2019. Social studies had a sizable increase as well during this period. In the spring of 2019, the percentage of failures was 5.7, which increased to 9.7 in the fall of 2019. In the spring of 2020, all content areas fell below the 3.0 failure rate average, and then in the fall of 2020, there was an increase in failure rates with all content areas, with the lowest percentage rate being English with a 13.7. This decrease in the spring and then increase in the fall of 2020 could be explained by COVID, Arkansas state mandates, and virtual learning. These high failure rates continued into the spring of 2021, with only science seeing a slight decrease in failure rates from 19.8 percent in the fall to 18.6 in the spring.

With the PLCA-R data and the failure rate data analyzed, we can now answer the question, “Is there a relationship between student failure rates and the perceived level of

PLC implementation at the high school level?" Hipp & Huffman (2010) state "that institutionalization across the five PLC dimensions is essential for schools to engage in the sustained improvement and for continuous learning to occur" (p. 27). In the final stage, institutionalization or sustaining change becomes embedded in the culture (Hipp & Huffman). The PLCA-R data shows that only social studies had one average above a 3.0 for one dimension. That dimension was Collective Learning & Application, which had a mean of 3.38. To answer this question, all content areas would need to score a 3.0 or higher to show that the school has hit the institutionalization or sustaining change required for continuous improvement. It cannot be determined if there is a relationship between PLCs and student failures rates due to the selected high school not being in the sustaining phase. However, it could be concluded that the chosen school does not see continuous improvement with lower failure rates due to the selected school not being at the sustaining stage of implementing PLCs.

Conclusion. This chapter answered all questions, and data were analyzed for all research questions presented. The first question posited is there is a difference in the perceptions of teachers about the implementation of PLC at the selected high school based on total years of teaching experience. Across three dimensions, only four of the fifty-two attributes showed statistical significance. The second research question posited whether there was a difference in the perceptions of teachers about the implementation of PLC at the selected high school based on gender. Only two dimensions with one attribute each showed statistical significance. Research question three posited whether there was a difference in teachers' perception about the implementation of PLC at the selected high school based on content matter taught by the teacher. Only two attributes that fell within

the same dimension showed statistical significance. That left fifty attributes that did not establish a statistically significant relationship. Research question four posited whether there was a difference in the perceptions of teachers about the implementation of PLCs at the selected high school based on years of experience. Only one attribute within the Shared Values & Vision dimension showed statistical significance.

The fifth research question examined the level of teachers' strength in the content area at the selected high school in the five PLC dimensions defined by Hipp & Huffman by showing the mean and SD for each attribute by content area and then the mean score per dimension by content area. Out of fifty-two attributes, only 26 had a 3.0 or higher in one or more content areas; and the mean score per dimension by content area showed that only one dimension had a mean of 3.0 or higher and was within one content area. The sixth research question posited whether there was a relationship between student failure rates and the perceived level of PLC implementation at the selected high school. The PLCA-R data shows that only social studies had one average above a 3.0 for one dimension. That dimension was Collective Learning & Application, which had a mean of (M = 3.38). To answer this question, all content areas would need to score a 3.0 or higher to show that the school has met the institutionalization or sustaining change required for continuous improvement. It cannot be determined if there is a relationship between PLCs and student failures rates due to the selected high school not being in the sustaining phase.

Chapter V

Conclusions

This study was conducted to examine if there is a relationship between student failure rates and teacher perceptions of implementing the five dimensions of professional learning communities as defined by Hipp & Huffman. This study answered the following questions:

1. Is there a difference in the perceptions of teachers about the implementation of PLC at the selected high school based on total years of teaching experience?
2. Is there a difference in the perceptions of teachers about the implementation of PLC at the selected high school based on gender?
3. Is there a difference in the perceptions of teachers about the implementation of PLC at the selected high school based on content matter taught by the teacher?
4. Is there a difference in the perceptions of teachers about the implementation of PLC at the selected high school based on years of experience at the selected high school?
5. What is the level of teacher strength in the content areas at the selected high school in the six PLC dimensions defined by Hipp and Huffman (2010)?
6. Is there a relationship between student failure rates and the perceived level of PLC implementation at the high school level?

