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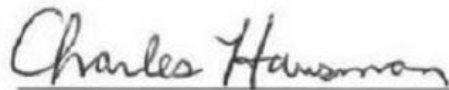
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THE RELATIONSHIP BETWEEN TEACHER PERCEPTIONS OF PROFESSIONAL  
LEARNING COMMUNITIES AND STUDENT ACHIEVEMENT

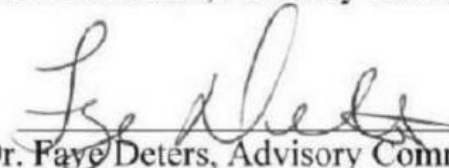
BY

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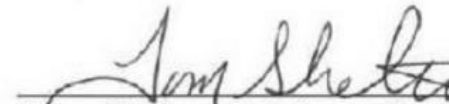
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THE RELATIONSHIP BETWEEN TEACHER PERCEPTIONS OF PROFESSIONAL  
LEARNING COMMUNITIES AND STUDENT ACHIEVEMENT

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## DEDICATION

This dissertation is dedicated to my loving family. First, I would like to dedicate this to my wife, Marla Thomas. She is the best person I have ever known, and I am a better person because of her. Her love, unwavering support, patience, and belief in me throughout this work and for the many years prior to taking on this endeavor made this possible. I also dedicate this to my children, Lauren and Matthew. They are both wonderful people and have given unconditional love, support, and understanding throughout this process. I also dedicate this to my parents, Tracy and Patricia Thomas. They have always valued people and education. They taught me the same. Lastly, I dedicate this to the teachers, principals, and education professionals, who constantly strive to improve the craft to the benefit of students.

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## ABSTRACT

A significant challenge facing public schools is the need to increase student achievement while having student gains enhanced through growth models. Teaching strategies/methods have evolved over the years from an “island” approach where the teacher was alone in his/her classroom and responsible for students progressing to a broader yet more specific approach to teacher professional development in order to enhance student learning.

Districts, schools, and individual teachers have long valued professional development and professional learning. These educational professional learning opportunities collectively give the district, school, and individual teachers a community at work in which a collective focus and commitment to improving practice has long been understood to assist students increase their academic achievement (DuFour, DuFour, & Eaker, 2008).

DuFour, DuFour, Eaker, & Many (2010) argue one of the key components of a professional learning community is a results-oriented focus which is characterized by the outcome rather than the strategies to get there. Too often, education professionals focus on the process and activities of what teachers do rather than the evidence of their students’ outcomes based on teaching and learning. Hord (2004) furthers the point by arguing that Professional Learning Communities (PLCs) show improvement of student achievement results through such communities in schools.

In Madison County Schools, Madison County, KY, there are multiple opportunities for teachers to develop professionally as individuals, team members, schools, and collectively as a district. These professional learning opportunities are well



planned and documented in professional growth plans, comprehensive school improvement plans, and district improvement plans in order to fulfill requirements such as local Certified Evaluation Plans (CEP) and The Kentucky Framework for Teaching (Danielson 2012). All Madison County Schools, specifically the five middle schools, use Professional Learning Communities (PLCs) to further develop and enhance teaching with the overarching purpose of supporting greater student achievement.

This study utilized the five Madison County middle schools' and district-level data to assess the relationship between teacher perception of Professional Learning Communities and how well students achieve at each specific schools and district-wide. The characteristics evaluated included teachers' perception of professional learning through PLCs along with actual student data specific to the teacher.

Prior research focused primarily on individual predictors of variance on student achievement, while this study combines all of the predictors for observation on predictors of variance.

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## CHAPTER 1

### INTRODUCTION

#### **Overview**

Districts, schools, and individual teachers have long valued professional development and professional learning. These educational professional learning opportunities collectively give the district, school, and individual teachers a community at work in which a collective focus and commitment to improving practice has long been understood to assist students increase their academic achievement.

First, the fundamental purpose of the school is to ensure all students learn at high levels, and the future success of students will depend on how effective educators are in achieving that fundamental purpose. There must be no ambiguity or hedging regarding this commitment to learning, and schools must align all practices, procedures, and policies in light of that fundamental purpose. Members of a PLC work together to clarify exactly what each student must learn, monitor each student's learning on a timely basis, provide systematic interventions that ensure students receive additional time and support for learning when they struggle, and extend and enrich learning when students have already mastered the intended outcomes. A corollary assumption stipulates that if all students are to learn at high levels, the adults in the organization must also be continually learning. Therefore, structures are created to ensure staff members engage in job-embedded learning as part of their routine work practices (DuFour, DuFour, & Eaker, 2008, p. 18-19).

Louis & Marks (1998) explain the professional community through teachers having a collective focus on student learning, which leads professionals to hone their skills by working collaboratively, provide instruction that promotes student growth and development, and engage in reflective dialogue to improve practice and relationships to the benefit of student achievement.

Second, schools cannot achieve the fundamental purpose of learning for all if educators work in isolation. Therefore, school administrators and teachers must build a collaborative culture in which they work together interdependently and assume collective responsibility for the learning of all students.

Leithwood, et al. (2007) further the understanding of the importance of leadership and teacher collaboration in stating the extent in which the principal of the school was willing to share instructional responsibilities amongst the staff throughout the school, has a greater impact on student learning than individually-enacted leadership alone.

Third, schools will not know whether or not all students are learning unless educators are hungry for evidence that students are acquiring the knowledge, skills, and dispositions deemed most essential to their success. Schools must systematically monitor student learning on an ongoing basis and use evidence of results to respond immediately to students who experience difficulty, to inform individual and collective practice, and to fuel continuous improvement (DuFour, DuFour, & Eaker, 2008, p. 18-19).

DuFour, DuFour, Eaker, & Many (2010) argue one of the key components of a professional learning community is a results-oriented focus which is characterized

by the outcome rather than the strategies to get there. Too often, education professionals focus on the process and activities of what teachers do rather than the evidence of their students' outcomes based on teaching and learning. A significant challenge facing public schools is the need to increase student achievement, while having student gains enhanced through growth models. Teaching strategies/methods have evolved over the years from an "island" approach where the teacher was alone in his/her classroom and responsible for the students progressing to a broader yet more specific approach to teacher professional development in order to enhance student learning. It has often been said that schools are *data rich and information/analysis poor*.

Across Madison County Schools in Madison County, Kentucky, teachers have ample access to professional development and professional learning in which to develop both the process of teaching/learning and how to adapt teaching based on the individual student's results. By definition, professional development has long been thought of as the workshops, lectures, and events in which teachers learn skills to hone their craft. Often, professional development seminars are viewed as passive events by teachers, many times set up and scheduled by administrators with general regard to the individual educator's professional learning needs. Professional learning, while it encompasses the positive traits of honing professional teaching and learning skills, adds interactive learning strategies and grouping of educators with similar responsibilities (team members, student groups, departments, etc.) Professional learning provides opportunities to collaboratively work in a system in which



educators take responsibility for their own development while exchanging ideas to the betterment of student achievement/outcomes.

This study investigated to what extent teachers' perceptions of Professional Learning Communities within a school impact student achievement on state accountability results. Specifically, this investigator considered teacher-specific student data to determine the relationship between students' achievement with and the teacher's perception of Structural Conditions, Supportive Relational Conditions, Shared Values and Vision, and Shared and Supportive Leadership. The variables analyzed were teacher perception of professional learning communities (PLC) in middle schools within Madison County Schools.

### **Purpose Statement**

Research is heavy on professional learning and its impact on teacher development and teacher efficacy. However, research is not as abundant and certainly not as focused on the relationship between teacher perceptions of variables within Professional Learning Communities and success of students based on achievement. As such, research has not provided ample evidence of specific conditions of Professional Learning Communities (PLCs) and their relationship with student achievement as determined by state assessment accountability results. Additional research is needed to in order to determine the extent to which district, school, and individual teachers' students achieve higher results as leaders engage teachers to participate in and have differing perceptions of PLCs. Additional questions arise as to whether shared and supportive leadership, shared values and

vision, structural conditions, and supportive relational conditions lead to the types of professional learning models indicative of student achievement.

The purpose of this study is to determine if there is a relationship between teacher perceptions of the above conditions within Professional Learning Communities and student achievement on state accountability results. Using a study of teacher perceptions of professional learning, student data specific to teacher, and data specific to individual schools, the researcher sought to determine whether or not individual teachers' and individual schools' students are prone to higher achievement based on teachers' perceptions of the conditions of their PLCs. The hypotheses is that teachers who have a higher perception of shared and supportive leadership, shared values and visions, structural conditions, and supportive relational conditions within Professional Learning Communities will have higher student achievement on state accountability results.

Shaha, Glassett, and Copas (2015) state that despite increased interest and expectations regarding professional development (PD), data substantiating improved impact of teachers on students remain sparse. The authors summarize, "What is needed is evidence that a coordinated use of improvement-focused teacher-observations with skill enhancing, readily accessible and adaptable PD can favorably impact teacher efficacy, as quantified in increases in student performance" (2015, p. 56), especially as it relates to the combination of process (PD centered around teacher skill development in the classroom), and professional learning communities. Consistent with the above call, this research sought to determine whether or not individual teachers and individual schools' students are prone to higher achievement

based on teachers' perceptions of PLCs. Based on prior experiences, participation in PD and professional learning communities, the researcher expected to find a higher correlation between positive teacher perceptions of PD/professional learning and higher student achievement specific to said teachers. The data are at the teacher level.

### **Statement of the Problem**

For many years, educators have worked with the expectation that Professional Learning Communities (PLCs) are beneficial to teachers and ultimately, students. However, research on the correlation between teachers' perceptions of Professional Learning Communities (PLCs) in regards to student achievement is rather limited. If there is a perceived positive correlation between a teacher's perceptions of PLCs, school leadership can use PLCs as a vehicle within the faculty of the school to increase students' overall achievement on state assessments.

### **Research Question**

This study assesses the following question: What is the relationship between teacher's perception of Professional Learning Communities within a school and student achievement on state accountability results? School leaders largely determine the conditions of this study. For the purposes of this study, a teacher's perception of how leadership impacts professional learning and the school's implementation level of PLCs includes the following characteristics of effective PLCs – structural conditions, supportive relational conditions, shared values and vision, and shared and supportive leadership.

## **Significance for the Study**

This study is significant because of the importance placed on leadership within each Madison County School to engage the community of learners (teachers and students) in professional learning communities with the expectation of PLCs yielding higher student achievement. Accurately understanding the impact of the implementation level of PLCs and how they directly impact student achievement is of the utmost importance due to such implications as foundational teaching and learning opportunities for students and adults so each can reach their maximum potential, district and state financial considerations in implementing professional learning, and a whole host of other consequences associated with student achievement. Within the day-to-day and year-to-year operations of educational improvement, significant resources are dedicated to professional development and professional learning to improve student achievement. These professional opportunities should lead to individual and collective teacher efficacy to the benefit of the teacher and especially the teacher's students. Information could be drawn from this study to assist districts, schools, and individual teachers in understanding how enhancing the capacity for professional growth and implementing a higher level of professional learning communities could result in increased student achievement.

Marzano, Waters, and McNulty (2005) emphasize how collective efficacy is a predictor of student success in schools. The authors state, "We define a purposeful community as one with the collective efficacy and capability to develop and use assets to accomplish goals that matter to all community members through agreed upon processes...In simple terms, collective efficacy is the shared belief that 'we can

make a difference' (p.99). Furthering the point about students' educational experience, specifically student achievement, Wood (2007) notes:

In fits and starts throughout the history of education in the United States, reformers have turned critical gazes on teacher's learning in schools. There is widening consensus that the quality of students' educational experiences depends most of all on the quality of teachers. People may differ about how to ensure "quality," but most would agree that quality teachers know how to craft engaging and effective learning experiences, despite constant changes in student populations. They need to be knowledgeable and they need to know how to use their knowledge. Ongoing professional learning simply must be integral to their work (Wood, 2007, p. 281).

Hattie (2012) argues that the major source of controllable variance goes directly to the teacher, and even the best teachers have variance in their effect on students. As such, districts, schools, and individual teachers need evidence of the effects teachers are having on their students. And based on this evidence, teachers must adapt both how they teach and what they teach. The clear message revolving around this evidence is all must be considered in the realm of the progress (achievement) of the student. Hattie insists, "Within a school, we need to collaborate to build a team working together to solve the dilemmas in learning, to collectively share and critique the nature and quality of evidence that shows our impact on student learning, and to cooperate in planning and critiquing lessons, learning intentions, and success criteria on a regular basis" (pp. 149-151). The interactions between the community and the individual promotes learning for all. All teachers are learners

with their colleagues (Louis et al., 1995). Stoll, Bolam, Agnes, Wallace, & Thomas (2006) suggest a key purpose of PLCs is to enhance teacher effectiveness as professionals, for students' ultimate benefit...the ultimate outcome of PLCs has to be experienced by students, even though there is an intermediate capacity-level outcome. The authors quote Bolam et al. (2005) regarding that outcome:

“An effective professional learning community has the capacity to promote and sustain the learning of all professionals in the school community with the collective purpose of enhancing pupil learning” (p. 145).

### **Rationale for the Study**

According to Hord and Roy (2014), in the last 10 years, educators have become proficient in analyzing achievement data to more fully understand student learning needs and adapting curricular instruction based on those needs. Many teachers, however, have not taken the steps to identify their own learning needs based on what their students need (Hord & Roy, 2014). A common belief is held that by understanding where the student is on the mastery continuum, the teacher can better meet the student's learning needs and thus guide the student to mastery. As such, the teacher teaches the standard, an assessment is given (typically formative), and the assessment is analyzed to understand where the student is in regards to mastery. The action by the teacher after analysis becomes the important aspect for student achievement. James-Ward, Fisher, Frey, and Lapp (2013) state, “The vast amounts of data that are available can overwhelm school teams to the point that they become paralyzed in the analysis phase and are unable to use the analysis to move to action...Although instructional improvement is about continuous progress, taking

time to recognize areas of growth builds the capacity of the teams while reinforcing the notion that their efforts are rewarded” (p. 3).

Accordingly, not all PLCs operate the same, have similar working conditions, or are equally effective. Additional research is necessary to show schools and teachers which conditions of professional learning communities are correlated with higher student achievement and those schools and teachers will be able to better address student learning needs resulting in higher student achievement. Specifically, the results will inform leaders regarding their role in the effectiveness of PLCs.

## CHAPTER 2

### LITERATURE REVIEW

The purpose of this chapter is to provide an overview of the literature specific to Professional Learning Communities (PLCs) and their impact on student achievement. The chapter will provide a background of the historical transition from a teacher as an independent expert in the field to one that collaborates with other professionals to the benefit of the student. The chapter will also provide an overview of the acts leading to the development, expansion, and implementation of PLCs. Several characteristics of effective PLCs will be discussed, including teacher perceptions of PLCs and student achievement research based on implementation and effectiveness research. The chapter also includes a review of the literature on the effectiveness of leaders on achievement. Finally, a summary of literature review will provide the context of crucial elements of effective PLCs along with problematic issues in success and sustainability of PLCs.

#### **Background**

Beginning with the work of Little (1982) and expanding with Hord (1997) and DuFour (2004) among others, researchers studying effective schools have considered the link between impactful teacher professional development and student achievement. One manner of professional development agreed upon by the scholars mentioned above as pertains to improving student achievement is the use of Professional Learning Communities, or PLCs.



## **Definition of Professional Learning Communities (PLCs)**

While no formal definition of PLCs exists per se, the characteristics of effective PLCs provide the definition within themselves. Little (1982) found that “interaction about teaching is consciously and steadily focused on practice, on what teachers do, with what aims, in what situations, with what materials, and with what apparent results” (p. 334). Hord (1997) expands the characteristics by discussing professional learning as a continuous inquiry and improvement model. The focus on the inquiry and improvement is through attributes of professional learning, which are expanded on in this study – Structural Conditions, Supportive Relational Conditions, Shared Values and Vision, Shared and Supportive Leadership, Peers Supporting Peers, and Intentional Collaborative Learning. DuFour (2004) gave “big ideas” that represent the core principles of professional learning communities:

- Ensuring that Students Learn
- A Culture of Collaboration for School Improvement to remove Barriers for Success, and
- A Focus on Results.

