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CULTURE CHANGE: EXAMINING THE IMPACT OF PROFESSIONAL
LEARNING COMMUNITIES AND TRUST ON SCHOOL CULTURE

By
Jessica M. Floyd

A Dissertation Submitted to the
Gardner-Webb University School of Education
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Education

Gardner-Webb University
2021

Approval Page

This dissertation was submitted by Jessica M. Floyd under the direction of the persons listed below. It was submitted to the Gardner-Webb University School of Education and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Gardner-Webb University.

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“Let us run with endurance the race God has set before us.”

~Hebrews 12:1 (NLT)

Abstract

CULTURE CHANGE: EXAMINING THE IMPACT OF PROFESSIONAL LEARNING COMMUNITIES AND TRUST ON SCHOOL CULTURE. Floyd, Jessica M., 2021: Dissertation, Gardner-Webb University.

The purpose of this study was to investigate the impact professional learning community (PLC) implementation and collegial trust have at the organizational level and the effect these elements have on the positive school culture that nurtures academic achievement in select rural Title I elementary schools located in southeastern North Carolina. An explanatory sequential mixed methods approach was used to design the study. The study occurred in two phases. Phase 1 was the collection of quantitative data from the Learning Community Culture Indicator (LCCI) 4.0 survey (Williams et al., 2007) and the Team Trust Inventory (Costa & Anderson, 2011). Phase 2 was the collection of qualitative data from one-on-one interviews that build upon the findings of Phase 1. The Team Trust Inventory developed by Costa and Anderson (2011) was used to measure the levels of trust within the PLC, and the LCCI 4.0 measurement tool developed by Williams et al. (2007) was used to evaluate eight essential elements in the PLC culture. The final measurement used was a qualitative collection of data from interviews. Data were analyzed using descriptive statistics, calculating the mean and frequency of survey results combined with transcribed interviews. The study found the implementation of PLCs and cultivating of trust impact the culture of a school which influences student achievement.

Keywords: school culture, collaborative school culture, professional learning community, collaboration, trust, collegial trust, organizational learning theory, student achievement

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Chapter 1: Introduction

Nature of the Problem

An organization's characteristics are influenced by those around it, those involved in it, and the environment by which it exists; the culture, although unwritten, is observable by those who visit it (Ferlazzo, 2015; Gruenert & Whitaker, 2015). A school's culture can have lasting impacts on the faculty and staff as well as the students they are trying to serve (Gray et al., 2016; Gruenert, 2005). Gruenert and Whitaker (2015) defined school culture as a school's personality and explained that it takes years to evolve, is based on values and beliefs, and determines whether improvement is possible. To have maximum impact on student success, the type of culture schools should strive to have is one of collaboration, where student achievement rests on all teachers' shoulders and a unified vision exists that all parties are striving to achieve (Gruenert, 2005).

A culture of collaboration is one where all teachers are "driven by an intrinsic desire to see all students succeed" (Ferlazzo, 2015, p. 12). Creating a collaborative school culture is no easy task. Within the collaborative school culture, the following characteristics are cultivated: "help, support, trust, openness, collective reflection, and collective efficacy" (Gruenert & Whitaker, 2015, p. 51). Each of these elements are necessary to impact the achievement of students. Bush (2016) supported the idea that the act of purposeful collegial collaboration encourages heightened student achievement. The ability to positively influence the culture of a school is especially important in Title I schools, where disparities exist in the achievement level of students with low socioeconomic status versus students with high socioeconomic status. The differences that lie in teaching students with varying socioeconomic statuses play an influential role

in the need for collective collegial collaboration (Gruenert & Whitaker, 2017).