Data were collected from teachers at the selected high school utilizing the PLCA-R survey created by Hipp & Olivier (2010). Also, to answer *RQ* 6, failure rate data was retrieved from eSchool for the past five years, by content, for fall and spring semesters.

The data was then analyzed utilizing SPSS completing the ANOVA test for questions 1-5. For question 6, line charts were made for the failure rates and analyzed with the collected PLCA-R data.

This chapter will summarize the findings from Chapter IV, highlight relevant literature, and suggest how the selected high school can use the results of this study to strengthen their journey on implementing PLCs. Implications for future research will be discussed.

Summary of Findings

This study posited six research questions to investigate teachers' perceptions of implementing PLCs at the selected high school and determine a relationship between the perceived implementation and student failure rates. It also analyzed the PLCA-R survey data based on the specific demographic and content information.

Research Questions One Through Four Findings

Research questions one through four examined teachers' perceptions of the implementation of PLCs at the selected high school, with perceptions of teachers being the dependent variable and the independent variable being total years' experience, gender, content matter taught, and years at the high school. One or more dimensions with attributes showed a statistical significance for the first four research questions posited. For research question one, which examined teachers' perceptions of implementing PLCs and years of experience teaching, the findings showed three dimensions with four statistically significant attributes. Table 4 shows, in detail, each dimension and the attribute that showed significance. Research question two examined teachers' perceptions

of implementing PLCs at the selected high school based on gender. The findings for this question showed two dimensions with two statistically significant attributes, P1 and S9. Research question three examined the difference in teachers' perceptions about the implementation of PLC at the selected high school based on content matter taught by the teacher. The findings showed that only two attributes throughout the six dimensions indicated a statistically significant relationship based on content matter taught. The two attributes fell within the same dimension. Table 9 shows, in detail, the dimension and the attribute that showed significance. Finally, research question four looked at total years of experience at the high school and the selected teachers' perceptions of implementing PLCs. Only one dimension with one attribute showed a statistically significant relationship. Table 11 shows, in detail, the dimension and attribute that showed significance.

Research Question Five Findings. The fifth research question posited the level of teacher strength in the content areas at the selected high school in the six PLC dimensions as defined by Hipp & Huffman. Table 12 shows the mean and standard deviation of each PLCA-R question (attribute) for the entire group of participants and for each subgroup of content areas (math, English, science, social studies, and others). All six dimensions had one or more attributes that had a mean of 3.0 or higher within one or more content areas. Two attributes had a mean of 3.0 or higher per dimension, per content area. Collective Learning & Application and Supportive Conditions: Relationships were the two dimensions with 3.0 or higher attributes for each content area. A mean score of 3.0 or higher shows a general agreement with the attribute (Olivier & Hipp, 2010).

For the second part of research question five, the mean of the attributes for each dimension was computed for the entire group of participants and each subgroup of content areas. Table 13 shows the mean for each dimension per content area. The findings show that only one dimension had a mean of 3.0 or higher and was within one content area. Collective Learning & Application had a standard of M = 3.38 for the social studies content.

Sixth Research Question Findings. Research question six posited whether there is a relationship between student failure rates and the level of PLC implementation at the selected high school. While it is not possible to quantify a relationship between the level of implementation of PLCs and student failure rates, the data might suggest that a relationship does exist. Hipp & Huffman (2010) state "that institutionalization across the five PLC dimensions is essential for schools to engage in sustained improvement and for continuous learning to occur" (p. 27). In the final stage, institutionalization or sustaining change becomes embedded in the culture (Hipp & Huffman). The data shows that only social studies had a one-dimension average above 3.0. That dimension was Collective Learning & Application, which had a mean of 3.38. All content areas would need to score a 3.0 or higher to show that the school has reached the institutionalization or sustaining change required for continuous improvement. Since this is not the case with the selected school, more study is needed to determine any relationship.

Conclusions Based on Findings

In *Demystifying Professional Learning Communities: School Leadership at its Best* (2010), Hipp & Huffman demystify the concept of PLCs and define the five

dimensions of a PLC, which illustrates how PLCs operate. The five dimensions of PLCs as defined by Hipp & Huffman (2010) are:

- Supportive and shared leadership
- Shared values and vision
- Collective learning and application
- Shared personal practice
- Supportive conditions
    - Relationships
    - Structures (Hipp & Huffman, 2010)

These five dimensions, along with the attributes, are the backbone of the PLCA-R instrument used in this study, which evaluates the implementation of PLCs at one high school. Olivier & Hipp state, "These items illustrate actual school-level practices" (p.35).