DuFour furthers the concept of attributes and principles of PLCs by stating, “When educators do the hard work necessary to implement these principles, their collective ability to help all students learn will rise. If they fail to demonstrate the discipline to initiate and sustain this work, then their school is unlikely to become more effective, even if those within it claim to be a professional learning community” (p. 11).

## **Educational History Leading to Expansion and Implementation of PLCs**

In earlier American educational times, the teacher in the classroom had considerable autonomy in deciding almost all aspects of educating students. From the

content of the course, the strategies used to teach, and student input and involvement in the class, the teacher was considered the expert on all things education. Many times the teacher was considered the “Sage on stage.” Or, in other words, the teacher was seen as the single, solitary expert performing in front of a classroom of students. This continued to be the case as America transitioned from an agricultural society to a production/manufacturing based society and, specifically, a factory model education system. This factory model classroom seemed to adequately prepare American students for an industrialized society (Rose, 2012). But in 1983, a transformative work became the catapult to change education and its approaches with the beginning stages of Professional Learning Communities (PLCs) in mind. Of equal importance was the impetus from the work’s findings to move education to the top of the nation’s agenda (including states’ rights in overseeing education) leading to sweeping educational reforms. The report was titled, “*A Nation At Risk*” by the National Commission on Excellence in Education.

*A Nation At Risk* declared, “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. This report, the result of 18 months of study, seeks to generate reform of our educational system in fundamental ways and to renew the Nation's commitment to schools and colleges of high quality throughout the length and breadth of our land” (U.S. Department of Education, 1983, p. 1). The report furthers reform by moving from the factory model classroom to the goal of a Professional Learning Society. “In a world of ever-accelerating competition and change in the conditions of the workplace, of ever-greater danger, and of ever-larger

opportunities for those prepared to meet them, educational reform should focus on the goal of creating a Learning Society. At the heart of such a society is the commitment to a set of values and to a system of education that affords all members the opportunity to stretch their minds to full capacity, from early childhood through adulthood, learning more as the world itself changes” (U.S. Department of Education, 1983, par. 24).

Kentucky was one of the first states after *A Nation At Risk* to offer complete education reform. While *A Nation At Risk* was being unveiled nationally, a not-for-profit citizen advocacy group emerged in the Commonwealth in the same year. The Pritchard Committee for Educational Excellence was formed with the goal of publicizing and building support for efforts to improve schools in the Commonwealth. This group worked with the Council for Better Education to enact legislative change in Kentucky, and after The Kentucky Supreme Court handed down a landmark decision calling the state educational system unconstitutional, the legislature passed “The Kentucky Education Reform Act (KERA) of 1990. “KERA undertook reforms not only in finance but also in curriculum, district employment, and school governance” (Day & Ewalt, 2013). Day and Ewalt (2013) also show the contrast between pre- and post- KERA leadership with local/school-based decision making to include fair representation of teachers and parents as part of School Based Decision Making (SBDM) councils. This extension of professional and parental representation expanded opportunities for the beginning stages of PLCs in Kentucky.

In 2001, The *No Child Left Behind* (NCLB) act was successful in increasing educator responsibility to ensure the needs of every child must be met. Brucker

(2013) states, “NCLB demanded that the needs of every child must be met with schooling, and educators were becoming optimistic that these needs could successfully be met through PLCs” (p. 1).

In a “Dear Colleague” letter from September 2002, Secretary of Education Rod Paige declared, “This historic reform gives states and school districts unprecedented flexibility in how they spend their education dollars, in return for setting standards for student achievement and holding students and educators accountable for results. The *No Child Left Behind Act* also provides more options for parents so that their children can get the best possible education. It also invests in teaching practices that have been demonstrated to work. In short, it aims to foster an environment in which every child can learn and succeed” (U.S. Department of Education, 2002).

Secretary Paige mentioned specifically the investment in teaching practices that have been demonstrated to work. As a result of these reforms and the evolution of education practices, professionals have moved from the aforementioned “Sage on stage” to the concept and spirit of collaboration, collegiality, and a community of learners. A community of learners has emerged as teachers further develop and hone their skills to impact their students’ achievement, their school’s professionalism, and the communities in which both the teachers and students live and serve.

The Every Student Succeeds Acts (ESSA) was passed into law in December 2015 and represents the latest reauthorization of the nation’s education law. A particular highlight of ESSA is that the law helps support local innovations including evidenced-based interventions developed by local leaders and educators (U.S.

Department of Education, 2015). This decision furthers the local work of professionals through PLCs to provide the aforementioned interventions.

As noted above, there is no single definition of a PLC; however, professional learning communities have been noted as “a group of educators that meets regularly, shares expertise, and works collaboratively to improve teaching skills and the academic performance of students. The term is also applied to schools or teaching faculties that use small-group collaboration as a form of professional development. . . Professional learning communities tend to serve two broad purposes: (1) improving the skills and knowledge of educators through collaborative study, expertise exchange, and professional dialogue, and (2) improving the educational aspirations, achievement, and attainment of students through stronger leadership and teaching” (Glossary of Education reform website, <http://edglossary.org/professional-learning-community/>).

Since the early 1980s, the hypothesis has been that regular (weekly) professional development (and later refined to Professional Learning Communities) would enable teachers to both practice and implement the content of the professional development through focused classroom implementation and analysis of teaching based on students’ responses and achievement. The results have shown that implementation rose dramatically whether experts or participants conducted the sessions. In this way, staff development might directly affect student learning (Showers & Joyce, 1996).

## **Characteristics of Effective PLCs**

The PLC process has helped to redefine the role of educators from isolated individuals in isolated classrooms to collaborative teams of colleagues working collectively to solve problems. Collaboration is not merely a congenial activity but rather a process for improving both student and adult learning (Dufour & Reason, 2016). Schmoker (2006) states that PLCs have emerged as arguably the best, most agreed-upon means by which to continuously improve instruction and student performance.

Tobia and Hord (2012) have conducted extensive research on PLCs and list six characteristics of an effective PLC. They are: structural conditions, intentional collective learning, supportive relational conditions, peers supporting peers, shared values and vision, and shared and supportive leadership. Figure 2.1 shows how each of the characteristics (attributes) work as a community within themselves and in concert to change teacher practice and increase student learning. Five of the attributes of learning communities (Structural Conditions, Shared and Supportive Leadership, Shared Values and Vision, Relational Conditions, and Peers Supporting Peers) are surrounding the centerpiece – Intentional Collaborative Learning. Hord and Roy (2014) indicate Structural Conditions that feature items such as schedules, etc., Shared and Supportive Leadership that focuses on policies and practice, and Shared Values and Vision, which focuses on beliefs set the environment for the community. Trusting and respectful Relational Conditions and Peers Supporting Peers fuel the community. And Intentional Collaborative Learning is the centerpiece of the work. Hord (1997) guided the conceptual framework for this study.

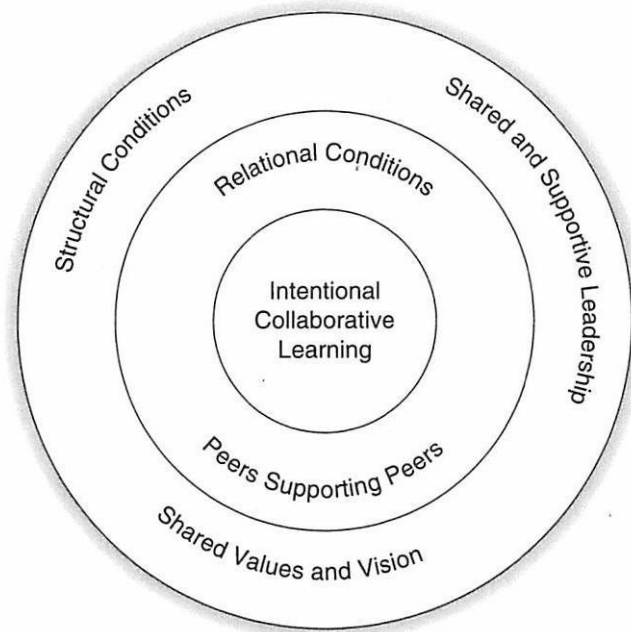


Figure 2.1 Conceptual Framework of Effective PLCs

Source: Lieberman, A., Miller, L., Roy, P., Hord, S., Von Frank, V. (2014).

Reach the highest standard in professional learning. 1-103.

This research focuses teacher perceptions of four of the six characteristics of effective PLCs (Structural Conditions, Supportive Relational Conditions, Shared Values and Vision, and Shared and Supportive Leadership). It is assumed that leaders largely affect these conditions, and their relationship with student achievement. Ameyaw (2015) argues, “These characteristics or dimensions are interdependent. For example, a leader who involves the school staff in making decisions characterizes supportive and shared leadership. In essence, the principal distributes leadership among school staff. Such a leader is likely to provide the time and structure teachers need to learn collectively and share personal practices” (pp. 14-15). Intentional Collective Learning and Peers Supporting Peers are not included in this study.

## **Structural Conditions**

Hord (1997) describes two types of supportive conditions for PLCs to function productively: the physical/structural setup and the relational (human qualities/capacities) of the people involved. The physical/structural typical setup includes: “time to meet and talk, small size of the school and physical proximity of the staff to one another, teaching roles that are interdependent, communication structures, school autonomy, and teacher empowerment” (pp. 20-21).

One of the key aspects of setting an environment for PLCs is setting the structure in a manner that will allow teachers to maximize interactions to benefit the overall good for the work that is being done. School structural conditions according to Hoy and Miskel (2008) are defined as a “hierarchy that helps rather than hinders and a system of rules and regulations that guides problem solving rather than punishes failure” (p. 110). Gray (2011) asserts the importance of the formal structural aspect of the organization of PLCs and how they are carried out so the structures will allow for the informal aspects of PLCs such as efficacy and trust. Schools with enabling structures offer supportive leadership and collaborative conditions critical to the maintenance and sustenance of a PLC (Gray, 2011). Hoy & Miskel (2013) in discussing enabling school structures insist that principals and teachers must work cooperatively to distribute leadership and yet retain each distinctive role. Similarly, rules and regulations become flexible guides for problem solving rather than constraints that create problems. In an enabling school, the structures are mechanisms to support teachers rather than vehicles to enhance principal power.



Stamper (2015) states that supportive structural conditions refer to structures such as time, buildings, grounds, and materials with research asserting that time for PLC engagement is the most important resource that teachers and principals must collectively allocate (Hickman, Schrimpf, & Wedlock, 2002). Stamper (2015) adds that “Researchers assert that time allocated for PLC engagement is important along with teacher physical proximity” (p. 31) and that lack of allocated time is a serious issue to school wide collaboration (Blankstein, 2004; Hord & Sommers, 2008; Idol & West, 1991).

Hord (2015) insists that uninterrupted time in a comfortable space is basic to the structural aspect of authentic professional learning communities. Paper, electronic, and human resources, and available multiple sources of disaggregated data are musts.

### **Supportive Relational Conditions**

The second type of supportive conditions that Hord (1997) lists in effective PLCs is the relational (human qualities/capacities) aspect of the people involved within the PLCs. Several characteristics of a productive supportive relational learning community are: willingness to be a team member who accepts feedback with the goal being improvement, respect and trust amongst team members, a skill base that enables effective teaching and learning, supportive leadership, and being involved in an intensive socialization process.

Tobia and Hord (2012) express the intent of supportive relational conditions as how members of the school (community) relate to one another so the PLC can function productively. This is accomplished through data studies, discussions about

interventions for students, delivering effective instruction to meet the needs of students, and suggestions amongst the community. The authors add, “Teachers’ respect and regard for each other, their use of conversations styles, their interactions, and how they confront conflict all contribute to strong trust in each other and to a smoothly functioning community” (p. 20). Barth (2006) lists several types of relationships in schools as paramount to school improvement and argues strengthening positive relationships will improve professional practice. Table 2.1 shows Barth’s Nature of Relationships to include the name, definition type, and outcome. The Parallel Play Nature portrays teacher interactions and relationships as silos where interactions are random and without purpose. The Adversarial Nature exists where teachers are choosing not to confront conflict in a positive manner, rather in a blaming another manner and guarding/withholding knowledge. Many times this is indicative of a competitive nature where teachers see their colleagues as the competition. Many schools fall into the category of Congenial Nature, where professionals are cordial, kind, caring, and positive. Barth describes this in a positive manner by stating, “When the alarm rings at 6:00 in the morning...the promise of congenial relationships helps us shut off that alarm each day and arise” (p. 10). Lastly, Barth describes the Collegial Nature as the hardest to establish because it is about getting teachers to work together in a culture of collegiality – a Professional Learning Community. In this culture of collegiality and relationship, teachers:

- Talk about Practice – Continual discourse about student evaluation, parent involvement, curriculum development, and team teaching
- Share Craft Knowledge – Generous disclosure of information including issues, evaluations, ideas, policies, and practices
- Observe One Another – Mutual practices visible and available is a powerful way of learning and improving

- Root for One Another – All relationships are built on trust, confidence, and positive intentions to the benefit of student achievement and a culture of professional learning

Table 2.1 Barth’s Nature of Relationships

<b>Nature</b>	<b>Definition type</b>	<b>Outcome</b>
Parallel Play	Random Interaction without Intentionality	Isolation; Silos of learning; Concealment
Adversarial	Conflict by Blaming, Competition, or withholding Knowledge	Repeating Past Failures; Guarding/Keeping Successes Individually
Congenial	Positive Interactions based on Friendliness and Caring	Strong, Interpersonal Relationships
Collegial	Professional Learning Community	Engagement: Discussions of Practice, Sharing Knowledge, Celebrating Successes

Darling-Hammond (1996) discusses the quality of teaching in regards to workplace factors such as supportive relational conditions. Teachers in schools with such conditions are more committed and effective than those teachers unsupported in their learning and in their practice. In supportive relational conditions, teachers are more optimistic about their relationships with principals, working conditions, and student performance. In short, these teachers consider themselves as professionals and agents of change. Morrow (2010) supports the premise of PLCs as a relational framework as professional development and growth of teachers are dependent on a collaborative and collegial spirit and promotes the cycle of learning which, in the context of professional interactions, is expanded and answers the need for ongoing professional growth.

Leadership is instrumental in setting up conditions for PLCs to thrive. Henderson, Henry, Saks, and Wright (2001) further the relationship piece by stating, “Collaboration requires a level of trust and mutual respect that enables individuals to

work together to solve common problems...Collaborative relationships require time and attention to cultivate and maintain. The leadership team that seeks to consciously build such relationships must practice inclusion...invest in reflection and skill building, and model what it expects from others” (p. 69).

### **Shared Values and Vision**

Shared values and vision are another attribute of PLCs in setting the environment in which the community works. Hirsh, Psencik, and Brown (2014) advocate shared values and vision as key aspects of changing the system to produce better results for students. In short, nothing changes unless everything changes. PLCs built around a professional learning system are a break from historically traditional educational structures. To be free of traditional structures requires schools, and in particular PLCs, to have as their vision the dual focus on the learning of students and educators. “Learning system leaders ensure that all educators have the knowledge and skills they need to teach at a level that improves student learning. School districts fulfill these dual responsibilities by embracing a vision of education that engages every educator in effective professional learning every day” (p. 21).

Huffman (2001) asserts how critical shared vision and values are. “The emergence of a strong, shared vision based on collective values provides the foundation for informed leadership, staff commitment, student success, and sustained school growth” (p. 18). Isaacson and Bamburg (in Hord, 1997) state, “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. Staff are encouraged not only to be involved in the process of developing a shared vision, but to use that vision as a

guidepost in decision making about teaching and learning in the school” (p. 19).

Shared values and visions lead to binding norms of behavior that the staff shares...the individual staff member is responsible for his/her actions, but the common good is placed on a par with personal ambition (Hord, 1997).

Figure 2.2 shows the importance of shared values and vision and its interdependence on what Hirsh, Psencik, and Brown (2014) describe with student outcomes and learning being the central focus. The shared leadership in participation and decision-making along with structural and cultural conditions are key points in student achievement to be brought out in this study.