Student achievement has long been a topic of continued discussion from the federal government to the classroom teacher. Dozens of district and school level mission and vision statements are centered on assisting students in increasing academic achievement (Bottoms & Schmidt-Davis, 2010). The vision of the North Carolina State Board of Education (2000) is to support and empower students in their academic challenges, encourage lifelong learning, and prepare students to seek a future-shaping path following high school graduation. The 2018-2019 North Carolina End of Grade (NCEOG) test results in reading reveal approximately 57% of third and fourth graders are considered as having proficient command of grade-level standards; while in mathematics, approximately 51% of third graders and 57% of fourth graders demonstrate proficient understanding of grade-level material (North Carolina Department of Public Instruction [NCDPI], 2020). The results of student achievement in reading and mathematics in the state of North Carolina underscore the need for implementing an environment of collegial collaboration and learning, professional learning communities (PLCs). Extensive research exists that supports the need for teachers to have a context in which their professional growth and purposeful collegial collaboration can take place (DuFour, 2004; Hall & Hord, 2015). Research indicates implementing PLCs could fill the student achievement gap in the state of North Carolina.

Both sites chosen for this study were Title I elementary schools that have implemented PLCs; however, the academic growth that has taken place between the two sites is not consistent. The state of North Carolina issues a school report card each year that is derived from proficiency and growth achieved each school year as compared to

other schools across the state. Proficiency and growth are measured by NCEOG test scores in reading and math for Grades 3-8. The school performance grade is calculated by combining 80% of the achievement score and 20% of the growth score. When the growth and achievement scores are combined, they create the school performance grade, which gives the school their performance grade.

The proficiency and growth occurring over the past 5 years at the East Elementary (EE) and West Elementary (WE; pseudonyms given to protect school privacy) sites are listed. EE's data include Grades 3-4 because they are a PreK-4 school, and WE's data include Grades 3-6 because they are a PreK-6 school.

Table 1

State Report Card Data

Academic year	School performance grade history		Academic growth history		Achievement score history		PLCs implemented	
	EE	WE	EE	WE	EE	WE	EE	WE
2015	D	D	81.9 Met growth	68.1 Not met	37	41	Yes	Yes
2016	D	C	83.5 Met growth	78.3 Met growth	37	50	Yes	Yes
2017	D	D	77.3 Met growth	61.1 Not met	41	49	Yes	Yes
2018	C	D	85.3 Exceeded growth	57.9 Not met	49.7	45.4	Yes	Yes
2019	C	D	82.3 Met growth	52.1 Not met	53.3	38.2	Yes	Yes

EE has implemented PLCs for the past 5 years and has experienced growth in academic performance of students during these 5 years, moving from a D school to a C

school. WE has also implemented PLCs but overall has remained a D school. WE has not met expected growth since 2016.

PLCs

The creation of a collaborative school culture in a Title I setting is impacted by the ability to successfully implement PLCs. According to Gruenert and Whitaker (2017), a PLC consists of a group of teachers working together, either in the same grade level or subject area, in order to improve student achievement. Educators in the PLC share data and work to improve their teaching strategies for the betterment of the students.

Successful PLCs occur when trust is in place and colleagues are comfortable sharing knowledge that in turn affects all student learning. However, the success of the PLC can greatly be impacted by the school's culture. In fact, PLCs, if used properly, can yield positive student achievement, but only in schools where a collaborative culture or subculture supports "valuable open sharing among teachers" (Gruenert & Whitaker, 2017, p. 108). Hattie (2017) conducted a meta-analysis of 95,000 studies involving 300 million students around the world to find what variables had the greatest effect on accelerating student learning. The average effect size was 0.4, indicating a year's worth of growth. Anything greater than 0.4 had an even greater positive effect on student learning. Table 2 shows the effect size of collective teacher efficacy, school climate, and self-efficacy on the acceleration of student learning.

Table 2*Hattie's (2017) Effect Size on Student Achievement*

Collective teacher efficacy	Impact of effect on student achievement	School climate	Impact of effect on student achievement	Self-efficacy	Impact of effect on student achievement
1.57	1.17	0.32	>0.03	0.92	0.52

Hattie (2017) indicated that collective teacher efficacy had a 1.57 effect rate on student learning, 1.17 points greater than the hinge point of 0.4, indicating a year's worth of growth. Collective teacher efficacy held the highest ranking of effect size on student achievement. School climate was at the lower end of the scale and indicated an impact of below the 0.4 hinge point; self-efficacy fell in the mid-range. The information collected indicates that collective teacher efficacy, along with self-efficacy, falls in the range of areas that had a greater positive impact on student achievement, whereas school climate had a lower effect on student achievement (Hattie, 2017).