Dimension 1: Shared & Supportive Leadership. "In mature PLCs, the role of the principal was significant. Principals adept at building leadership capacity and achieving school goals disperse power, gather input and decisions and encourage staff to focus on a common vision and mission" (Hipp & Huffman, 2010, p. 14). The findings suggest that there was not a general agreement within the Shared & Supportive Leadership dimension. However, some attributes did establish a statistically significant relationship with various dependent variables throughout the research questions.

When viewing the mean score for the dimension Shared & Supportive Leadership, math had the highest mean score (M = 2.75). English had the lowest mean score (M = 2.43). Also, no content area had a mean score of 3.0 or higher, which is

needed according to Hipp & Huffman (2010) to show a general agreement with a specific dimension. Since leadership is referenced as the "principal" within this dimension, on the PLC-R survey section, teachers' biases and their own experiences with the principal might have negatively impacted the findings of Shared & Supportive Leadership questions.

Dimension 2: Shared Values & Vision. Shared Values and Vision had two attributes showing a statistical significance with years of teaching experience and the number of years at the school for the first four research questions. Dufour & Eaker (1998) state, "The lack of a compelling vision for public schools, continues to be a major obstacle in an effort to improve schools" (p. 64). The authors maintained that the collaborative development of the mission, vision, values, and goals is crucial for a successful PLC. The data suggests no overall optimistic view for shared values and vision practices within the selected school. The selected high school saw a high turnover in personnel this past year, and many positions remain unfilled. New teachers are still trying to create a sense of identity within the team, and visionary leadership could impact the results of this dimension.

Dimension 3: Collective Learning & Application. The findings show that social studies generally agreed with this dimension with a mean of 3.38 and English with the second highest mean of 2.96. Hipp & Huffman (2010) claimed that "when teachers learn together, by engaging in open dialogue, opportunities arise to collaborate and apply new knowledge, skills, and strategies" (p. 17). Since PLC time is not built into the master schedule, some PLC teams do not regularly meet to share skills, knowledge, and strategies. This, along with new staff members being unfamiliar with some of the terms

used within the Collective Learning & Application part of the survey, could be impacting the results.

Dimension 4: Shared Personal Practice. The findings suggest that there was not a general agreement within the Shared Personal Practice dimension. However, one attribute did show a statistically significant relationship between genders. The content area with the highest mean score was social studies, with a mean of 2.85. Hipp & Huffman (2010) cited Hord as claiming that "this PLC dimension necessitates peer review and feedback on instructional practice to increase individual and organizational practices" (p. 18). Classroom teachers may find that the practice of observing colleagues is challenging without the structures in place to provide coverage of scholars and time to meet. Also, limited Professional Development opportunities are provided in the school calendar to review best practices for implementing PLCs and assessing gaps; instead, professional development is used to implement new state/district initiatives. This creates no opportunity for teachers to get comfortable with the aspects of PLC and get comfortable with implementation. Instead, they leave professional development having to take on more responsibility. It can cause teachers to feel overloaded with various initiatives and burned out.

Dimension 5: Supportive Conditions.

Relationships: These (PLC) cultures are characterized by the understanding that risk-taking and experimenting with new approaches are acceptable and even encouraged. The environment is safe- physically, mentally, and emotionally (Hipp & Huffman, 2010, p.21). The findings show that Supportive Conditions: Relationships did not have a

general agreement of 3.0 or higher per content area. The highest mean score was English, with a mean of 2.75. Science had the lowest with a mean of 2.63. However, two of the attributes did show a statistically significant relationship with the dependent variable of total years of teaching experience. When examining the mean of each attribute within the dimension of Supportive Conditions: Relationships, the attribute *"A culture of trust and respect exists for taking risks"* had the lowest score with a mean of (M =2.49) for the whole group. Hipp & Huffman (2003) state that "without creating a culture of trust, respect, and inclusiveness with a focus on relationships, even the most innovative means of finding time, resources and developing communication system will have little effect on creating a community of learners" (p. 146).