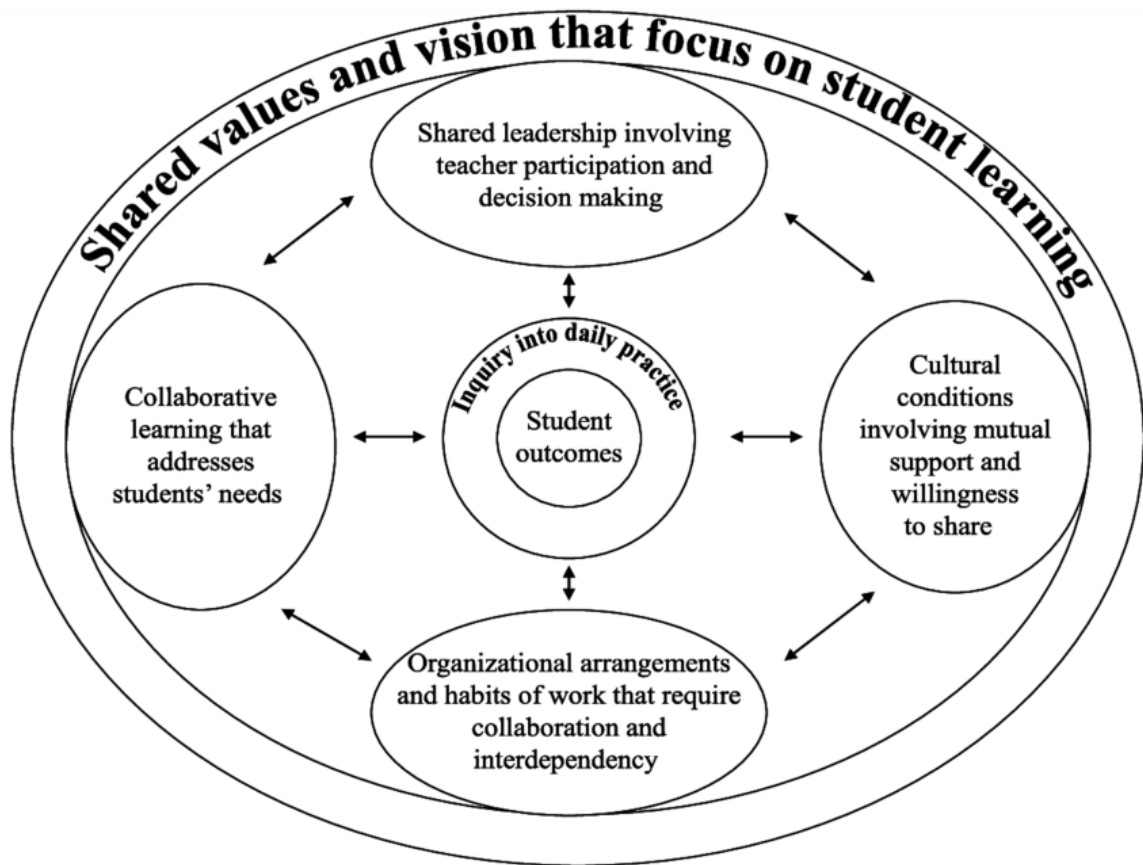


Figure 2.2 Shared Values and Vision Interdependence

Source: Siguardottir, A.K. (2010, October). *Professional learning community in relation to school effectiveness*. Retrieved from [https://www.researchgate.net/profile/Anna\\_Sigurdardottir5/publication/232916563/figure/fig1/AS:376148069502978@1466692096473/Figure-1-Diagram-of-a-professional-learning-community-where-teachers-collaboratively.png](https://www.researchgate.net/profile/Anna_Sigurdardottir5/publication/232916563/figure/fig1/AS:376148069502978@1466692096473/Figure-1-Diagram-of-a-professional-learning-community-where-teachers-collaboratively.png)

Fullan and Quinn (2016) discuss shared values and vision as “focusing direction.” “Leaders need to find the glue that will increase the coherence of the district and school efforts at every level and build a clear path to improve learning in demonstrable ways...Leaders need the ability to develop a shared moral purpose and meaning as well as a pathway for attaining that purpose” (p. 17). Murphy, Elliott, Goldring, and Porter (2007) unpack shared values and vision by putting the onus of vision on the leader in high-performing schools. In fact, many studies have shown that leaders in high-performing schools spend quite a bit of time and energy devoted to ‘the development, articulation, implementation, and stewardship of a vision of learning that is shared and supported by the school community’ (Council of Chief State School Officers, 1996, p. 10; see also Murphy & Hallinger, 1985; Wilson & Corcoran, 1988). The authors further the impact of the skill set of the principal/leader in translating the vision from the casting into the operational side of monitoring, ensuring the beliefs and values are carried out, and assessing the implementation and impact on the school and ultimately the student (p. 183).

### **Shared and Supportive Leadership**

Throughout the greatest majority of history, the principal in the school has been collectively seen as the one stop shop for all answers in regards to school

business. “The Buck Stops Here” is a well-used phrase when considering the school principal. It could be argued, “the buck starts” with the same principal. Hord (1997) on discussing attributes of effective PLCs states:

The literature on educational leadership and school change recognizes clearly the role and influence of the campus administrator on whether change will occur in the school. It seems clear that transforming the school organization into a learning community can be done only with the leaders’ sanction and active nurturing of the entire staff’s development as a community. Thus, a look at the principal of a school whose staff is a professional learning community seems a good starting point for describing what these learning communities look like and how they operate (p. 14).

Sugg (2013) discusses the importance of shared and distributed leadership due to the great need and desire to distribute leadership functions within schools and districts because accountability ultimately falls to the person at the top of the organization. “A fundamental understanding should be held by all that the concept of leadership within school settings should not always be role-based” (p. 22). Quoting Lambert (1998), Sugg furthers:

School leadership needs to be a broad concept that is separated from person, role, and a discrete set of individual behaviors. It needs to be embedded in the school community as a whole. Such a broadening of the concept of leadership suggests shared responsibility for a shared purpose of community (p. 5).

Fullan (2001) argued for big picture leadership rather than narrow focused as

has been done in the past with the principal as the head of the school organization and focused on tasks rather than change and system. He concluded leaders have to be much more attuned to the big picture, sophisticated at conceptual thinking, and having the skillset to transform the organization through people and teams. DuFour, DuFour, Eaker, and Karhanek (2004) discuss significant leadership in terms of distributing decision making through PLCs as invaluable. Quoting from Louis, Kruse, and Marks (1996) comprehensive study the authors insist, “Leaders in schools with strong professional communities...delegated authority, developed collaborative decision-making processes, and stepped back from being the central problem solver. Instead they turned to the professional communities for critical decisions” (p.142).

Figure 2.3 shows supportive factors as input into shared leadership with outputs of processes and outcomes. Contingencies include interdependent teams and emergent leaders as noted in above referenced DuFour, DuFour, Eaker, and Karhanek (2004) and Louis, Kruse, and Marks (1996). Barth (2006) insists the skill set needed by any school leader is a crucial role to promote collegial relationships if a school is going to be based on shared and supportive leadership. He states:

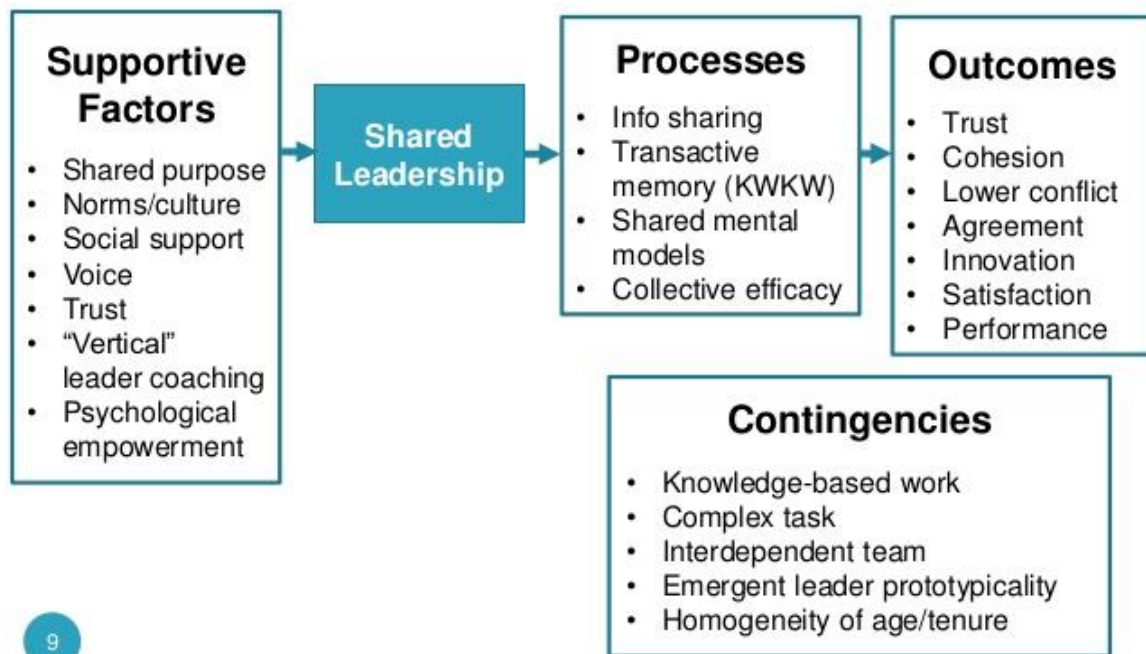
“A precondition for doing *anything* to strengthen our practice and improve a school is the existence of a collegial culture in which professionals talk about practice, share their craft knowledge, and observe and root for the success of one another. Without these in place, no meaningful improvement – no staff or curriculum development, no teacher leadership, no student appraisal, no team teaching, no parent involvement, and no sustained change – is possible.

Empowerment, recognition, satisfaction, and success come only from being an



active participant within a masterful group – a group of colleagues” (pp. 12-13).

## Mapping the literature



9

Figure 2.3 Supportive Factors as Input into Shared Leadership

Source: Freund, M. (2015, October). *Shared leadership: A tool for innovation, engagement, and inclusion*. Retrieved from

<https://www.slideshare.net/mfreund1/shared-leadership-a-tool-for-innovation-engagement-and-inclusion>

### Leadership Effectiveness in Affecting Achievement

Giving the prior information in this review regarding distributed and shared leadership, there is also a call for a single formal leader (most likely the principal) having the highest influence in affecting student achievement, suggesting that

principals do not lose influence as others gain shared decision-making. Leithwood, et al. (2007) when discussing distributed leadership state:

“Principals were rated as having highest influence in schools at all levels of performance. Suggesting that formal leaders do not lose influence when others gain it, these results argue for building a better understanding of influence as an “infinite” resource among formal leaders... These results also argue for the extension of opportunities for leadership development to those in most roles, including more serious efforts to engage students in school leadership. The highest performing schools in our study were not hierarchically flatter. People at all “levels” had more influence, thereby increasing the density and intensity of leadership” (p. 615).

Over the past several years, studies have been developed concerning the leadership effects on student learning in which the research supports the conclusion that leadership indeed has a measurable effect on student learning (Hallinger and Heck, 2011). This effect, even though it is measurable, is argued for leaders being the key aspect of achievement even though the effect is realized indirectly in that the leader/principal typically does not teach students. The authors present five means (effects) by which leaders impact learning – direct, mediated, reciprocal, antecedent, and context. A brief overview of each effect will demonstrate issues and supports.

### ***Direct effects model of leadership for learning***

The direct effects model, as shown in Figure 2.4, has school leadership on one side of the figure and student learning outcomes on the other without showing significant findings from the researchers (Hallinger & Heck, 1996, 2011) for reasons

attributed to variations in student background, including socio-economic status, and that principals typically are not teaching students. Thus, there exists a lack of significant results to prove the direct effects model leading to student achievement. The authors conclude, “The effects of principals on student learning are achieved primarily through their impact on teachers (p.58).

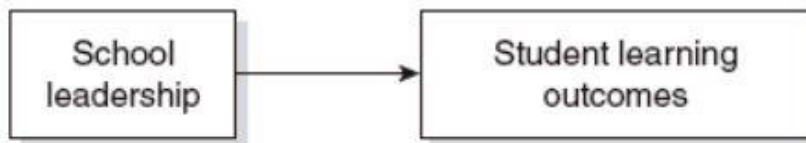


Figure 2.4 Direct effects model of leadership for learning

### ***Mediated effects models of leadership for learning***

Hallinger & Heck (2011) discuss the mediated effects models in terms of the “means” systematic model of leadership for learning. In these models, school leaders work through others – by impacting teachers, to realize better student achievement. Figure 2.5 shows a simple mediated effects model by which the leader impacts culture, structure, and people resulting in student achievement. As the figure shows, the school leadership is the starting and directional point that impacts the means of the school, which then directly impacts student achievement. In this model, the leader is typically transformational in nature with values and goals not explicitly oriented to student achievement as opposed to instructionally focused leaders with the outcomes of all values and goals targeted toward student learning and achievement (p. 60).

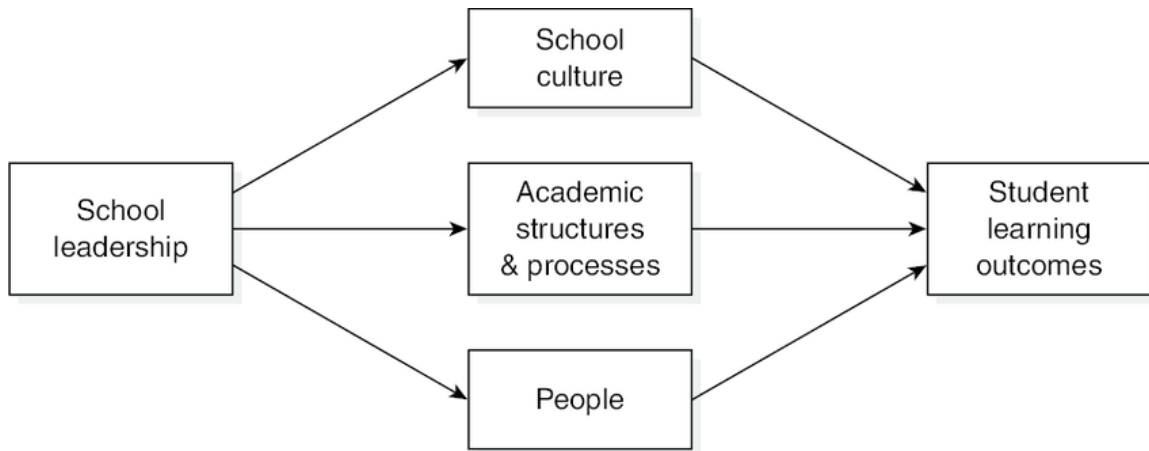


Figure 2.5 Mediated Effects Model

Source: Retrieved from

[https://www.researchgate.net/publication/292828113\\_Leadership\\_and\\_student\\_learning\\_outcomes](https://www.researchgate.net/publication/292828113_Leadership_and_student_learning_outcomes).

***Reciprocal effects models of leadership for learning***

“Systemness – the degree to which people identify and are committed to an entity larger than themselves...is about everyone doing their part in two aspects: being as good as one can be during individual and collaborative work, and being aware that everyone needs to make a contribution to improving the larger system” (DuFour & Fullan, 2013).

Hallinger and Heck (2011) explain the reciprocal effects model as one that takes into account the possibility of the leader being *impacted* and *influenced* by the current state of the school. In this model as depicted in Figure 2.6, the arrows move in both directions as opposed to the one-directional arrows of the Mediated Effects Model. As schools are often in a state of flux, this model is a process that takes into account the mutual influence of all factors, leadership’s effect are mediated or

balanced by the school's conditions, and thus the conditions become a part of the reciprocal relationship (p. 61).