Purpose

This study investigated the impact PLC implementation and collegial trust had at the organizational level and the effect these elements had on the positive school culture that nurtures academic achievement in select rural Title I elementary schools located in southeastern North Carolina.

Audience

A study on the impact school culture has on the implementation of collaborative PLCs and collegial trust, which in turn affects student achievement, is important to stakeholders for several reasons. Identifying whether teachers and leaders understand school culture and the implications of school culture on the inner workings of a school

could lead to a better understanding of best practices related to teaching. Understanding school culture and its effectiveness in raising student achievement could lead to determining further professional development needs and expectations required to attain a collaborative school culture. For new hires at schools, it is important to employ the right fit and to ensure that they will be willing to positively contribute to the development of a positive school culture (Collins, 2005). It might also be important for professional development to occur to change a negative current mindset and culture in the direction of positivity for the sake of improved student achievement. Principals, county board members, and teachers interested in the improvement of student achievement and the establishment of effective collaborative PLCs that nurture collegial trust and student achievement are the audience for this research.

Significance of Study

Student achievement has been a major topic of discussion in education for many years. Past U.S. presidents have enacted legislation in efforts to increase student achievement. In addition, much research has been conducted to determine the factors that affect student achievement. One factor proven to impact growth in student achievement is the existence of a collaborative school culture and effective implementation of PLCs. Researchers have begun to explore trust within a PLC and its impact on effective implementation of PLCs (Attiq et al., 2017; Costa & Anderson, 2011; Hallam et al., 2015; Hoy & Tschannen-Moran, 1999). This study contributed to existing research on PLCs, the element of trust in collaborative PLCs, and its impact on the implementation of effective PLCs in rural Title I schools.

Theoretical Framework

Four theoretical frameworks supported the research of PLCs in this study; however, organizational learning theory (Argyris & Schon, 1978) was the overarching foundation. The sociocultural theory, cognitive theory of trust, and social cognitive theories all validate the organizational learning theory (Hill & O'Hara O'Connor, 2006; LaMorte, 2019; Marsh & Ferrell, 2014).

Organizational Learning Theory

Argyris and Schon were credited with laying the foundation for the theory of organizational learning (Lipshitz, 2000). The organizational learning theory is defined as an organization of people who continually work toward a unified mission and are continually learning and growing together to expand their capacity to reach their goals (Argyris & Schon, 1978). Therefore, organizational learning occurs when there is a shared vision and trusting relationships are established. Gruenert and Whitaker (2015) called this type of organization a collaborative school culture where the unified mission and vision set by the organization is the driving force behind decision-making by organization team members. Gray et al. (2016) credited organizational learning for creating a platform for PLCs to thrive and for improving the health of an organization by developing shared vision and goals, creating opportunities for teacher leadership, purposeful and open collegial discussion, and meaningful problem-solving. Argyris and Schon (1978) characterized organizational learning as the ability of the organization to detect and solve problems that arise as well as the process by which the organization conducts problem resolution. The interactions among colleagues within the organization required for problem resolution support a culture of collaboration. Bush (2015)

categorized organizational learning theory into four domains: goals, structure, culture, and context. From goal setting comes collaboration and joint working; from structure comes the system by which an organization makes decisions; from collegial activity, culture emerges; and from context, PLCs are created. The organizational learning theory supports both the idea that culture fosters collegial collaboration and trust and conversely that collegial collaboration and trust fosters culture.

Conceptual Framework

The organizational learning theory (Argyris & Schon, 1978) supports the importance of a collaborative school culture to positively impact PLC implementation and collegial collaboration, which in turn nurtures team trust and impacts student achievement (Bush, 2015; Hallam et al., 2015). Several factors affect PLC implementation in organizations for learning to occur such as leadership, team members, collaboration process, trust among team members, and the effect the cohesiveness of these factors have on student achievement.