Structures: Only one attribute within Supportive Conditions: Structures, throughout the six research questions, showed a statistical significance. When examining teachers' perceptions of the implementation of PLCs and gender, the attribute that "*data are organized and made available to provide easy access to staff members"* showed statistically significant with males having a mean score of 2.86 and females having a mean score of 2.47. When examining mean scores by dimension, by content area, math had the lowest mean score of 2.54. Social studies had the highest, with a mean of 2.72. Hipp & Huffman (2010) state, "supporting the work of learning communities requires leaders to address supportive conditions" (p. 19). In practice, structures such as common planning time and proximity must be provided by administrators to allow staff members to come together to work and learn. The data suggests that staff at the selected high school feel that inadequate structures are made available to conduct their work as a PLC.

Recommendations for Practice. Establishing an actual PLC is a complex process where a school goes through phases of change. In Chapter 2, the *Professional Learning Community Organizer* gives a visual representation of inputs and outputs of teachers and administrators during each phase of change. The three phases are initiating, implementing, and sustaining. It is at the sustaining stage "in which the change initiative becomes embedded into the culture of the school" (Huffman & Hipp, 2010, p. 27). Since the selected school is not in the sustaining phase of PLC implementation, recommendations will be made for each dimension to help strengthen implementation.

Recommendation One. Hord (1997) states "that supportive and shared leadership is evident when school administrators share power, authority, and decision making" (p. 14). A review of the data shows that the following three attributes had the lowest mean score for the whole group:

1. Opportunities are provided for staff members to initiate change
2. The principal shares responsibility and rewards for innovative actions
3. Stakeholders assume shared responsibility and accountability for student learning without evidence of imposed power and authority.

Given that these three attributes have the lowest mean score within supportive and shared leadership, the following is recommended:

- Allow staff members to initiate change
- Celebrate scholar and staff innovation regularly through assemblies or simple thank you notes

- Create a vision and mission that holds all stakeholders accountable for student learning
- Be transparent and communicate all school, district, and state school improvement initiatives

Recommendation Two. Huffman & Hipp (2003) explain, "ideally, shared values would inspire a shared vision among diverse stakeholders, and student-focused decisions would be connected to site goals" (p. 145). A review of data shows the following three attributes had the lowest mean score for the whole group:

1. School goals focus on student learning beyond test scores and grades
2. Policies and programs are aligned to the school's vision
3. Stakeholders are actively involved in creating high expectations that serve to increase student achievement

Given that these were the attributes with the lowest mean score within shared values and vision, the following is recommended:

- Create opportunities for staff members to formulate programs outside of the regular school day that aligns with the school's vision
- Create a school vision set on the core values and goals of the selected high school.
- Create actions to implement the vision into everyday practices
- Ensure that programs and policies align with school, district, and state initiatives

Recommendation Three. Sergiovanni (1994) states "that the very act of learning together exerts a powerful influence on the sense of community in a school, as we learn together and as we inquire together, we create the ties that enable us to become a learning

community" (p. 167). A review of data shows the following three attributes had the lowest mean score for collective learning and application:

1. A variety of opportunities and structures exist for collective learning through open dialogue
2. School staff members and stakeholders learn together and apply new knowledge to solve problems
3. Staff members collaboratively analyze multiple sources of data to assess the effectiveness of instructional practices

Given that these were the attributes with the lowest mean score within shared values and vision, the following is recommended:

- Offer professional development on how to utilize student data for increased achievement.
- Put time within the master schedule for content areas to meet for PLCs
- Align professional development with school goals

Recommendation Four. "To achieve conditions that support shared personal practice, Midgley and Wood (1993) contend that "teachers need an environment that values and support hard work, the acceptance of challenging tasks, risks taking, and the promotion of growth" (Hipp & Huffman, 2010, p. 18). A review of data shows the following three attributes had the lowest mean score for shared personal practice:

1. Opportunities exist for staff members to observe peers and offer encouragement
2. Staff members provide feedback to peers related to instructional practices

3. Staff members regularly share student work to guide overall school

Given these were the three attributes within the shared personal practice with the lowest mean score, the following is recommended:

- Give opportunities for teachers to observe other teachers and give feedback
- Offer professional development on how to effectively use student data for student achievement
- Create opportunities for peer-peer relationship building
- Offer professional development over Charlotte Danielson so teachers can observe one another adequately utilizing this tool to build trust and engage in meaningful dialogue

Recommendation Five. Hipp & Huffman (2010) state, "supporting the work of learning communities requires leaders to address supportive conditions" (p. 19). Writers and researchers noted two types of conditions as necessary to build effective learning communities: structural conditions and relationships. A review of data shows the three lowest attributes for each dimension:

Relationships:

1. A culture of trust and respect exists for taking risks
2. Outstanding achievement is recognized and celebrated regularly in our school
3. School staff and stakeholders exhibit a sustained and unified effort to embed change into the culture of the school

Structures:

1. Time is provided to facilitate collaborative work
2. The school schedule promotes collective learning and shared practice
3. Communication systems promote a flow of information across the entire school community, including central office personnel, parent, and community members

Given these were the three attributes within supportive conditions: relationships and structures with the lowest mean score, the following is recommended:

- Time to collaborate within the master schedule
- Effective forms of communicating with staff (email, sharing documents)
- Resources in the form of professional development to understand how PLCs function and work around scholar and teacher data
- Formulate a schedule or system in which outstanding achievement is regularly celebrated
- Allocate resources for celebrating outstanding achievement

Future Research.

This study examined teachers' perceptions of the implementation of PLCs at the selected high school. Specifically, it looked at implementing the five dimensions as outlined by Hipp and Huffman utilizing the PLCA-R survey. A review of the literature and the results concluded that no determination could be made at this time if there is a relationship between PLCs and student failure rates due to the selected school not being in the sustaining phase. Although the overreaching question could not be determined at

this time, several dependent variables were statistically significant to various attributes throughout the dimensions.

Additional research is required to establish a relationship between PLCs and student failure rates. The selected high school should use the PLCA-R data to look for areas of strengths and weaknesses to transition into the sustaining phase of PLCs. Once improvements have been made, the PLCA-R data could be recollected to see if teachers' perceptions have changed to gauge where the selected high school is on their implementation of PLCs.

Also, research question 5 shows no content area having a 3.0 or higher for any of the attributes within shared and supportive leadership. Future research might focus on the impact leadership has on implementing PLCs. Dufour et al. (2016) state, “One of the most consistent findings of the research on PLCs is the vital role the principal plays in implementing the PLC process at the school site” (p. 245). The study could focus on leadership traits that lead to the successful implementation of PLCs.

Finally, this study was a quantitative study examining teachers’ perceptions of implementing PLCs and the relationship with failure rates. A qualitative study of teacher perceptions of the implementation of PLCs and the relationship with failure rates could give a deeper understanding of the issues and barriers teachers face when implementing PLCs, as defined by Hipp & Huffman (2010). Suter (2012) states, “qualitative research is aimed at explaining social phenomena in their natural context through verbal description and analysis of complex data such as interviews, documents, field notes, or images” (p. 55).

Conclusion

The purpose of this study was to determine teacher perceptions of the implementation of the five dimensions of professional learning communities as defined by Hipp & Huffman (2010) in one high school and the relationship of those perceptions to student failure rates. The study concluded that no relationship could be determined at this time due to the selected high school not being in the sustaining phase. However, various attributes within various dimensions had a statistically significant relationship with the various dependent variables. Recommendations were made for the selected high school for areas of improvement based on this study's findings. Also, suggestions for future research were made to examine the implementation of PLCs.

With mandates soaring for student improvement and school accountability, LEAs must use best practices to ensure student achievement when implementing PLCs. As Dufour and Eaker (1998) state, "the most promising strategy for sustained, substantive school improvement is developing the ability of school personnel to function as a professional learning community" (p. xi). So as the selected high school, along with high schools across America, implement PLCs, it is essential that they understand them, know their dimensions, and continue to study best practices for implementing PLCs and evaluate their efforts on their PLC journey.

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Appendix A

Survey Instrument

Demographic Information

Counting this year, how many years have you worked in education anywhere?

O 1-4
O 5-10
O 11-20
O 21+

What is the highest degree you currently hold?