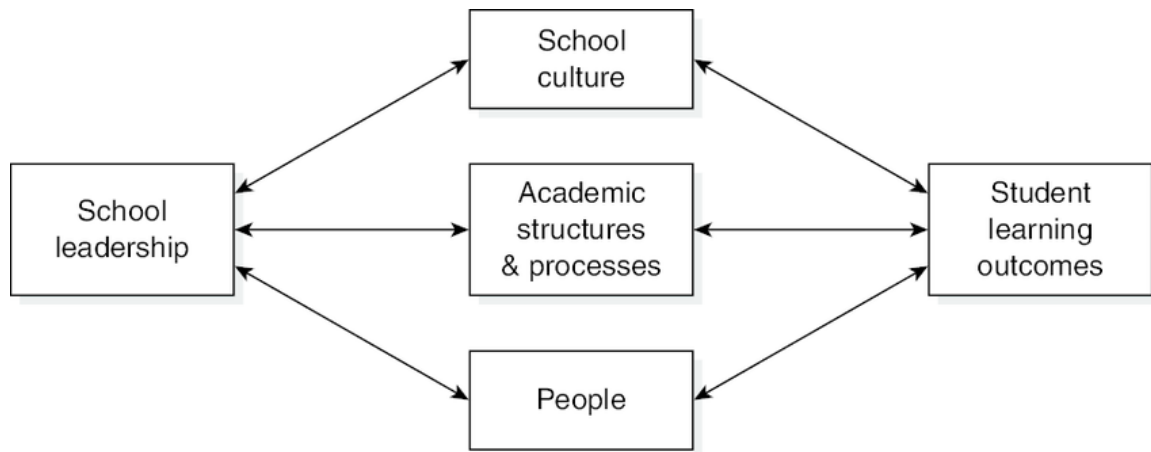


Figure 2.6 Reciprocal Effects Model

Source: Retrieved from

[https://www.researchgate.net/publication/292828113\\_Leadership\\_and\\_student\\_learning\\_outcomes](https://www.researchgate.net/publication/292828113_Leadership_and_student_learning_outcomes).

### ***Personal antecedent effects on leadership for learning***

Figure 2.7 shows an evolving model where the leader is impacted by personal values and beliefs along with knowledge and experience in an evolving reciprocal model. According to Hallinger and Heck, “Beliefs, expectations, knowledge and experience also shape the actions of leaders...Beliefs such as these implicitly shape the approach that principals take towards decision-making, resource allocation, curriculum organization, teaching and learning in the school” (p. 64).

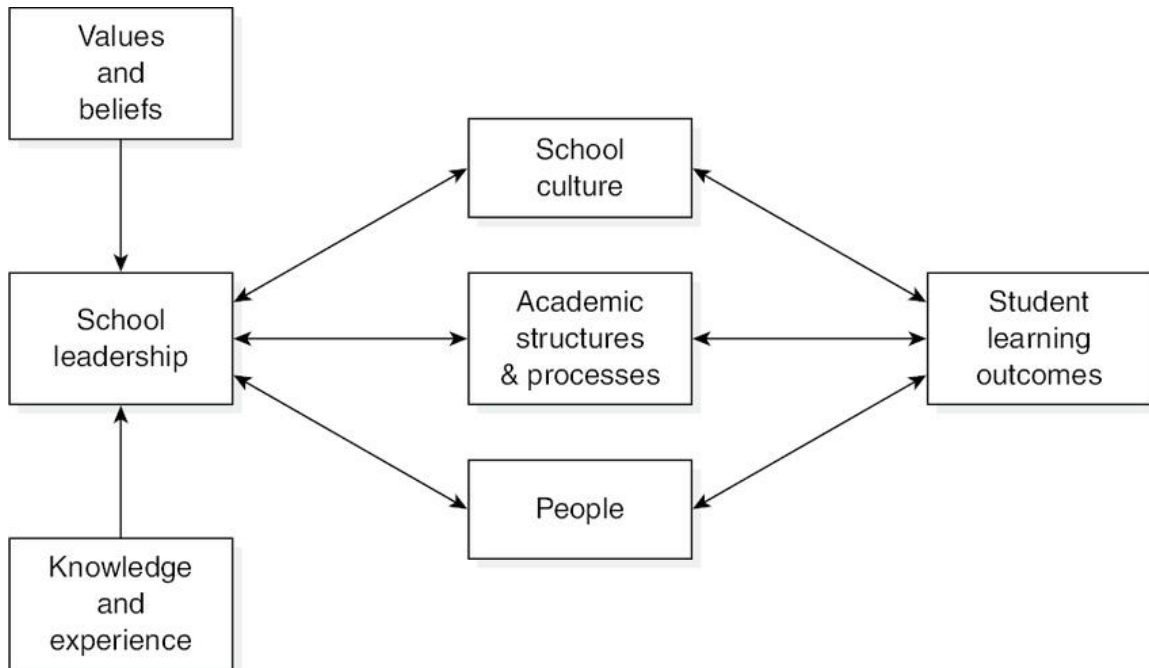


Figure 2.7 Personal Antecedents Model

Source: Retrieved from

[https://www.researchgate.net/publication/292828113\\_Leadership\\_and\\_student\\_learning\\_outcomes](https://www.researchgate.net/publication/292828113_Leadership_and_student_learning_outcomes).

***School context effects on leadership for learning***

“Rather than simply asking, How does the way schools are organized affect the behavior of teachers and students in classrooms? I have come to ask, ‘How do the structure of schools (by which I mean rules, roles, and relationships) and the culture of schools (by which I mean beliefs, commitments, myths, physical artifacts, and lore that are transmitted to members of the school community) affect the behavior of teachers and students in classrooms, and how is this behavior related to what and how students learn in schools?’”

(Schlechty, 2005)

The answer to Schlechty’s question is not a simple one, especially when it comes to leadership. However, Hallinger and Heck (2011) argue school context, which includes environmental and organizational conditions, moderate or shape the leader’s impact on student learning; therefore, leaders must shape their strategies and styles to meet the needs of their particular school. As the authors do not argue for a single correct style of leadership for learning, the focus becomes whether and how collaborative leadership makes a difference in student learning. The authors conclude by asserting that research is making important progress in terms of how leadership contributes to both school improvement and student learning/achievement.

Figure 2.8 shows the Full Model of Leadership for Learning. This full model brings in the leadership’s personal antecedents, while having a reciprocal model based on school specific context with the ultimate goal of student learning outcomes.

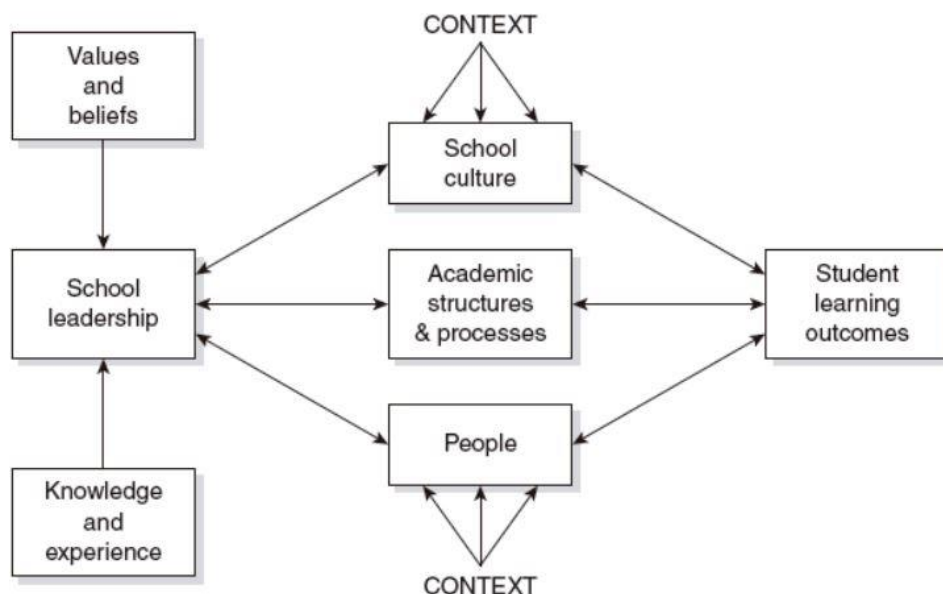


Figure 2.8 Full Model of Leadership for Learning

Murphy, Elliott, Goldring, and Porter (2007) adhere to the contextual influence on the leader and the school to promote student outcomes through learning-centered leadership where leaders skillfully create learning organizations and develop a community of learning. Leaders in these settings promote professional development, nurture professional learning communities, and shape all aspects of the school around principles of community (p. 187). Further, as the professional learning community evolves, “They understand, and help others understand, that communities of professional practice offer the most appropriate vessels for professional learning... School organizations in the twentieth century featured the principles of hierarchy... Over the years, we have learned that more effective schools underscore the principles of community” (p. 188). The authors conclude that while not all leadership is equal, those leaders focused on learning take the high ground and create schools in which students reach ambitious targets of performance. Hord (1997) sums up Leadership Effectiveness in Affecting Achievement in her seminal work:

“The reader may have noticed the rather prominent role of the principal in the suggestions noted...for initiating and developing professional learning communities. This may seem at odds with the concept of community, which strongly urges the involvement and active participation of the staff. As noted earlier, the principal’s role is a significant factor in any change effort... Thus strong actions by the principal on behalf of community development are necessary...” (p. 53).



### **Additional Effective PLC Characteristics**

As mentioned in the beginning of this review of literature, Hord (1997) lists six attributes of professional learning communities. The first four – Structural Conditions, Supportive Relational Conditions, Shared Values and Vision, and Shared and Supportive Leadership are discussed thoroughly because of their impact on this particular study. Intentional Collaborative Learning and Peers Supporting Peers are briefly mentioned here to be included in the research of effective PLC characteristics.

#### **Intentional Collaborative Learning**

As seen in Figure 2.1, five of the attributes of learning communities (Structural Conditions, Shared and Supportive Leadership, Shared Values and Vision, Relational Conditions, and Peers Supporting Peers) are surrounding the centerpiece – Intentional Collaborative Learning. Hord and Roy (2014) indicate Structural Conditions, Shared and Supportive Leadership, and Shared Values and Vision set the environment for the community. Relational Conditions and Peers Supporting Peers fuel the community. However, the soul of the community is “*its intentional learning directed toward student benefits*” (p. 23).

Crow (2015) names collaborative learning as the ultimate goal stating, “The ultimate goal of collaborative learning is better teaching, better student learning, better results for every learner in schools. Excellent teams — supported by committed leaders and sustained resources — create a culture where every professional in a school takes responsibility for every student” (p. 12). Ameyaw (2015) states, “In a PLC, educators execute shared vision and values through collective learning and application. Even when teachers and students achieve some level of success, a PLC

demands that they continue to seek ways to improve the educational culture within their schools” (pp. 28-29).

### **Peers Supporting Peers**

Hord (1997) discusses the importance of furthering supportive conditions to the structural side of relationships through the human qualities/capacities of the people involved in PLCs. The sharing of personal classroom practices by colleagues becomes the norm in PLCs. Hord says the practice is not evaluative, rather is part of the peers supporting peers process, which includes “visitation and review of each teacher’s classroom behavior by peers as a feedback and assistance activity to support individual and community improvement” (p. 23). Darling-Hammond, Wei, Andree, Richardson, & Orphanos (2009) have elevated the idea of Peers Supporting Peers within the teaching profession to impact student achievement while breaking down the individualization that often occurs in schools and classrooms. In discussing strong working relationships among teachers, the authors suggest, “Perhaps the simplest way to break down professional isolation...is for teachers to observe each other’s teaching and to provide constructive feedback” (p. 11). Further, peer teachers’ instruction becomes student-centered ensuring student mastery. This, along with other strategies such as peer coaching, mentoring, and induction of teachers may support teacher effectiveness and may enhance professional learning.

Barth (2013), when discussing leveraging teacher leadership as a principal, often asked the teachers and staff members in the school questions such as, “What piece of the school do you want to take responsibility for?” (par. 9). In so doing, he established the expectation that all teachers were going to have leadership roles

within the school as they worked and supported each other. As a result, there is a proliferation of all kinds of schools (charter, alternative, etc.) where teachers are major decision makers and have the ability to be a part of teams that select new colleagues, evaluate each other, and help design curriculum. Barth concludes by stating, “Our business ought to be to promote profound levels of learning in school – and teacher leadership is one of the most powerful assets for doing so” (p. 16).

Pirtle and Tobia (2014) discuss peers supporting peers as one of the supports for teachers’ sense of efficacy and level of professionalism stating, “We have found that when leaders create the conditions where educators support one another’s practice in PLCs, teachers feel more confident and develop a strong sense of self-efficacy; they believe in their ability to influence student learning and make a difference in student outcomes and achievement” (p. 6). Reinhorn, Johnson, and Simon (2015) similarly noted, “If new and experienced teachers could have systematic opportunities for peer observation and analysis of their observations, there would be great potential for learning. In addition, peer observation is one way to reduce the professional isolation that American teachers frequently experience” (pp. 2-3).

### **Teacher Perception Research Within PLCs**

The potential for successful implementation of the six characteristics has many influences to maximize student achievement – timely leadership, available data, a culture of collaboration, etc. However, teacher perception of the implementation is crucial to PLC (and student) success. Provini (2013) lists common reasons why PLCs do not work. Two key points Provini provides are: teacher perception that the

decision to implement a PLC was imposed upon teachers by administrators and teacher perception that administrators dictate what teachers do during collaboration time. When considering implementation of PLCs as a reform, Brucker (2013) states, “Because teacher beliefs strongly impact student learning educators must take care to address teacher beliefs when developing educational reforms” (p. 31).

While there remains limited research on teacher perceptions of school leadership within PLCs and student achievement, there is research based on Tobia and Hord’s (2012) conceptual framework within the leadership characteristics of PLCs – Shared and Supportive Leadership, Shared Values & Vision, Structural Conditions, and Supportive Relational Conditions. Stamper’s (2015) research surrounding teachers’ perception of the characteristics of effective PLCs guides the framework. In researching Shared and Supportive Leadership, Stamper found that of the 409 participating teachers, 80% or higher reported that staff members use multiple data sources to make decisions about teaching and learning, the principal incorporates advice from staff members to make decisions, and the principal is proactive and addresses areas where support is needed. “Thus, the overall top three statements for Shared and Supportive Leadership suggest that participating teachers believe that multiple data sources are used in making instructional decisions and principals listen to staff and support as needed” (p. 66).

Structural Conditions – structures was the overall lowest characteristic Stamper found with school schedule (62% agreement), lack of resources (65% agreement), and time provided to facilitate collaborative work (69% agreement) being the most needed characteristics to promote PLCs within the sample. However,

Supportive Relational Conditions garnered the highest perception amongst teachers with caring relationships among staff and students (93% agreement) and staff members support honest and respectful examination of data to enhance teaching and learning (86% agreement) as the most positive of the 374 teacher responses. This was also rated the highest characteristic when Stamper combined both principals and teachers in this research.

Regarding Shared Values & Vision, Stamper found that of the 389 teachers who responded 87% thought decisions are made in alignment with the school's vision suggesting positive agreement; however, only 63% agreed that a collaborative process exists for developing a shared vision among staff.

### **Student Achievement Research**

When considering student achievement research, Hattie (2012) does not begin with the student; he begins with the teacher – in particular, the difference between the “expert” teacher and the “experienced” teacher. Hattie states, “We can have high expectations of teachers and schools to have major impacts on students’ growth in learning” (p. 32). Figure 2.9 shows Hattie’s Effect sizes of differences between expert and experienced teachers. As noted in the figure, two attributes – setting challenging tasks and enhancing surface and deep learning are key to influencing student outcomes. Likewise, monitoring feedback through test hypothesis and sensitivity to context are correlated to accomplished teachers. DuFour, DuFour, & Eaker (2008) argue the expert or accomplished teacher within the school becomes an integral part of a team with the common goal of greater student learning. The

structure of teams collaborating is fundamental in the collective sharing of the responsibility of student learning.