Quality leadership greatly influences a school's capacity to succeed (Fullan, 2001; Newman et al., 2000). There are five components in building school capacity: quality leadership, program coherence, effective professional communities, growth of teacher knowledge, and resources. Of the five components needed to build school capacity, without quality leadership, program coherence, effective professional communities, growth of teacher knowledge, and resources go lacking. Leaders in a collaborative school culture cultivate teacher self-efficacy and challenge ineffective teaching practices through collaboration among team members (Gruenert & Whitaker, 2015). Leaders assist in the development of the collaborative culture through applying their knowledge of team

members and strategically encouraging them to access their individual leadership skills. Although leadership is not the sole creator of a collaborative school culture within a learning organization, leadership does greatly influence its development, implementation, and success (Fisher et al., 2012; Fullan, 2001; Gruenert & Whitaker, 2015).

PLCs become effective in learning organizations where a collaborative culture exists (Easton, 2016; Fisher et al., 2012, Fullan, 2001; Gruenert & Whitaker, 2015). When team members within a PLC share a collective responsibility for student achievement, the PLC becomes cohesive with a shared vision and mission to ensure optimal learning (Drago-Severson, 2009; DuFour et al., 2008; Richardson, 2011). Hallam et al. (2015) explained that effective PLCs require the collaborative efforts of leadership and PLC team members; and within these conversational exchanges, varying degrees of trust must exist.

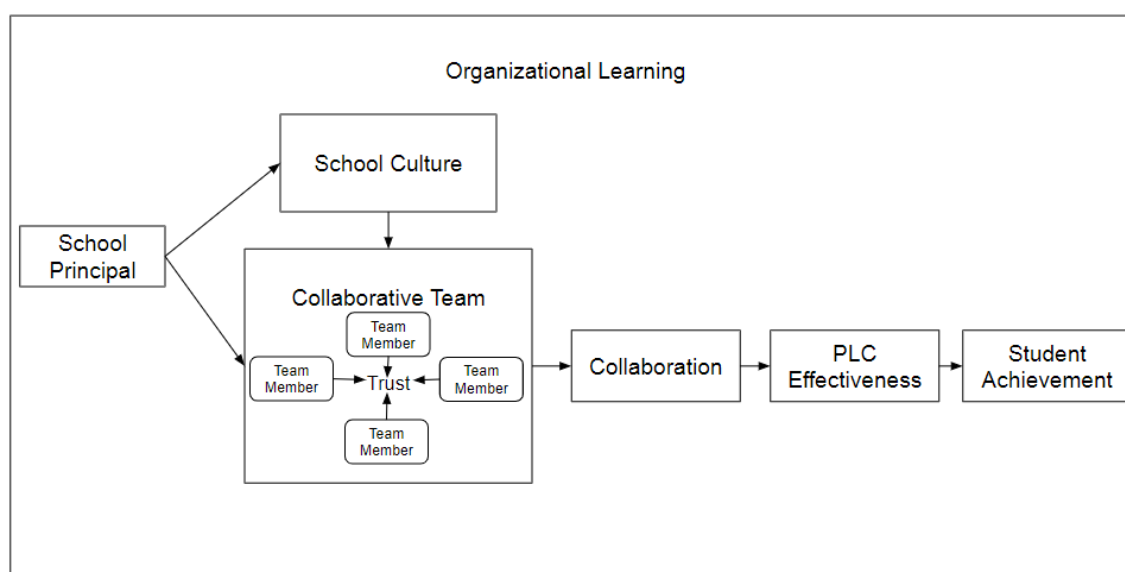
Fostering trust in organizations has a variety of benefits. Hoy et al. (1992) and Gray et al. (2016) found a link between teacher trust in leadership and colleagues and a positive impact on the effectiveness of schools; furthermore, trusting relationships among colleagues has been found to significantly impact student achievement. A school's culture plays a role in fostering or suppressing the existence of trust as well (Tschannen-Moran, 2001). Stakeholders such as school leaders and team members who "understand how PLC team trust develops and affects collaboration are better prepared to recognize and reinforce trust" (Tschannen-Moran, 2001, p. 194). Therefore, efforts made to sustain and cultivate trust within a school's culture "can improve education for all students" (Hallam et al., 2015).

The purpose of this study was to extend research on the development of a

collaborative school culture through the effective implementation of PLCs and to explore team trust within the PLCs and the role of leadership in facilitating trust among teachers within the PLC. Figure 1 is the conceptual framework adapted from the work of Hallam et al. (2015), with the addition of the role of the development of school culture on effective PLC implementation and trusting relationships.