O Bachelor's
O Master's or above

Which subject matter are you primarily responsible for teaching?

Math 0
Science 0
English 0
Social Studies 0
Other

What is your gender?

O Male
O Female

Counting this year, how many years have you worked in this high school?

O 1-2
O 3-4
O 5+

PLCA-R

Directions:

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

Key Terms:

- Principal: Principal, not associate or assistant principal
- Staff/staff members: All adult staff directly associated with curriculum, instruction, and assessment of students
- Stakeholders: Parents and community members

Scale: 1 = Strongly Disagree (SD)

2 = Disagree (D)

3 = Agree (A)

4 = Strongly Agree (SA)

Statements	SCALE
Shared and Supportive Leadership	SD D A SA
1. Staff members are consistently involved in discussing and making decisions about most school issues	0 0 0 0
2. The principal incorporates advice from staff members to make decisions	0 0 0 0

3. Staff members have accessibility to key information 0 0 0 0
4. The principal is proactive and addresses areas where support is needed 0 0 0 0
5. Opportunities are provided for staff members to initiate change 0 0 0 0
6. The principal shares responsibility and rewards for innovative actions 0 0 0 0
7. The principal participates democratically with staff sharing power and authority 0 0 0 0
8. Leadership is pronounced and nurtured among staff members 0 0 0 0
9. Decision making takes place through committees and communication across grade and subject areas 0 0 0 0
10. Stakeholders assume shared responsibility and accountability for student learning without evidence of imposed power and authority 0 0 0 0
11. Staff members use multiple sources of data to make decisions about teaching and learning 0 0 0 0

STATEMENTS SCALE				
Shared Values and Vision	SD	D	A	SA
12. A collaborative process exists for developing a shared sense of values	0	0	0	0
13. Shared values support norms of behavior that guide decisions about teaching and learning	0	0	0	0
14. Staff members share visions for school improvement that have undeviating focus on student learning	0	0	0	0
15. Decisions are made in alignment with the school's values and vision	0	0	0	0
16. A collaborative process exists for developing a shared vision among				

staff 0 0 0 0

17. School goals focus on student learning beyond test scores and grades 0 0 0 0
18. Policies and programs are aligned to the school's vision 0 0 0 0
19. Stakeholders are actively involved in creating high expectations that serve to increase student achievement 0 0 0 0
20. Data are used to prioritize actions to reach a shared vision 0 0 0 0

STATEMENTS	SCALE				
Collective Learning and Application	SD	D	A	SA	
21. Staff members work together to seek knowledge, skills, and strategies and apply this new learning to their work	0	0	0	0	
22. Collegial relationships exist among staff members that reflect commitment to school improvement efforts	0	0	0	0	
23. Staff members plan and work together to search for solutions to address diverse student needs	0	0	0	0	
24. A variety of opportunities and structures exist for collective learning through open dialogue	0	0	0	0	
25. Staff members engage in dialogue that reflects a respect for diverse ideas that lead to continued inquiry	0	0	0	0	
26. Professional development focuses on teaching and learning	0	0	0	0	
27. School staff members and stakeholders learn together and apply new knowledge to solve problems	0	0	0	0	
28. School staff members are committed to programs that enhance learning	0	0	0	0	
29. Staff members collaboratively analyze multiple sources of data					

to assess the effectiveness of instructional practices 0 0
0 0

30. Staff members collaboratively analyze student work to improve teaching and learning 0 0
0 0

STATEMENTS		
SCALE		
Shared Personal Practice	SD	D
A SA		
31. Opportunities exist for staff members to observe peers and offer encouragement 0 0	0	0
32. Staff members provide feedback to peers related to instructional practices 0 0	0	0
33. Staff members informally share ideas and suggestions for improving student learning 0 0	0	0
34. Staff members collaboratively review student work to share and improve instructional practice 0 0	0	0
35. Opportunities exist for coaching and mentoring 0 0	0	0
36. Individuals and teams have the opportunity to apply learning and share the results of their practice 0 0	0	0
37. Staff members regularly share student work to guide overall school 0 0	0	0