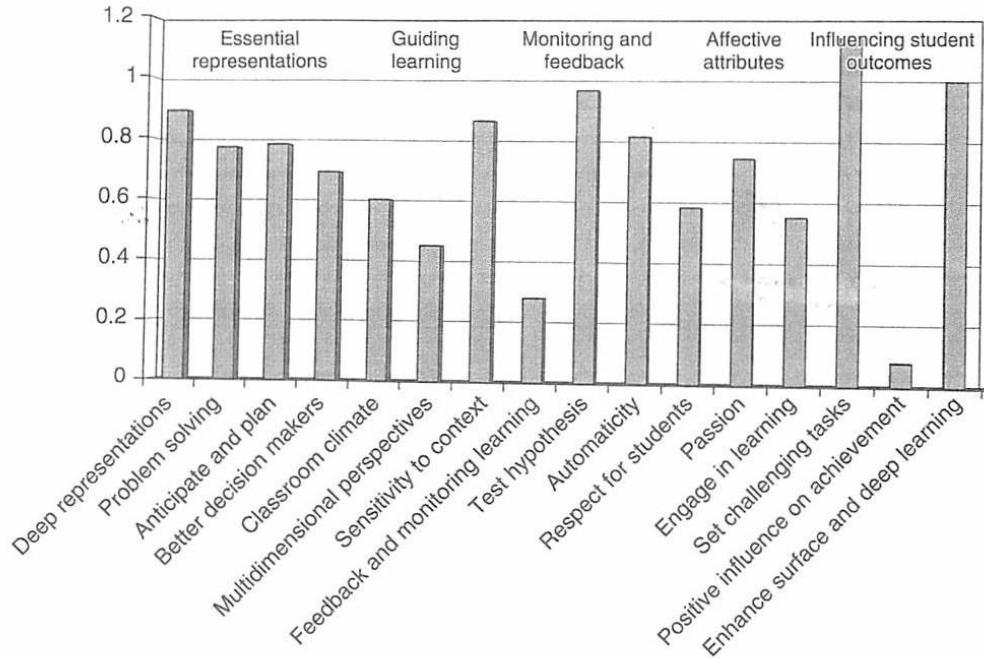


Figure 2.9 Effect sizes of differences between expert and experienced teachers

Source: Hattie, J. (2012). *Visible learning for teachers: Maximizing impact on learning*, p.29. New York, NY: Routledge.

Showing that PLCs as a form of professional development translate into student achievement has its challenges according to Yoon, Duncan, Lee, Scarloss, & Shapely (2007); however, the logical connection exists through evidence gathered through nine studies compared that meet the evidence standards of study design, content area, school level, and student outcomes examined. Yoon, et al. (2007) determined the result of those studies showed that the average group of students would have increased achievement by 21 percentile points if their teacher had

received substantial, high quality professional development, such as the type characteristic of effective PLCs.

Marzano, Waters, & McNulty (2005) clearly point to leadership at the school level in developing teachers professionally as a means of increasing student achievement as they discuss school operations in terms of effectiveness. “Whether a school operates effectively or not increases or decreases a student’s chances of academic success” (p. 3). Marzano, et al. (2005) make the claim through meta-analysis research that effective school leaders have well-documented effects on student achievement. After examining 69 studies involving nearly 3,000 schools, 1.4 million students, and 14,000 teachers, the researchers calculated “the correlation between the leadership behavior of the principal in the school and the average academic achievement of student to be .25” (p. 10).

In Figure 2.10, the .25 leadership effect size on student achievement assumes the leader staying in the role for a few years and the school and principal are both at the 50<sup>th</sup> percentile in the average achievement of its students. Over time, if the principal’s leadership ability is increased one standard deviation to the 84<sup>th</sup> percentile, the researchers predict the achievement of the school to rise to the 60<sup>th</sup> percentile.

### Predicted Increase in Student Achievement When Leadership Ability Increases from 50th to 84th Percentile

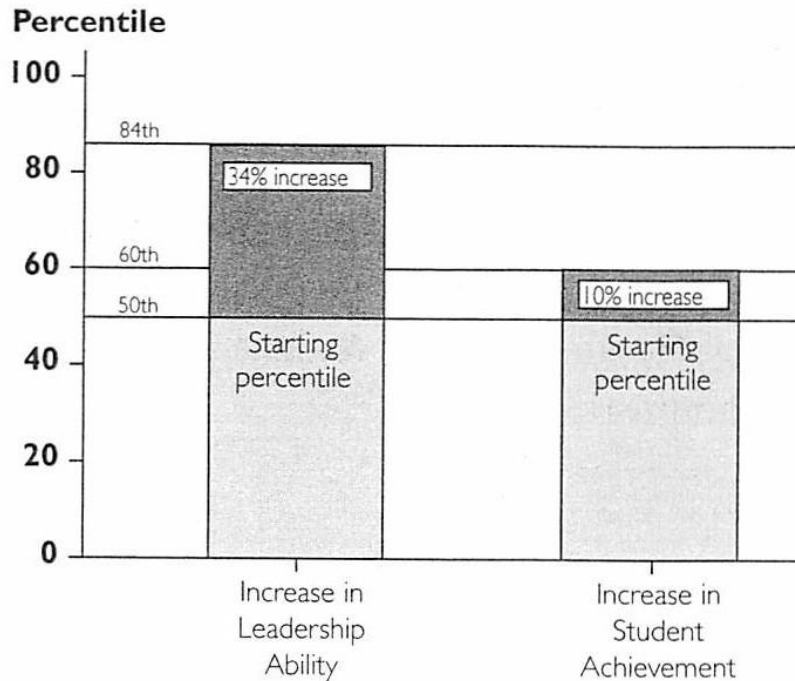


Figure 2.10 Student Achievement Increase When Leadership Ability Increases from 50<sup>th</sup> percentile to 84<sup>th</sup> percentile

Source: Marzano, R.J., Waters, T., & McNulty, B.A. (2005). *School leadership that works: From research to results*. Alexandria, VA: ASCD, p. 11.

Marzano, et al. (2005) further examined the .25 leadership effect size on student achievement in Figure 2.11. If the principal’s leadership ability increases even more – from the 50<sup>th</sup> percentile to the 99<sup>th</sup> percentile because of leadership training that is so powerful it moves the principal to the top of the leadership percentile, then over time the researchers predict the average achievement of the school to rise to the 72<sup>nd</sup> percentile.



## Predicted Increase in Student Achievement When Leadership Ability Increases from 50th to 99th Percentile

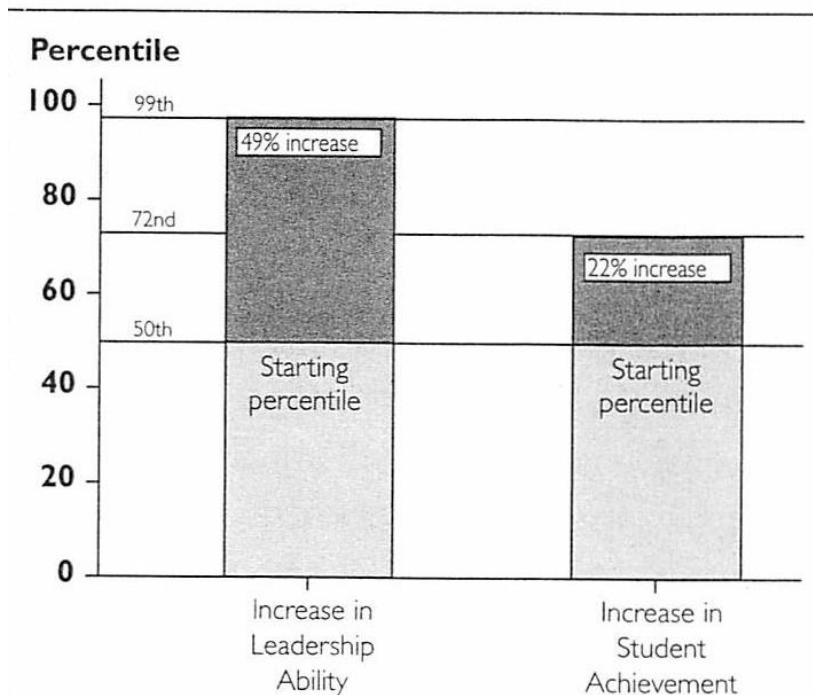


Figure 2.11 Student Achievement Increase When Leadership Ability Increases from 50<sup>th</sup> percentile to 99<sup>th</sup> percentile

Source: Marzano, R.J., Waters, T., & McNulty, B.A. (2005). *School leadership that works: From research to results*. Alexandria, VA: ASCD, p. 11.

### Summary

The literature in chapter two has provided context into development, expansion, and implementation research that supports the value of leadership, in particular the principal, overseeing the development of teachers through structures, or characteristics, associated with effective professional learning communities. This literature has focused on teacher perceptions of the four characteristics of effective PLCs in which leadership most largely affects – Structural Conditions, Supportive

Relational Conditions, Shared Values & Vision, and Shared and Supportive Leadership, and their relationship with student achievement. Research supports leadership implementing PLCs in schools to positively affect student achievement. Chapter three will describe the sample population and methods used in this study.

### **Research Question**

What is the relationship between teacher's perception of Professional Learning Communities within a school and student achievement on state accountability results? School leaders largely determine the conditions of this study. For the purposes of this study, a teacher's perception of how leadership impacts professional learning and the school's implementation level of PLCs includes the following characteristics of effective PLCs – structural conditions, supportive relational conditions, shared values and vision, and shared and supportive leadership.

## CHAPTER 3

### METHODS

#### **Introduction**

The purpose of this study is to determine if there is a relationship between teacher perceptions of Professional Learning Communities (PLCs) and student achievement on state accountability results, specifically in middle schools in Madison County, KY. While PLCs in Kentucky have been further used as a school focused, continual form of professional development since the early 1990s, and have been known as a viable change agent to focus on student achievement, this study sought to determine if how teachers perceive the school leadership within PLCs correlates with student achievement on state assessment results. DuFour (2007), in discussing research where educators actually engage in PLC practices, describes those practices as our best hope for sustained, substantive school improvement. To date, very few studies have researched teacher perceptions of leadership within PLCs and their correlation with student achievement.

The purpose of this chapter is to describe the research question, methodology, research design, and procedures used for this research. The chapter also describes the context of the sample, instrumentation and variables, data collection and analysis, and study limitations.

#### **Research Question and Hypothesis**

What is the relationship between teacher's perception of Professional Learning Communities within a school and student achievement on state accountability results? School leaders largely determine the conditions of this study.

For the purposes of this study, a teacher’s perception of how leadership impacts professional learning and the school’s implementation level of PLCs includes the following characteristics of effective PLCs – structural conditions, supportive relational conditions, shared values and vision, and shared and supportive leadership. The hypothesis is that teachers who have a higher perception of PLCs will have higher student achievement on state accountability results.

### **Description of Research Design**

Creswell (2003) defines quantitative research as an approach where the researcher uses cause and effect thinking, reduction to specific variables and hypotheses and questions, use of measurement and observation, and the test of theories. The researcher uses “strategies of inquiry such as experiments and surveys, and collects data on predetermined instruments that yield statistical data” (p. 18). This study will determine whether or not there is a correlation between teacher perceptions of PLCs through structural conditions, supportive relational conditions, shared values and vision, and shared and supportive leadership with student achievement. The use of descriptive statistics and correlational analyses will answer the research question and hypothesis.

### **Context and Sample**

Madison County Schools is located in central Kentucky just south of the 2<sup>nd</sup> largest city in the commonwealth, Lexington, KY and easily accessed via I-75. With the proximity to Lexington, Madison County is a growing district, adding approximately 70 students per year. In Madison County Schools, there are ten elementary schools (soon to be 11 in the fall of 2018), five middle schools, two high

schools, and a Day Treatment/alternative school all of which serve approximately 11,000 students. Madison County Schools has a diverse student demographic with 56% SES population, 12% minority population, and 9% special needs population. The Madison County middle schools population is reflective of the district numbers.

This study focuses on the five Madison County middle schools – B. Michael Caudill (BMCMS), Clark-Moores (CMMS), Farristown (FTMS), Foley (FOMS), and Madison Middle (MMS). Four of the five middle schools serve approximately 500 students with the fifth, Caudill Middle, serving approximately 650 students. As the focus of this study is student achievement based on state accountability results in reading, the represented teachers for this survey are English Language Arts (ELA) and Social Studies (SS) teachers. Another important context to consider is that all five schools operate under Site-Based Decision Making (SBDM) councils. These councils have financial, curriculum, and other oversight responsibility. Table 3.1 shows the total number of students and the SES percentage breakdown of each of the five Madison County middle schools.

Table 3.1 Total Students and SES percentage

School	SES Total	Paid	Total	% SES
BMCMS	300	346	646	46.5%
CMMS	315	214	529	59.6%
FTMS	228	252	480	47.5%
FOMS	262	208	470	55.8%
MMS	286	204	490	58.4%

This study analyzes the Professional Learning Community Assessment Revised (PLCA-R) survey administered in all five Madison County Schools' middle schools in May 2017. Table 3.2 shows the sample (N size) teacher respondent numbers for each Madison County middle school ELA/Social Studies teacher for which student achievement scores exist in Reading. Caudill Middle had 22 ELA/SS teachers respond, Clark-Moores had 12 ELA/SS teachers respond, Farristown had 18 ELA/SS teachers respond, Foley had 16 ELA/SS teachers respond, and Madison Middle had 21 ELA/SS teachers respond. The total N size is 89 ELA/SS teachers and includes teachers who have been at the school for two or more years due to having student achievement data available specific to the students' teacher. First year teachers and teachers who were in their first year at the school were removed from the study. Each survey administered to the teachers was entered into an SPSS data file to safeguard accuracy of the data.

Table 3.2 Madison County Middle School ELA/Social Studies Teachers

Report

School		Avg. Reading Scale Score	Avg. Reading Student Growth %	%F/R Lunch	Total Teachers
Caudill	Mean	213.2159	52.7391	.5064	
	N	22	22	22	33
	Std. Deviation	5.07330	6.49616	.10817	

Table 3.2 (continued)

School		Avg. Reading Scale Score	Avg. Reading Student Growth %	%F/R Lunch	Total Teachers
Clark-Moores	Mean	210.7458	52.1133	.6208	
	N	12	12	12	22
	Std. Deviation	6.01735	6.91336	.12537	
Farristown	Mean	210.5167	53.3239	.5867	
	N	18	18	18	27
	Std. Deviation	6.30720	5.55193	.10024	
Foley	Mean	208.4794	49.8281	.6381	
	N	16	16	16	22
	Std. Deviation	7.72515	6.29818	.10509	
Mad Middle	Mean	208.7314	46.1876	.6352	
	N	21	21	21	27
	Std. Deviation	6.59950	9.07044	.16391	
Total	Mean	210.4273	50.7038	.5921	
	N	89	89	89	131
	Std. Deviation	6.46218	7.42809	.13218	

### **Instrumentation and Variables**

#### ***Instrumentation***

The survey instrument used in this research study was the Professional Learning Community Assessment Revised (PLCA-R) version. The researcher initially used this survey as part of a larger continuous study (see Stamper, 2015) and

has received permission to use the PLCA-R in this study (Appendix C). Olivier, Hipp, & Huffman (2010) designed The Professional Learning Community Assessment Revised (PLCA-R) to describe school-level practices of the essential characteristics of effective PLCs. Hipp & Huffman (2010) in Stamper (2015) describe the PLCA-R as a manner in which analysis of the data will show strengths or weaknesses of practice in PLCs. The PLCA-R uses a standard Likert four-point scale of 1 = Strongly Disagree; 2 = Disagree; 3 = Agree; and 4 = Strongly Agree. The survey contains 52 questions categorized into groupings under the characteristics of effective PLCs – Shared and Supportive Leadership, Shared Values and Vision, Collective Learning and Application, Shared Personal Practice, Supportive Conditions – Relationships, and Supportive Conditions – Structures (Appendix A).

In Madison County Schools, the survey was given initially to evaluate professional learning to all teachers within the district's middle schools. For the purpose of this study, participants were limited to teachers of English/Language Arts (ELA) and Social Studies (SS). Each survey was given a number assigned to a specific ELA or SS teacher to average achievement of all the teacher's students.

The Professional Learning Community Assessment Revised (PLCA-R) survey instrument provided ample opportunities for consistency. The most recent analysis confirmed internal consistency in the following Cronbach's Alpha reliability for coefficients for factored subscales. The following subscales indicate the instrument and the four variables in this study are reliable. Shared and Supportive Leadership ( $\alpha=.915$ ); Shared Values and Vision ( $\alpha=.886$ ); Supportive Conditions – Relationships ( $\alpha=.833$ ); and Supportive Conditions – Structures ( $\alpha=.861$ ). As Cronbach's Alpha



reliability ranges between 0 on the lower end of reliability and 1 on the highest end, George and Mallery (2003) provide the general guidelines: “  $\alpha > .9$  – Excellent,  $\alpha > .8$  – Good,  $\alpha > .7$  – Acceptable,  $\alpha > .6$  – Questionable,  $\alpha > .5$  – Poor, and  $\alpha < .5$  – Unacceptable” (p. 231). The resulting reliability subscales on the Professional Learning Community Assessment Revised (PLCA-R) survey instrument fall within the excellent ( $>.9$ ) or good ( $>.8$ ) range on Cronbach’s Alpha indicating high reliability. Table 3.3 has the reliability statistics for each subscale based on leadership influenced characteristics associated with PLCs.