Figure 1

How PLCs Are Influenced



The conceptual framework notes that organizational learning is the theory providing the foundation of the PLC. The school principal influences the organizational learning. Through the cultivating that occurs within organizational learning, a school culture develops, which in turn feeds the level of collaboration that takes place within PLCs. Within PLC teams, collegial trust among team members impacts the level of collaboration. Each of these elements works in tandem: Organizational learning and principal leadership lead to the cultivation of school culture and collaboration, which leads to the level of PLC effectiveness impacting student achievement.

Literature

Since the 1960s, the question “What can we do to help students achieve” has been raised (Paul, 2016). Congress has passed several laws ranging from the Elementary and Secondary Education Act (ESEA) to the No Child Left Behind Act (NCLB) and, in 2015, Every Student Succeeds Act (ESSA) to address the need of student achievement. ESEA was created to eliminate the disparities in education for students of color and low-income families and was developed in the 1960s at the same time as the Civil Rights Act and Voting Act. Its purpose was to provide students from all walks of life with a high-quality education (U.S. Department of Education, 2016). NCLB was passed into law as a continuation of America’s “War on Poverty” and fight to provide all public school students with the highest quality of education regardless of race, ethnicity, gender, or socioeconomic status (Paul, 2016). The goal behind NCLB was to have all students performing at or above grade level by the year 2014. ESSA of 2015 reauthorized the ESEA that had supported equal opportunity in education for all students. ESSA promised to uphold equity for students from disadvantaged or high needs homes. ESSA expected students to meet high academic expectations and stakeholders to be informed of student progress toward meeting these high academic expectations. The ESSA required school districts to support innovation, provide high-quality preschools, and show positive continuous growth through student data. With each act passed, the legislation moved in the direction of emphasized success of student achievement (U.S. Department of Education, 2016).

Further, school culture is intertwined with teacher self-efficacy, leadership, and student motivation, all contributing factors to student academic achievement (Hattie,

2017). Finnan and Swanson (2000) researched the idea that acceleration for all students can occur through the transformation of school and classroom cultures. School stakeholders must agree that change is necessary in order for culture to change; and in fact, they must first examine their behaviors and beliefs in order for cultural change to take place. Additionally, stakeholder perceptions of school culture matter and should not be taken lightly (Finnan & Swanson, 2000).

In addition, teacher self-efficacy is connected to school culture. If teachers are significant stakeholders in the development of school culture, their self-efficacy is a relevant topic in understanding the type of school culture that exists in various schools. Beck (2014) provided insight into how teacher behaviors correlate to teacher effectiveness and determined that teacher self-efficacy is the most influential factor in student outcomes. Conversely, Davis (2010) studied seven Title I schools in a suburban school district and found there to be a greater effect between school leadership and student achievement than school climate and student achievement. The study indicated the perception teachers had of their relationship with the administration impacted the effectiveness of the leadership. Beck concluded that effective leadership guides school culture, which in turn affects student achievement. Renschler's (1992) research focused on motivation and provided ways in which leadership could improve student achievement. The report was divided into three chapters: one on the influence school culture had on student motivation; one on the relationship of student motivation, educational practices, and education restructuring; and one on theories of motivation with recommended strategies for leadership to implement in order to improve student motivation. One of the recommended strategies was for leaders to focus on improving school culture to support

student motivation. Renchler emphasized the correlation between a positive school culture and student motivation that leads to academic achievement.

Not only are teachers held accountable for student achievement, but principals are as well. Principals, however, are considered to have an indirect effect on student achievement through their influence on all aspects of the organization of the school (Hallam et al., 2015; Ross & Gray, 2006). Principals build capacity within the school organization by establishing collective teacher beliefs and program coherence in connection to the goals of the organization (Fullan, 2001; Ross & Gray, 2006). The position of the principal indirectly impacting student achievement is to increase the school's capacity through increasing teacher self-efficacy and knowledge, PLC implementation and effectiveness, instilling program coherence, and utilizing resources (Fullan, 2001; Hallam et al., 2015; Tschannen-Moran, 2001). Each of these elements has been proven to impact student achievement.