STATEMENTS		
SCALE		
Supportive Conditions: Relationships	SD	D
A SA		
38. Caring relationships exist among staff and students that are built		

	on trust and respect	0	0	0	0
39.	A culture of trust and respect exists for taking risks	0	0	0	0
40.	Outstanding achievement is recognized and celebrated regularly in our school	0	0	0	0
41.	School staff and stakeholders exhibit a sustained and unified effort to embed change into the culture of the school	0	0	0	0
42.	Relationships among staff members support honest and respectful examination of data to enhance teaching and learning	0	0	0	0

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

members 0 0
0 0

52. Communication systems promote a flow of information across the entire school community including; central office personnel, parents, and community members 0 0
0 0

This survey was adapted from Hipp & Huffman (2010) *Demystifying Professional Learning Communities: School Leadership at its Best*

Comment section was left out for this study.

Appendix B

Dimension and Attributes symbols

Shared & Supportive Leadership

L1: Staff members are consistently involved in discussing and making decisions about most school issues

L2: The principal incorporate advice from staff members to make decisions

L3: Staff members have accessibility to key information

L4: The principal is proactive and addresses areas where support is needed

L5: Opportunities are provided for staff members to initiate change

L6: The principal shares responsibility and rewards for innovative actions

L7: The principal participates democratically with staff sharing power and authority

L8: Leadership is pronounced and nurtured among staff members

L9: Decision making takes place through committees and communication across grade and subject areas

L10: Stakeholders assume shared responsibility and accountability for student learning without evidence of imposed power and authority

L11: Staff members use multiple sources of data to make decisions about teaching and learning

Shared Values & Vision

V1: A collaborative process exists for developing a shared sense of values

V2: Shared values support norms of behavior that guide decisions about teaching and learning

V3: Staff members share visions for school improvement that have undeviating focus on student learning

V4: Decisions are made in alignment with the school's values and vision

V5: A collaborative process exists for developing a shared vision among staff

V6: School goals focus on student learning beyond test scores and grades

V7: Policies and programs are aligned to the school's vision

V8: Stakeholders are actively involved in creating high expectations that serve to increase student achievement

V9: Data are used to prioritize actions to reach a shared vision

Collective Learning & Application

A1: Staff members work together to seek knowledge, skills, and strategies and apply this new

learning to their work

A2: Collegial relationships exist among staff members that reflect commitment to school improvement efforts

A3: Staff members plan and work together to search for solutions to address diverse student needs

A4: A variety of opportunities and structures exist for collective learning through open dialogue

A5: Staff members engage in dialogue that reflects a respect for diverse ideas that lead to continued inquiry

A6: Professional development focuses on teaching and learning

A7: School staff members and stakeholders learn together and apply new knowledge to solve problems

A8: School staff members are committed to programs that enhance learning

A9: Staff members collaboratively analyze multiple sources of data to assess the effectiveness of instructional practices

A10: Staff members collaboratively analyze student work to improve teaching and learning

Shared Personal Practice

P1: Opportunities exist for staff members to observe peers and offer encouragement

P2: Staff members provide feedback to peers related to instructional practices

P3: Staff members informally share ideas and suggestions for improving student learning

P4: Staff members collaboratively review student work to share and improve instructional practice

P5: Opportunities exist for coaching and mentoring

P6: Individuals and teams have the opportunity to apply learning and share the results of their practice

P7: Staff members regularly share student work to guide overall school

Supportive Conditions: Relationships

R1: Caring relationships exist among staff and students that are built on trust and respect

R2: A culture of trust and respect exists for taking risks

R3: Outstanding achievement is recognized and celebrated regularly in our school

R4: School staff and stakeholders exhibit a sustained and unified effort to embed change into the culture of the school

R5: Relationships among staff members support honest and respectful examination of data to enhance teaching and learning

Supportive Conditions: Structures

S1: Time is provided to facilitate collaborative work

S2: The school schedule promotes collective learning and shared practice

S3: Fiscal resources are available for professional development

S4: Appropriate technology and instructional materials are available to staff

S5: Resources people provide expertise and support for continuous learning

S6: The school facility is clean, attractive, and inviting

S7: The proximity of grade level and department personnel allows for ease in collaborating with colleagues

S8: Communication systems promote a flow of information among staff members

S9: Data are organized and made available to provide easy access to staff members

S10: Communication systems promote a flow of information across the entire school community including: central office personnel, parent, and community members