Table 3.3 Cronbach’s Alpha Reliability

**Scale: Shared and Supportive Leadership**

**Reliability Statistics**

Cronbach's Alpha	N of Items
.915	11

**Scale: Shared Values and Vision**

**Reliability Statistics**

Cronbach's Alpha	N of Items
.886	9

**Scale: Supportive Conditions - Relationships**

**Reliability Statistics**

Cronbach's Alpha	N of Items
.833	5

Table 3.3 (continued)

**Scale: Supportive Conditions - Structures**

**Reliability Statistics**

Cronbach's Alpha	N of Items
.861	10

***Variables***

To answer the research question effectively, this study used as a dependent variable statewide assessment accountability results from the Reading portion of the state assessment and accountability model. In Kentucky, the assessment and accountability system is known as Kentucky's Unbridled Learning with assessments collectively named the Kentucky Performance Rating for Educational Progress (K-PREP). The K-PREP for Reading assessment is a blended assessment model with norm-referenced items and criterion-referenced items and is given in the spring semester of each year in grades 3-8. According to the Kentucky Department of Education Assessment/Accountability website, "Kentucky's Unbridled Learning assessment and accountability system is designed to provide in-depth information about the performance of students, schools, districts and the state as a whole" (par. 1).

The predictor variables are four of the six characteristics of effective PLCs – Shared and Supportive Leadership, Structural Conditions, Supportive Relational Conditions, and Shared Values and Vision. There are two additional predictor variables – teacher experience and student low-income status or Socio-Economic Status (SES). Teacher experience begins with second year teachers at the school due to having student achievement data available specific to the students' teacher. It is

measured in annual increments. Student low-income status is based on student's family eligibility for free or reduced-price lunch (0 = No, 1 = Yes).

### **Data Collection and Analysis**

Existing data were used in this study. The survey was given to all middle school teachers in Madison County Schools as part of ongoing research on PLCs. The survey was given to the teachers by an individual teacher from a high school in the district. The individual teacher visited each of the five middle schools during a faculty meeting to distribute the surveys and have the surveys completed during the faculty meeting. The individual teacher collected all surveys upon completion at the faculty meeting. Each survey had a number assigned to a specific teacher to connect to their average achievement of their students. For this study, the represented teachers are English Language Arts (ELA) and Social Studies (SS) teachers.

All data were imported into SPSS 24.0 for analyses. All analyses will be conducted using SPSS 24.0 statistical software. Descriptive and correlational statistics will be used in this research study. The means of those statistics on the predictive variables – teacher perceptions of leadership within PLCs using four of the six characteristics of effective PLCs, student SES, and teacher experience will be reported. A multiple regression will be run with student achievement in Reading on state accountability and assessment results as the dependent variable and the above six variables as predictors.

### **Limitations of the Study**

The limitations of this study are that this study was completed in only five middle schools in only one school district. As such, a study of this scope can limit the generalizability compared to studies that include larger school samples and more districts. Second, the relatively small sample size can limit the power to find relationships that exist. Additionally, as the survey data from this study is based on teacher responses, the responses may not represent truthful attitudes. This survey was given to each middle school's faculty during a faculty meeting in May near the conclusion of the school year. The end of year timing of the survey and in some cases the time of the day in which the survey was given may influence individual participant's responses.

### **Summary**

The purpose of this study was to provide further research on the relationship between teacher perceptions of PLCs and success of students based on achievement. This chapter addressed the research design, study sample, instrumentation and variable, data collection and analyses, and limitations of the study. Also, the instrument entitled Professional Learning Community Assessment-Revised (PLCA-R) was introduced and supported through Chronbach's alpha to assess four of the six characteristics of effective PLCs. The four characteristics (Shared and Supportive Leadership, Structural Conditions, Supportive Relational Conditions, and Shared Values and Vision) are used as characteristics associated with leadership in the implementation of PLCs. Chapter four will report the findings of the research.

## CHAPTER 4

### RESULTS

The purpose of this chapter is to describe the data collected and the results of statistical analyses for each type of data – descriptive statistics, correlational statistics, and multiple regression. As a reminder for the reader, this chapter also includes the purpose statement and research question, prior to the summary of collected data and tables reporting results.

#### **Purpose Statement**

The purpose of this study is to determine if there is a relationship between teacher perceptions of Professional Learning Communities and student achievement on state accountability results. Using a study of teacher perceptions of professional learning, student data specific to teacher, and data specific to individual schools, the researcher sought to determine whether or not individual teachers' students are prone to higher achievement based on teachers' perceptions of the working conditions of their PLCs.

#### **Research Question**

This study assesses the following question: What is the relationship between teacher's perceptions of Professional Learning Communities in middle schools and student achievement on state accountability results? School leaders largely determine the conditions of the PLCs studied.

#### **Descriptive Statistics**

Descriptive statistics were used to analyze various questions as to each effective PLC variable. Table 4.1 illustrates the item means in descending order and

standard deviations for answers to questions in the PLCA-R survey regarding the Shared and Supportive Leadership variable. In The Shared and Supportive Leadership variable, both “Staff members use multiple sources of data to make decisions about teaching and learning” and “The principal is proactive and addresses areas where support is needed have the highest mean at 3.50 and 3.44. The responses to “Opportunities are provided for staff members to initiate change”, “The principal participates democratically with sharing power and authority”, and “Staff members are consistently involved in discussing and making decisions about most school issues” have the lowest means (3.07; 3.06; and 3.01 respectively) for the variable; however, with 3=agree on the Likert scale where 1 = Strongly Disagree; 2 = Disagree; 3 = Agree; and 4 = Strongly Agree, each mean in the variable falls well within the “agree” range.

Table 4:1 Supportive leadership means and standard deviation

	N	Mean	Standard Deviation
Staff members use multiple sources of data to make decisions about teaching and learning	133	3.50	.572
The principal is proactive and addresses areas where support is needed	133	3.44	.632
The principal shares responsibility and rewards for innovative actions	133	3.29	.625
Leadership is promoted and nurtured among staff members	133	3.21	.759
Decision making takes place through committees and communication across grade and subject areas	132	3.17	.757
Stakeholders assume shared responsibility and accountability for student learning without evidence of imposed power and authority	133	3.16	.548
The principal incorporates advice from staff members to make decisions	133	3.16	.777
Staff members have accessibility to key information	133	3.14	.676
Opportunities are provided for staff members to initiate change	133	3.07	.720
The principal participates democratically with sharing power and authority	133	3.06	.786
Staff members are consistently involved in discussing and making decisions about most school issues	133	3.01	.764
Valid N (listwise)	132		

Table 4.2 provides the valid percents for each question pertaining to Shared and Supportive Leadership from the PLCA-R survey instrument. Of particular interest in the Shared and Supportive Leadership are the five questions that specifically mention either “the principal” or “leadership.” While questions under this section of the PLCA-R focus on shared and supportive leadership, the leader, in this case the principal is seen having a key role in the overall success of PLCs. Questions 4, 6, and 8 should be noted for the high agreement percentage in the role of the principal in support (question 4 – 94% agree or strongly agree), shared responsibility (question 6 – 92.5% agree or strongly agree), and in leadership being promoted and nurtured among staff members (question 8 – 85.7% agree or strongly agree). That percentage drops to 79.7%; however, when asked whether the principal participates democratically with sharing power and authority (question 7). Similarly, teachers responded at only 80.4% agreement level when responding to whether staff members are consistently involved in discussing and making decisions about most school issues (question 1). Finally, the highest level of agreement (96.3%) was in response to “Staff members use multiple sources of data to make decisions about teaching and learning.” This bodes well for these PLCs given the centrality of data to the effective functioning of PLCs.

Table 4.2 Shared and Supportive Leadership valid percents

Question		Strongly Disagree	Disagree	Agree	Strongly Agree
Q. 1	<i>Staff members are consistently involved in discussing and making decisions about most school issues</i>	4.5%	15%	55.6%	24.8%
Q. 2	<i>The principal incorporates advice from staff members to make decisions</i>	4.5%	9.8%	51.1%	34.6%
Q. 3	<i>Staff members have accessibility to key information</i>	1.5%	12%	57.1%	29.3%
Q. 4	<i>The principal is proactive and addresses areas where support is needed</i>	.8%	5.3%	43.6%	50.4%
Q. 5	<i>Opportunities are provided for staff members to initiate change</i>	3.8%	11.3%	59.4%	25.6%
Q. 6	<i>The principal shares responsibility and rewards for innovative actions</i>	.8%	6.8%	54.9%	25.6%
Q. 7	<i>The principal participates democratically with sharing power and authority</i>	3.8%	16.5%	49.6%	30.1%
Q. 8	<i>Leadership is promoted and nurtured among staff members</i>	3.0%	11.3%	47.4%	38.3%
Q. 9	<i>Decision-making takes place through committees and communication across grade and subject areas</i>	2.3%	14.4%	47.0%	36.4%
Q. 10	<i>Stakeholders assume shared responsibility and accountability for student learning without evidence of imposed power and authority</i>	0%	8.3%	67.7%	24.1%
Q. 11	<i>Staff members use multiple sources of data to make decisions about teaching and learning</i>	0%	3.8%	42.9%	53.4%



Table 4.3 illustrates the means and standard deviation in descending order for answers to questions from the PLCA-R regarding the Shared Values and Vision variable. In The Shared Values and Vision variable, “Decisions are made in alignment with the school’s values and vision” along with “Data are used to prioritize actions to reach a shared vision”, and “Policies and programs are aligned to the school’s vision” have the highest means at 3.36, 3.35, and 3.34. The responses to “School goals focus on student learning beyond test scores and grades” and “A collaborative process exists for developing a shared vision among staff” have the lowest means (3.09, and 3.06 respectively) of the variable; however, similar to Shared and Supportive Leadership, each mean in the variable is 3.0+ and falls well within the “agree” range.

Table 4.3 Shared Values and Vision means and standard deviation

	N	Mean	Standard Deviation
Decisions are made in alignment with the school’s values and vision	132	3.36	.540
Data are used to prioritize actions to reach a shared vision	133	3.35	.652
Policies and programs are aligned to the school’s vision	133	3.34	.563
Stakeholders are actively involved in creating high expectations that serve to increase student achievement	133	3.26	.576
Staff members share visions for school improvement that have undeviating focus on student learning	133	3.25	.583
Shared values support norms of behavior that guide decisions about teaching and learning	133	3.19	.579
A collaborative process exists for developing a shared sense of values among staff	133	3.19	.641
School goals focus on student learning beyond test scores and grades	133	3.09	.830
A collaborative process exists for developing a shared vision among staff	133	3.06	.705

Table 4.4 provides the valid percents for each question pertaining to Shared Values and Vision from the PLCA-R survey instrument. Overwhelmingly teachers are in agreement in the manner in which they perceive this variable. For example, all but three questions (1, 5, 7) are above 91% in agreement with question 4 – “Decisions are made in alignment with the school’s values and vision” having the strongest agree response of 96.9% agree or strongly agree. Question 7 – “School goals focus on student learning beyond test scores and grades” had the lowest agreement percentage of 77.4. Disagree accounted for 18.8% of this response and 3.8% strongly disagreed. Many questions in this variable refer not to the principal or leader, rather to “staff,” “staff members,” and “stakeholders.” That’s not to argue staff cannot be leaders, but items with the principal explicitly noted as the leader received higher ratings.

Table 4.4 Shared Values and Vision valid percents

Question		Strongly Disagree	Disagree	Agree	Strongly Agree
Q. 1	<i>A collaborative process exists for developing a shared sense of values among staff</i>	0%	12.8%	55.6%	31.6%
Q. 2	<i>Shared values support norms of behavior that guide decisions about teaching and learning</i>	0%	9.0%	63.2%	27.8%

Table 4.4 (continued)

Question		Strongly Disagree	Disagree	Agree	Strongly Agree
Q. 3	<i>Staff members share visions for school improvement that have undeviating focus on student learning</i>	0%	7.5%	60.2%	32.3%
Q. 4	<i>Decisions are made in alignment with the school's values and vision</i>	0%	3%	58.3%	38.6%
Q. 5	<i>A collaborative process exists for developing a shared vision among staff</i>	2.3%	15%	57.1%	25.6%
Q. 6	<i>Policies and programs are aligned to the school's vision</i>	0%	4.5%	57.1%	38.3%
Q. 7	<i>School goals focus on student learning beyond test scores and grades</i>	3.8%	18.8%	42.1%	35.3%
Q. 8	<i>Stakeholders are actively involved in creating high expectations that serve to increase student achievement</i>	0%	6.8%	60.2%	33.1%
Q. 9	<i>Data are used to prioritize actions to reach a shared vision</i>	1.5%	5.3%	50.4%	42.9%

Five questions make up table 4.5 that illustrates the means in descending order and standard deviation for answers to questions from the PLCA-R survey regarding the Structures - Relational Conditions variable. This variable takes into account caring relationships amongst staff and students, a culture of trust and respect existing to support relationships, and celebrations that are used to enhance teaching and student learning. All questions are above the “agree” range with four of the five (q1, q2, q3, and q4) well above with means of 3.45, 3.32, 3.31, and 3.30 respectively. Each of these questions asks specifically about relationships existing within a positive culture. Therefore, teachers perceive that their relational conditions among other teachers are strong. Darling-Hammond (1996) discussed the quality of teaching in regards to workplace factors such as supportive relational conditions. Teachers in schools with such conditions are more committed and effective than those teachers unsupported in their learning and in their practice. In supportive relational conditions, teachers are more optimistic about their relationships with principals, working conditions, and student performance. In short, these teachers consider themselves as professionals and agents of change. While leadership is not mentioned specifically, there is an understanding of the importance of leaders setting the conditions for PLC success. As was mentioned in chapter 2, leadership is instrumental in setting up conditions for PLCs to thrive. Henderson, Henry, Saks, and Wright (2001) further the relationship piece by stating, “Collaboration requires a level of trust and mutual respect that enables individuals to work together to solve common problems...Collaborative relationships require time and attention to cultivate and maintain. The leadership team that seeks to consciously build such relationships must

practice inclusion...invest in reflection and skill building, and model what it expects from others” (p. 69). The lowest mean (3.08) was in response to “School staff and stakeholders exhibit a sustained and united effort to embed change into the culture of the school.” While still above agree on average, the relatively lower rating highlights the challenge and complexity of cultural change.

Table 4.5 Relational Conditions means and standard deviation

	N	Mean	Standard Deviation
Caring relationships exist among staff and students that are built on trust and respect	132	3.45	.558
A culture of trust and respect exists for taking risks	132	3.32	.691
Relationships among staff members support honest and respectful examination of data to enhance teaching and learning	131	3.31	.680
Outstanding achievement is recognized and celebrated regularly in our school	131	3.30	.676
School staff and stakeholders exhibit a sustained and united effort to embed change into the culture of the school	132	3.08	.672

Table 4.6 provides the valid percents for each question pertaining to Relational Conditions from the PLCA-R survey instrument. With four of the five questions (q1, q2, q3, and q5) above 89% *agree* or *strongly agree*, teachers perceive they are in schools that have a culture high in relational structure as designated by caring, trustful, respectful, and honest relationships in dealing with teaching and learning. Teachers also perceive their achievements are recognized and celebrated. As indicated in table 4.5, question 4 – “School staff and stakeholders exhibit a sustained and united effort to embed change into the culture of the school” had the lowest mean (3.08) of the five questions. It also had 15.9% of respondents *disagree* or *strongly disagree* as noted in Table 4.6.