Definition of Terms

The following terms were used throughout this study. Each term has been defined by experts in the field and has been cited to show the research used for each definition.

At-Risk Students

Students who are identified as at risk are likely to fail at school because of their proficiency in reading and math. At-risk students have failed to achieve basic skills prior to leaving school. Students who are at risk are typically defined as inattentive (Victoria State Government, 2017) from learning. Students are identified as disengaged when they exhibit an emotional, behavioral, or cognitive detachment from learning.

Economically Disadvantaged

Economically disadvantaged students are students whose annual household income is below average (Orr, 2018). Economically disadvantaged students are identified in order for educators to provide these students with the tools needed to be successful at school. These students qualify for free or reduced lunch due to their family income.

Non-Title I

Non-Title I schools are those with less than 40% of students receiving free or reduced lunch due to family income. These schools do not receive Title I federal or state funding (NCDPI, 2018).

Student Academic Achievement

Academic achievement is determined by the indicators used to measure it. The state determines the indicators used to measure academic achievement. The achievement of long- or short-term goals set for students through state expectations. Mastery of learning tasks developed by state representatives per grade level and assessed both formatively and summatively through district assessments and state developed assessments (Steinmayr et al., 2014).

Title I

Schools with 40% or more students recognized as economically disadvantaged. Title I schools receive federal and state funding to support at-risk students and assist them in meeting state academic standards (NCDPI, 2018).

Trust

For the purpose of this study, the definition of trust was related to the level of trust within work teams in an organization. Due to the complexity of trust, defining trust

is difficult; however, a common element present in many definitions of trust is the ability to become vulnerable to others and to expect positive behaviors from others (Costa, 2003; Hallam et al., 2015; Hoy & Tschannen-Moran, 1999).

Leadership

Leadership throughout this study referred to the principal of the school whose behaviors greatly influence teacher self-efficacy, decision-making processes, school culture, and collaboration (Gruenert & Whitaker, 2015; Hallam et al., 2015; Tschannen-Moran, 2001).

PLCs

PLCs consist of a group of teachers, either in the same grade level or subject area, collaborating together to improve student achievement (Gruenert & Whitaker, 2017). Team members of a PLC share a collective responsibility to increase student achievement and improve organizational culture (DuFour, 2004; Hord, 1997; Little, 1990).

Research Questions

The research questions guiding the study provided the scope and boundary for the purpose of the study and aligned with the identified problem.

1. How can the levels of trust present among PLC team members be described at two rural Title I elementary schools?
2. How can the level of PLC effectiveness be described at two rural Title I elementary schools?
3. How can the perceived role of the principal in facilitating trust among teachers in PLC teams be described at two rural Title I elementary schools?

I used three measurement tools to create a triangulation of data to support the

research. The Team Trust Inventory developed by Costa and Anderson (2011) was used to measure the levels of trust within the PLC, and the Learning Community Culture Indicator (LCCI) 4.0 measurement tool developed by Williams et al. (2007) was used to evaluate eight essential elements in the PLC culture. The final measurement used was a qualitative collection of data from interviews.

Delimitations and Limitations

Delimitations are those decisions aimed to narrow the scope of the study and focus on the specific areas the research aims to address (Creswell, 2012). Only two rural North Carolina elementary schools were included in the research study. Neither middle nor high schools were included in the study, and urban schools were excluded as well. Also included in the delimitations was the fact that only schools with established PLCs were studied, due to the voluntary basis of participation and willingness of schools to provide detailed information of the inner workings of their site. PreK through fourth grades were examined due to the population and structure of the two schools included in the study.

The limitations of the research identify the potential weaknesses of the study (Creswell, 2012). The limitations of the study included the inability to control teacher turnover and years of experience served in their respective PLCs. The relatively small population size of the study was also a limitation of the study, as finding schools willing to participate in the study was difficult. Schools in the area are not quick to divulge information about the inner workings of their school and were apprehensive to participate in studies. Another limitation of the study was my role within the study. I was currently employed at one of the sites included in the study, and I was the one distributing the

surveys to participants as well conducting the interviews. Each delimitation and limitation of the study was noted when reporting findings.

Conclusion

Chapter 2 outlines the research used to support and guide the study, beginning with the federal government's quest to improve student achievement and concluding with the elements that research has shown improve student achievement. Much research has been provided to educators regarding PLC implementation and its benefits to achieving student academic success. The development of a collaborative school culture is essential to the successful implementation of effective PLCs. Within a PLC, varying degrees of trust among colleagues are essential to the development of an effective PLC. The achievement of an effective PLC has been proven to increase student achievement. Each of these elements was aligned to the research questions guiding this study.

Chapter 2: Literature Review

Teachers, administrators, district leaders, and parents are continually seeking ways in which to assist students in achieving their academic and life goals. Student achievement is consistently the goal of public schools (Stronge et al., 2008). The federal government is continually mandating laws and regulations to ensure student achievement and growth (Paul, 2016). Research has noted the importance of trust within collegial collaboration and its benefits toward raising student achievement. The information in this chapter provides a foundation for relevance of this study.

History of Title I

Title I is a program that provides local educational agencies and public schools with funding from the U.S. Department of Education. Schools identified as Title I eligible are provided funding due to the high volume of impoverished students served at the school. Title I was developed to ensure all students are provided equal opportunity to meet rigorous academic achievement. Schools with an enrollment of a minimum of 40% of families identified as economically disadvantaged receive Title I funding. Title I funds are allocated for the intended improvement of students who are at risk for academic failure or are failing state standards (Malburg, 2019).

ESEA (1965)

ESEA began in 1965 under the administration of President Lyndon Johnson. ESEA was created to eliminate the disparities in education for students of color and low-income families. ESEA was developed around the same time as the Civil Rights Act and Voting Act. Its true purpose was to provide students from all walks of life with a high-quality education (U.S. Department of Education, 2016).

NCLB (2001)

NCLB was passed in 2001 under the George W. Bush administration. NCLB was passed into law as a continuation of America's "War on Poverty" and fight to provide all public school students with the highest quality of education regardless of race, ethnicity, gender, or socioeconomic status (Paul, 2016). The goal behind NCLB was to have all students performing at or above grade level by the year 2014.

ESSA (2015)

ESSA was passed under President Barack Obama's administration in 2015. ESSA reauthorized ESEA which supports equal opportunity in education for all students. ESSA promises to uphold equity for students from disadvantaged or high needs homes (Klein, 2016). Under ESSA, students are expected to meet high academic expectations, and stakeholders are to be informed of student progress toward meeting these high academic expectations. ESSA supports innovation, provides high-quality preschools, and holds schools accountable to show positive continuous growth through student data (Klein, 2016).

School Culture

School culture, as defined by Gruenert and Whitaker (2015), is a school's "personality" that is "built around values that are manifested through behaviors" (p. 62). Researchers have defined school culture as how the organization operates and the relationships among those functioning within the organization (Fullan & Hargreaves, 1992; Hattie, 2017). Hall and Hord (2015) explained an organization's culture is developed through its established norms, values, and beliefs and could be identified through observation.

School Climate

Gruenert and Whitaker (2015) defined climate as a school's frame of mind which is dictated by its culture. The immediate feeling a person receives when present on a school campus on a daily basis is the climate of the organization (Eller & Eller, 2009). Climate creates the culture of a school and is impacted by the moment-to-moment interactions of those involved with the organization. By identifying the climate of an organization, efforts can be made to improve or strengthen the culture (Fisher et al., 2012).

School Culture Versus School Climate

According to Gruenert and Whitaker (2015), culture defines normalcy and morality for its members. School cultures are often the unwritten rules of the school. The culture of a school cannot be seen on a moment-to-moment basis as with climate; instead, it is the unseen foundation that dictates the why of school choices (Eller & Eller, 2009). Within all school cultures, there are subcultures comprised of members with different strengths and weaknesses (Gruenert & Whitaker, 2015). Gruenert and Whitaker (2015) compared school culture and school climate best when stating, "culture influences values and beliefs; climate constitutes those values and beliefs in action" (p. 22). The culture of an organization gives the organization its identity and dictates how the organization resolves problems and operates (Hoy & Hoy, 2009; Schein, 2004).