Table 4.6 Relational Conditions valid percents

Question		Strongly Disagree	Disagree	Agree	Strongly Agree
Q. 1	<i>Caring relationships exist among staff and students that are built on trust and respect</i>	0%	3.0%	48.5%	48.5%
Q. 2	<i>A culture of trust and respect exists for taking risks</i>	1.5%	8.3%	47%	43.2%
Q. 3	<i>Outstanding achievement is recognized and celebrated regularly in our school</i>	.8%	9.9%	48.1%	41.2%
Q. 4	<i>School staff and stakeholders exhibit a sustained and united effort to embed change into the culture of the school</i>	1.5%	14.4%	59.1%	25%
Q. 5	<i>Relationships among staff members support honest and respectful examination of data to enhance teaching and learning</i>	1.5%	7.6%	48.9%	42%

Table 4.7 illustrates the means in descending order and standard deviations for answers to questions from the PLCA-R regarding the Structural Conditions variable. As shown in the table, teachers perceive their school facility to be “clean, attractive and inviting,” along with “data are organized and made available for easy access to staff members” with a mean of 3.24 on both questions. And while nine of

the 10 responses were above the mean of 3.0, “appropriate technology and instructional materials available to staff” also rated well above *agree* with a 3.19 mean. The only question that did not rate above a 3.0 mean was “Communication systems promote a flow of information across the entire school community including: central office personnel, parents, and community members” with a mean of 2.98 with a .701 standard deviation. Thus, those PLCs may be more insular within their schools than preferred.

Table 4.7 Structural conditions means and standard deviations

	N	Mean	Standard Deviation
The school facility is clean, attractive and inviting	131	3.24	.887
Data are organized and made available to provide easy access to staff members	131	3.24	.528
Appropriate technology and instructional materials are available to staff	131	3.19	.756
The school schedule promotes collective learning and shared practice	131	3.16	.630
The proximity of grade level an department personnel allows for ease in collaborating with colleagues	131	3.16	.630
Communication systems promote a flow of information among staff members	131	3.15	.685
Time is provided to facilitate collaborative work	131	3.15	.658
Resource people provide expertise and support for continuous learning	131	3.12	.657
Fiscal resources are available for professional development	131	3.09	.749
Communication systems promote a flow of information across the entire school community including: central office personnel, parents, and community members	131	2.98	.701

Table 4.8 provides the valid percents for each question pertaining to Structural Conditions from the PLCA-R survey instrument. Of the Structural Conditions variable, teachers perceived the statement in Q. 6 “Communication systems promote a flow of information across the entire school community including: central office

personnel, parents, and community members” as the most uncommon structure with 22.1% “*strongly disagree*” or “*disagree.*” Similarly, “The school facility is clean, attractive and inviting” (Q. 6) was the second lowest response with 19% responding with “*strongly disagree*” or “*disagree.*” The highest rated response was Q. 10 - “Data are organized and made available to provide easy access to staff members” with 95.4% of teachers responding with “*agree*” or “*strongly agree.*” Teachers also perceive “Resource people provide expertise and support for continuous learning” and “The school schedule promotes collective learning and shared practice” with “*agree*” or “*strongly agree*” at 88.6% and 88.5% ratings.

Table 4.8 Structural conditions valid percents

Question		Strongly Disagree	Disagree	Agree	Strongly Agree
Q. 1	<i>Time is provided to facilitate collaborative work</i>	.8%	13%	57.3%	29%
Q. 2	<i>The school schedule promotes collective learning and shared practice</i>	.8%	10.7%	60.3%	28.2%
Q. 3	<i>Fiscal resources are available for professional development</i>	3.8%	12.2%	55%	29%
Q. 4	<i>Appropriate technology and instructional materials are available to staff</i>	3.1%	11.5%	48.9%	36.6%
Q. 5	<i>Resource people provide expertise and support for continuous learning</i>	2.3%	9.2%	62.6%	26%



Table 4.8 (continued)

Question		Strongly Disagree	Disagree	Agree	Strongly Agree
Q. 6	<i>The school facility is clean, attractive and inviting</i>	5.3%	13.7%	32.1%	48.9%
Q. 7	<i>The proximity of grade level and department personnel allows for ease in collaborating with colleagues</i>	3.8%	12.2%	48.1%	35.9%
Q. 8	<i>Communication systems promote a flow of information among staff members</i>	2.3%	9.9%	58%	29.8%
Q. 9	<i>Communication systems promote a flow of information across the entire school community including: central office personnel, parents, and community members</i>	1.5%	20.6%	55.7%	22.1%
Q. 10	<i>Data are organized and made available to provide easy access to staff members</i>	0%	4.6%	66.4%	29%

### Correlational Analysis

Table 4.9 indicates that none of the four PLC variables is significantly correlated with average reading scale scores. On the contrary, percent free and reduced lunch showed a high negative correlation ( $r = -.835$ ) with reading test scores. Correlations between the PLC variables ranged from .644 to .784.

Table 4.9 Intercorrelation Matrix

	Shared and Supportive Leadership	Shared Values and Vision	Relational Conditions	Structural Conditions	% F/R Lunch	Avg. of Reading Scale Score
Shared and Supportive Leadership	1 N 132	.784 .000 131	.644 .000 129	.674 .000 130	.298 .005 88	-.099 .361 88
Shared Values and Vision		1 132	.711 .000 129	.666 .000 130	.147 .172 88	-.030 .782 88
Relational Conditions			1 130	.578 .000 130	.075 .485 88	.042 .700 88
Structural Conditions				1 131	.056 .605 88	.014 .893 88
% F/R Lunch					1 89	-.835 .000 89
Avg. of Reading Scale Score						1 89

### Multiple Regression Analysis

Following the bivariate correlation, a standard multiple regression analysis was performed with the dependent variable as the Average Reading Scale Score and the characteristics of effective PLCs (Shared and Supportive Leadership, Shared Values and Vision, Relational Conditions, and Structural Conditions), and student socio-economic status (SES) as predictor variables. Regression analysis revealed a significant model with R Square at .698 and the Adjusted R Square at .674 (see Table 4.10). The regression was significant with  $F=29.636$ ,  $df=6$ , and  $Sig.=.000$  (see Table 4.11). In other words, the variables predict student achievement in Average Reading Scale Score better than chance alone. Thus, the five predictors account for 67.4% of

the variance in reading scores. Free and reduced lunch was the most significant predictor ( $\beta = -.864$ ). As the Free and reduced lunch rate increased, test scores significantly declined. The only significant indicator of PLCs was Shared and Supportive Leadership ( $\beta = .256$ ), which was one third as powerful as Free and Reduced lunch. As teachers rated Shared and Supportive Leadership high, test scores increased. The other three PLC variables were insignificant predictors of test scores (see Table 4.12).

Table 4.10 R Square and Adjusted R Square ANOVA

*Model Summary*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.835 <sup>a</sup>	.698	.674	3.21609

a. Predictors: (Constant), Supportive Conditions-Relationships, % F/R Lunch, Supportive Conditions-Structures, Shared and Supportive Leadership, Shared Values and Vision

Table 4.11 Regression on Average of Reading Scale Score ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1839.215	6	306.536	29.636	.000 <sup>b</sup>
	Residual	796.429	77	10.343		
	Total	2635.644	83			

a. Dependent Variable: Average of Reading Scale Score

b. Predictors: (Constant), Supportive Conditions-Relationships, % F/R Lunch, Supportive Conditions-Structures, Shared and Supportive Leadership, Shared Values and Vision

Table 4.12 Coefficients on Average of Reading Scale Score

Model	Standardized Coefficients		
	t	Sig.	Beta
1 (Constant)	71.393	.000	
Shared and Supportive Leadership	2.205	.030	.256
Shared Values and Vision	-.863	.391	-.104
Relational Conditions	.365	.716	.032
Structural Conditions	-.655	.514	-.059
% F/R Lunch	-13.096	.000	-.864

The following chapter discusses the results of this study. A summary of findings, implications of the study, and recommendations for future research are highlighted.

## CHAPTER 5

### CONCLUSIONS AND DISCUSSION

#### **Purpose Statement**

The purpose of this study is to determine if there is a relationship between teacher perceptions of Professional Learning Communities and student achievement on state accountability results. Using a study of teacher perceptions of professional learning, student data specific to teacher, and data specific to individual schools, the researcher sought to determine whether or not individual teachers' students are prone to higher achievement based on teachers' perceptions of the working conditions of their PLCs.

#### **Research Question**

This study assesses the following question: What is the relationship between teacher's perceptions of Professional Learning Communities within middle schools and student achievement on state accountability results? School leaders largely determine the conditions of the PLCs studied.

#### **Description of Research Design**

Data used in this study for analyses included five Madison County middle schools – B. Michael Caudill (BMCMS), Clark-Moores (CMMS), Farristown (FTMS), Foley (FOMS), and Madison Middle (MMS). As the focus of this study is student achievement based on state accountability results in reading, the represented teachers analyzed are English Language Arts (ELA) and Social Studies (SS) teachers. The state accountability results in reading were from middle school students in grades

6-8 who were assessed in reading using Kentucky's Unbridled Learning assessment and accountability system during the 2016-2017 testing cycle.

Descriptive statistics, bivariate correlations, and multiple regression analysis were used to evaluate relationships between teachers' ratings of PLCs and student achievement. The multiple regression analysis used the predictors of Supportive Conditions-Relationships; Supportive Conditions-Structures; Shared, Supportive Leadership; Shared Values and Vision; and % Free/Reduced lunch.

Along with bivariate correlations, a multiple regression analysis was performed with the dependent variable as the Average Reading Scale Score and the percent Free/Reduced lunch, along with the characteristics of effective PLCs (Shared and Supportive Leadership, Shared Values and Vision, Relational Conditions, and Structural Conditions) as predictor variables. Through the bivariate correlational analyses, the results showed there were no significant correlations between the PLC indicators and Average of Reading Scale Scores; however, when a multivariate regression analysis was run, the analysis revealed Shared and Supportive Leadership was the only PLC indicator predictive of Average Reading Scale scores ( $\beta = .256$  and Sig. = .030). Percent Free and Reduced Lunch was also predictive ( $\beta = -.864$  and Sig. = .000).

### **Summary of Findings and Implications**

This research sought to determine if there was a relationship between teacher perceptions of PLCs and success of students based on achievement. Four foundational characteristics of the six characteristics of effective PLCs of Hord's (1997) seminal work were analyzed due to their PLC structural implications. For the

purposes of this study, teachers' perceptions of professional learning and the school's implementation level of PLCs included the following characteristics of effective PLCs – Shared and Supportive Leadership, Shared Values and Vision, Relational Conditions, and Structural Conditions. The achievement on state accountability results was the students' Average Reading Scale score.

### **Descriptive Research**

In looking at the descriptive data from this research, it shows the majority of teachers in the five Madison County Schools responded at or above 80% “agree” or “strongly agree” to all but three of the 35 statements on the PLCA-R survey that specifically asked about the characteristics of effective PLCs (Shared and Supportive Leadership, Shared Values and Vision, Relational Conditions, and Structural Conditions). In considering teachers responding at least at 80% or greater “agree” or “strongly agree” to responses to the questions, there is a strong perception of agreement among the teachers surveyed of the characteristics of effective PLCs in the teachers' schools. Even taking into consideration the three statements on the PLCA-R survey which were not at or above 80% agreement, nearly 78% of the responders fell into the “agree” or “strongly agree” category. Chronbach's Alpha looked at internal consistency on all questions and the results are between .833 and .915, indicating high reliability on internal consistency for the characteristics of effective PLCs. The data analyzed through multiple regression showed Shared and Supportive Leadership as the one characteristic of effective PLCs to be a significant predictor of student achievement.

In consideration of the descriptive research, there were several themes that presented patterns specific to leadership within the data. Overall, according to the data, leaders, in particular the principal, were rated highly by teachers. As Table 4.1 shows, “The principal is proactive and addresses areas where support is needed” had a mean at 3.44 and a standard deviation at .632. In addition, “The principal shares responsibility and rewards for innovative actions” had a mean at 3.29 and a standard deviation at .625. Even with these highly rated leadership (principal) responses, there were some patterns that presented themselves in the lowest responses to leadership, or principal items. The leadership themes presented in the lowest responses to the survey data are:

- Teachers feel less empowered
- PLCs at each school may not be viewed as complete
- The concept of the complexity of changing cultures within a school

While all three themes are individual in nature, there is some overlap in considering each. For example, in the first theme “Teachers feel less empowered.” Table 4.1 shows the lowest means are associated with “Opportunities are provided for staff members to initiate change” (3.07, .720), “The principal participates democratically with sharing power and authority” (3.06, .786), and “Staff members are consistently involved in discussing and making decisions about most school issues” (3.01, .764). As PLCs are put in place, leadership should be distributed throughout the school with teachers and the entire community being empowered to make decisions best for the students/school, it also crosses into the concept of changing a school culture. Historically, principals have been the main decision maker within schools. As teachers feel less empowered effective characteristics of PLCs



call for a shift in culture, specifically democratically sharing opportunities to initiate change, make decisions, and share power and authority.

The second theme “PLCs at each school may not be viewed as complete” presents a shift in thinking and culture as well. A key concept from the acronym PLC is the “community” part of the Professional Learning Community. As the Professional Learning Community is empowered to make decisions, the community must include the total community – teachers, parents, custodian, students, and other stakeholders. As PLCs have developed, teachers have been instrumental to the development of change to the characteristic of Shared Values and Vision; however, other stakeholders, such as parents, custodians, etc. have to be included to meet the “community” aspect of PLCs. The theme as shown in Table 4.3 shows “A collaborative process exists for developing a shared vision among staff” as the lowest response at 3.06 mean and .705 standard deviation. In addition, Table 4.5 shows “School staff and stakeholders exhibit a sustained and united effort to embed change into the culture of the school” as the lowest mean on the Relational characteristic at 3.08 mean and .672 standard deviation. This theme is further evident, according to Table 4.7, in the Structural characteristic as “Communication systems promote a flow of information across the entire school community including: central office personnel, parents, and community members” has the lowest overall response at 2.98 mean with .701 standard deviation.

Each of these items is a by-product of “The concept of the complexity of changing cultures within a school” theme. Speck (1996) discusses this complexity in noting that change in schools is required by many facets, including acceptance,

adaptation, and institutionalization of the individual, the school, and the community. Speck quotes Sarason (1990) in stating that principals seeking effective change must consider three ideas:

- Outsiders (parents, business, and community members) and insiders (principals, teachers, staff, and central office) must be involved in the Change Efforts
- Power relationships must shift from principals and central office (insiders) to include all stakeholders, including parents and community members (outsiders)
- Working and learning conditions must change to be more reflective of the PLC process

Specific to this study, the responses that rated principals highly on the data in regards to leadership may be perceived by teachers as timely rather than a shift in a change of culture in the patterns presented on the lowest aspects of the data.

## **Findings**

The research partially confirmed the researcher's hypothesis that teachers that have a higher perception of PLCs will have higher student achievement on state accountability results; however, it is important to note the major finding of this research indicated the only significant PLC variable leading to positive student achievement was Shared and Supportive Leadership. While Shared and Supportive Leadership as a predictor of student achievement is not a surprise, the data do show a lack of connection to the other three variables considered (Shared Values and Vision, Relational Conditions, and Structural Conditions). These variables show correlation one to the other; however, they do not show correlation to student achievement at the univariate or multivariate level.

Worth noting is the limited statistical power of the small sample size (N=89) as to why the variables were not predictors of student achievement. This sample size

was distributed throughout the five schools surveyed. It may be that the power to find relationships between PLC conditions and achievement was simply too small. With a sample size of 89 teachers amongst five schools, future exploration should be pursued with a greater sample size.

Another finding is in the definition of “leadership” used in the PLC-R survey. In the questions from the Shared and Supportive Leadership aspect of the PLC-R survey, “principal” was explicitly the term most often used to describe the leader, and the term “principal” was unique to this section of the PLC-R. As such, the principal could only be associated with the variable Shared and Supportive Leadership. However, in the other three variables (Relational Conditions, Structural Conditions, and Shared Values and Vision), leadership is more generally defined by generalized statements or within “staff,” “staff members,” and “stakeholders.”

For example, questions/statements from PLC-R survey section Shared and Supportive Leadership ask for a response to items that are specific to the principal such as:

- The “principal” incorporates advice from staff members to make decisions
- The “principal” is proactive and addresses areas where support is needed
- The “principal” shares responsibility and rewards for innovative actions
- The “principal” participates democratically with staff sharing power and authority

However, when looking at questions/statements from Shared Values and Vision, Relational Conditions, and Structural Conditions, there is no reference to the principal specifically. Therefore, these characteristics are not about the “principal”, rather “staff,” “staff members,” and “stakeholders.” For example, some representative

questions/statements from the sections of the survey dealing with the other three variables ask for a response to items such as:

- “Staff members” share visions for school improvement that have an undeviating focus on student learning
- “Stakeholders” are actively involved in creating high expectations that serve to increase student achievement
- School “staff” and “stakeholders” exhibit a sustained and unified effort to embed change into the culture of the school
- The school schedule promotes collective learning and shared practice

### **Implications**

#### **Shared and Supportive Leadership**

The fact that only Shared and Supportive Leadership was correlated with achievement suggests the centrality of the principal to PLCs. This finding is consistent with the work of Hallinger and Heck (2011) who first demonstrated the indirect effect of principals on student achievement. It also highlights the importance of a distributed model of leadership rather than a top down one.

While results from this study show Shared and Supportive Leadership characteristic as the only significant PLC predictor of student achievement based on the constant variables of PLCs, this was not a surprise and the implications are that leadership, in particular the principal, positively impacts student achievement. If the researcher were to have chosen one characteristic to positively correlate, it would have been the leadership characteristic. As the review of literature in chapter 2 reported, Leithwood, et al. (2007), Hallinger and Heck (2011), Schlechty (2005), and

Murphy, Elliott, Goldring, and Porter (2007) all support the influence of the leader (principal) as positive to student outcomes.

Hord (1997), who is the basis of much of this study in terms of the whole aspect of the effective characteristics of PLCs, sums up the principal's role in *Leadership Effectiveness in Affecting Achievement* by stating:

“The reader may have noticed the rather prominent role of the principal in the suggestions noted...for initiating and developing professional learning communities. This may seem at odds with the concept of community, which strongly urges the involvement and active participation of the staff. As noted earlier, the principal's role is a significant factor in any change effort... Thus strong actions by the principal on behalf of community development are necessary...” (p. 53).

These aspects of the principal's role of impacting student achievement are consistent with other research such as Robinson *et al.*'s (2008) meta-analysis of leadership's impact on learning as quoted in Hallinger (2011). This meta-analysis suggests principals who are able to maintain focus in: establishing goals and expectations, strategic resourcing, planning, coordinating and evaluating teaching and the curriculum, promoting and taking part in teacher learning, and ensuring an orderly and supportive environment produce a significant effect size on student achievement based on the principal's support for and participation in the professional learning (PLCs) of staff. The average effect size on those attributes is .452

These effects are similar to other research specifically, Hallinger and Heck's (2011) work, which shows leadership indeed has a measurable effect and can be measured to explain 2.5% of variance on student achievement. This measurable

effect argues for leaders to be the key aspect of achievement even though the effect is realized indirectly in that the leader/principal typically does not teach students. The means (effects) by which leaders directly impact learning are through the context (structures, processes, and culture) and the result is an outcome of higher student achievement.

### **Non-significant Indicators of PLCs**

The implications of the non-significant variables studied, specifically Shared Values and Vision, Relational Conditions, and Structural Conditions, are also worth noting and somewhat surprising. While the results of this study did not show a correlation to student achievement, many studies have shown positive student achievement correlations. For example, Stoll, L., Bolam, R., McMahon, A., Wallace, M., & Thomas, S. (2006) link PLCs and enhanced student outcomes noting the “learning-enriched” workplace through the positive characteristics of effective PLCs as experienced through “authentic pedagogy.” The authors note the outcomes are a result of the relational, structural, and shared values aspect of the positive communities; however, Stoll, L., Bolam, R., McMahon, A., Wallace, M., & Thomas, S. quote Wiley (2001) by stating the student gains were in schools where teachers “experienced above average transformational leadership” (p. 230). In addition, Stoll, L., Bolam, R., McMahon, A., Wallace, M., & Thomas, S. note, “A key purpose of PLCs is to enhance teacher effectiveness as professional, for students ultimate benefit.”

It is again worth noting the small sample size (N=89) as a potential explanation for why the three other indicators were not predictors of student

achievement. It also may be the wording of the survey items. What is clear is the teachers in this sample reported very favorable ratings of PLCs and this small variance may have attributed to all four bivariate correlations between PLC conditions and achievement being non-significant. At a multivariate level, Free and Reduced Lunch absorbed a large percentage of the variance in Reading scores, leaving little to be explained by the PLC indicators.

### **Recommendations for Future Research**

Considering the review of literature and study findings, there are several recommendations for future research on PLC's relationship with achievement. Future research into district level considerations of exploration of the effective characteristics and implementation of PLCs in individual district schools along with all district schools, may contribute to the body of work. Although study findings are local in this study and may not generalize well to a larger sample, conducting a similar study in multiple districts' schools using the PLCA-R (Olivier et al., 2010) will expand the size of the sample population to strengthen findings from any future research.

While this study focused on teacher perceptions, future research may also include administrator perceptions of effective characteristics of PLCs. Administrators could include school level (principal, assistant principal, etc.) and district level (superintendent, chief academic officers, instructional supervisors, professional development directors, etc.). This future research could focus on supporting the structures and include examination of professional development in professional learning. This future research could also do a longitudinal study and qualitative study

on the implementation and impact of PLCs, specifically those that use the effective characteristics of PLCs as listed in this study.

Further future research could focus on school level student achievement with a focus on principal perceptions of effective characteristics of PLCs in comparison/contrast with teacher perceptions of effective characteristics of PLCs. This future research could focus on any disconnect between each group's perceptions which may influence the success of the PLCs and student achievement. Such a study could lead to professional development at the school level and implementation of effective processes, strategies, and practices.

Lastly, further future research could focus on implementation of PLCs at various scholastic levels. While this study focused on five middle schools in Madison County, KY, future research could focus on any level – elementary, middle, and/or high school. Such studies could be broken down to content specific PLCs in grade levels (3rd grade, 4th grade, etc.) at the elementary level, teams at the middle school level, and/or content specific (mathematics, science, language arts) at the middle or high school levels.

### **Concluding Remarks**

As stated in the significance of the study, accurately understanding the impact of the implementation level of PLCs and how they directly impact student achievement is of the utmost importance due to such implications as foundational teaching and learning opportunities for students and adults so each can reach their maximum potential, district and state financial considerations in implementing professional learning, and a whole host of other consequences associated with student



achievement. As such, the research partially confirmed the researcher's theory that effective PLCs impact student achievement, specifically when the principal is leading the change to effective PLCs through Shared and Supportive Leadership. District leadership should support leaders, in particular principals, as each seeks to implement PLCs to fidelity based on Tobia and Hord's (2012) six characteristics of effective PLCs.

Leaders, in particular principals, should pay particular attention to Shared and Supportive Leadership as foundational in setting up PLCs so teachers and PLC members can have appropriate training and ownership of the process in order to best meet the needs of the teachers' students as they work to implement the other effective characteristics to the benefit of the student and the community. Hord (2004) argues that a major variable in Shared and Supportive Leadership is based on how willing a principal is to foster shared leadership through decentralizing his or her authority. Fullan (2003) describes such leadership as "using capacity to build capacity" (p. vx). Ameyaw (2015) argues, "These characteristics or dimensions are interdependent. For example, a leader who involves the school staff in making decisions characterizes supportive and shared leadership. In essence, the principal distributes leadership among school staff. Such a leader is likely to provide the time and structure teachers need to learn collectively and share personal practices" (pp. 14-15).

PLCs should be implemented in the interest of helping students achieve at higher levels, thus meeting our fundamental purpose of ensuring that all students learn at high levels (DuFour, DuFour, & Eaker, 2008). By not putting effective PLCs

in place, specifically through a Shared and Supportive Leadership, would appear that maximizing that opportunity would be missed.

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## APPENDICES

APPENDIX A:  
SURVEY INSTRUMENT

## PROFESSIONAL LEARNING COMMUNITIES ASSESSMENT – REVISED

### Directions:

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

### Key Terms:

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

### Scale:

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

STATEMENTS		SCALE			
		SD	D	A	SA
	<b>Shared and Supportive Leadership</b>				
1.	Staff members are consistently involved in discussing and making decisions about most school issues.	0	0	0	0
2.	The principal incorporates advice from staff members to make decisions.	0	0	0	0
3.	Staff members have accessibility to key information.	0	0	0	0
4.	The principal is proactive and addresses areas where support is needed.	0	0	0	0
5.	Opportunities are provided for staff members to initiate change.	0	0	0	0

6.	The principal shares responsibility and rewards for innovative actions.	0	0	0	0
7.	The principal participates democratically with staff sharing power and authority.	0	0	0	0
8.	Leadership is promoted and nurtured among staff members.	0	0	0	0
9.	Decision-making takes place through committees and communication across grade and subject areas.	0	0	0	0
10.	Stakeholders assume shared responsibility and accountability for student learning without evidence of imposed power and authority.	0	0	0	0
11.	Staff members use multiple sources of data to make decisions about teaching and learning.	0	0	0	0
COMMENTS:					
	<b>STATEMENTS</b>	<b>SCALE</b>			
	<b>Shared Values and Vision</b>	<b>SD</b>	<b>D</b>	<b>A</b>	<b>SA</b>
12.	A collaborative process exists for developing a shared sense of values among staff.	0	0	0	0
13.	Shared values support norms of behavior that guide decisions about teaching and learning.	0	0	0	0
14.	Staff members share visions for school improvement that have an undeviating focus on student learning.	0	0	0	0
15.	Decisions are made in alignment with the school's values and vision.	0	0	0	0
16.	A collaborative process exists for developing a shared vision among staff.	0	0	0	0
17.	School goals focus on student learning beyond test scores and grades.	0	0	0	0
18.	Policies and programs are aligned to the school's vision.	0	0	0	0



19.	Stakeholders are actively involved in creating high expectations that serve to increase student achievement.	0	0	0	0
20.	Data are used to prioritize actions to reach a shared vision.	0	0	0	0
COMMENTS:					
	<b>Collective Learning and Application</b>	<b>SD</b>	<b>D</b>	<b>A</b>	<b>SA</b>
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
COMMENTS:					
	<b>STATEMENTS</b>	<b>SCALE</b>			
	<b>Shared Personal Practice</b>	<b>SD</b>	<b>D</b>	<b>A</b>	<b>SA</b>

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 practices.	0	0	0	0
35.	Opportunities exist for coaching and mentoring.	0	0	0	0
36.	Individuals and teams have the opportunity to apply learning and share the results of their practices.	0	0	0	0
37.	Staff members regularly share student work to guide overall school improvement.	0	0	0	0
COMMENTS:					
	<b>Supportive Conditions - Relationships</b>	<b>SD</b>	<b>D</b>	<b>A</b>	<b>SA</b>
38.	Caring relationships exist among staff and students that are built on trust and respect.	0	0	0	0
39.	A culture of trust and respect exists for taking risks.	0	0	0	0
40.	Outstanding achievement is recognized and celebrated regularly in our school.	0	0	0	0
41.	School staff and stakeholders exhibit a sustained and unified effort to embed change into the culture of the school.	0	0	0	0
42.	Relationships among staff members support honest and respectful examination of data to enhance teaching and learning.	0	0	0	0
COMMENTS:					
	<b>Supportive Conditions - Structures</b>	<b>SD</b>	<b>D</b>	<b>A</b>	<b>SA</b>
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
	<b>STATEMENTS</b>	<b>SCALE</b>			
		<b>SD</b>	<b>D</b>	<b>A</b>	<b>SA</b>
47.	Resource people provide expertise and support for continuous learning.	0	0	0	0
48.	The school facility is clean, attractive and inviting.	0	0	0	0
49.	The proximity of grade level and department personnel allows for ease in collaborating with colleagues.	0	0	0	0
50.	Communication systems promote a flow of information among staff members.	0	0	0	0
51.	Communication systems promote a flow of information across the entire school community including: central office personnel, parents, and community members.	0	0	0	0
52.	Data are organized and made available to provide easy access to staff members.	0	0	0	0
COMMENTS:					

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APPENDIX B:  
IRB APPROVAL

NOTICE OF IRB EXEMPTION STATUS

**Protocol Number: 000843**

Institutional Review Board IRB00002836, DHHS FWA00003332

Principal Investigator: **Elmer Thomas** Faculty Advisor: **Dr. Charles Hausman**

Project Title: **The Relationship between PLCs and Student  
Achievement**

Exemption Date: **6/1/17**

Approved by: **Dr. Jim Gleason, IRB Member**

This document confirms that the Institutional Review Board (IRB) has granted exempt status for the above referenced research project as outlined in the application submitted for IRB review with an immediate effective date. Exempt status means that your research is exempt from further review for a period of three years from the original notification date if no changes are made to the original protocol. If you plan to continue the project beyond three years, you are required to reapply for exemption.

**Principal Investigator Responsibilities:** It is the responsibility of the principal investigator to ensure that all investigators and staff associated with this study meet the training requirements for conducting research involving human subjects and follow the approved protocol.

**Adverse Events:** Any adverse or unexpected events that occur in conjunction with this study must be reported to the IRB within ten calendar days of the occurrence.

**Changes to Approved Research Protocol:** If changes to the approved research protocol become necessary, a description of those changes must be submitted for IRB review and approval prior to implementation. If the changes result in a change in your project's exempt

status, you will be required to submit an application for expedited or full IRB review.

Changes include, but are not limited to, those involving study personnel, subjects, and procedures.

**Other Provisions of Approval, if applicable:** None

APPENDIX C:  
PERMISSION TO USE PLCA-R



Department of Educational  
Foundations and Leadership  
P.O. Box 43091  
Lafayette, LA 70504-3091

September 30, 2017

Elmer Thomas  
301 Highland Park Drive  
Richmond, KY 40475

Dear Mr. Thomas:

This correspondence is to grant permission for the utilization of the *Professional Learning Community Assessment-Revised (PLCA-R)* for your doctoral dissertation research through Eastern Kentucky University. I am pleased you are interested in using the PLCA-R measure to *examine relationships between teacher perceptions of school leadership within professional learning communities and student achievement, specifically assessing the PLC dimensions*. This study's findings will contribute to the PLC literature within and across school districts.

This permission letter allows use of the PLCA-R through paper/pencil administration, as well as permission for online administration.

While this letter provides permission to use the measure in your study, authorship of the measure will remain as Olivier, Hipp, and Huffman (exact citation on the following page). This permission does not allow renaming the measure or claiming authorship.

Thank you for your interest in our research and measure for assessing professional learning community attributes within schools. Should you require any additional information, please feel free to contact me.

Sincerely,

*Dianne F. Olivier*

Dianne F. Olivier, Ph. D.  
Professor and Coordinator of the Doctoral Program  
Joan D. and Alexander S. Haig/BORSF Professor  
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Reference Citation for Professional Learning Community Assessment-  
Revised measure:

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

## Elmer Thomas

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### EDUCATION

**Ed.D.**, student in Educational Leadership and Policy Studies, Eastern Kentucky University, Richmond, KY, May, 2018.

**Rank 1**, Secondary School Principal, Eastern Kentucky University, Richmond, KY, May 1996. Superintendent Certification, May 2007.

**Master of Arts**, Reading Specialist, Eastern Kentucky University, Richmond, KY, August 1993.

**Bachelor of Arts**, Major: Spanish Education, Minor: Journalism Education, Eastern Kentucky University, Richmond, KY, May 1988.

### TEACHING/LEADERSHIP EXPERIENCE

2013 - Present	Superintendent of Schools, Madison County Schools
2010-2013	High School Principal, Madison Central High School
2004-2010	High School Principal, Boyle County High School
2002-2004	High School Assistant Principal, Campbell County High School
2002-2002	Director, Governor's Scholars Program, Northern Kentucky University
2000-2002	Adjunct Faculty, Department of English; Department of Foreign Languages and Humanities, Eastern Kentucky University
1994-2004	Spanish Teacher, Madison Central High School
1988-1994	Spanish Teacher, Berea Community High School

### PROFESSIONAL SERVICE

Local Superintendent Advisory Council (LSAC), KDE, 2015-2018  
Executive Board, Central Kentucky Educational Coop, 2013-2018  
Board of Directors, Kentucky Association of School Superintendents, 2016-2018  
Principal Redesign Review Committee, EPSB, 2009-2013  
US Senate Panel for the Reauthorization of ESEA, 2011

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