Types of School Culture

Much research exists on the topic of school culture. School culture is characterized by the beliefs, values, and expectations that exist within the organization (Fullan & Hargreaves, 1992; Gruenert & Whitaker, 2015). Eller and Eller (2009) studied

types of school culture and used terms such as highly collaborative versus low collaboration and trusting versus low trust. Gruenert and Whitaker (2015) coined six types of cultures that exist in the organizational setting.

Toxic

Toxic school cultures are those that focus on the negative aspects of their organization, the students, and the teaching profession (Gruenert & Whitaker, 2015). Teachers often have low expectations of students and colleagues (Gruenert & Whitaker, 2015). The toxic culture can be characterized as being nonsupportive and blaming (Eller & Eller, 2009). Staff members in a toxic organization can easily hide their beliefs and can appear to outsiders to be a part of a healthy environment; but behind closed doors, they behave in an entirely different way (Gruenert & Whitaker, 2015).

Fragmented

Fragmented school cultures contain teachers who function independently from their colleagues (Gruenert & Whitaker, 2015). Within the fragmented culture, teachers have a “take care of yourself” (Eller & Eller, 2009, p. 25) attitude and lack accountability. Teachers are often friendly to one another; however, the aspect of collaboration is absent from a fragmented school culture (Gruenert & Whitaker, 2015).

Balkanized

Balkanized school cultures are much like fragmented cultures; however, collaboration does take place, but only within cliques of like-minded teachers (Gruenert & Whitaker, 2015). Conflicts that exist in a balkanized culture are typically won by the dominating subculture, regardless of leadership stance on the topic (Gruenert & Whitaker, 2015). The balkanized culture has unclear accountability and not all members

feel their opinions are valued or appreciated (Eller & Eller, 2009).

A common theme that exists among the toxic, fragmented, and balkanized cultures is the lack of trust, low level of collaboration, lack of feeling valued, and lack of support (Eller & Eller, 2009).

Contrived-Collegial

The contrived-collegial school culture is dominated by the school leadership. Leadership determines what collaboration should look like and who should be collaborating and enforces change in this way (Gruenert & Whitaker, 2015). There is a hierarchy of control that limits collaboration (Eller & Eller, 2009). This type of culture could discourage collegiality and a low energy culture (Eller & Eller, 2009). Oftentimes, the contrived-collegial culture is a necessary stepping stone to achieving the collaborative school culture (Gruenert & Whitaker, 2015). This is true because any shift in culture takes time and a shift in the mindset of the people. The people being asked to shift their mindset need time to process the change to becoming more collaborative and “attain a sense of ownership over it” (Gruenert & Whitaker, 2015, p. 55).

Comfortable-Collaborative

The comfortable-collaborative school culture is one where colleagues get along, they often know what is taking place in each other’s classroom, and they even share best practices with one another (Gruenert & Whitaker, 2015). However, the comfortable-collaborative culture lacks the ability to drill down to student needs and challenge them. The comfortable-collaborative culture may have a positive, inviting environment that allows colleagues to feel valued but never presses beyond collegial support into student success (Eller & Eller, 2009). True collaboration does not take place in this type of

culture; colleagues do not challenge one another's professional growth or the maximum achievement of all students.

Collaborative School Culture

The collaborative school culture is the ideal culture to have exist in an organization. In a collaborative school culture, there is a shared vision and mission within the organization that drives every action taken by its members (Gruenert & Whitaker, 2015). Within the collaborative school culture, a framework of help, support, trust, openness, collective reflection, and collective efficacy exists. Stakeholders feel as though their opinions are valued, and high levels of trust and support are present in the culture of collaboration (Eller & Eller, 2009). Colleagues support one another and most are operating on the same page with the same vision and goal in mind. The collaboration that takes place within a collaborative school culture is one that ensures student learning takes place (DuFour, 2004, p. 131). Collaborative cultures establish norms and encourage the participation of all parties in the decision-making process.

Sharing power and authority, contribute to a culture in which the staff grows in professionalism and efficacy. This efficacy instills a confidence that each faculty member is influential in the learning process of his or her students, persuading faculty that each student can learn with the appropriate material and strategies. (Hall & Hord, 2015, p. 165)

Gruenert (2005) stated the existence of a collaborative school culture is the best setting for learning for both students and educators.

PLCs

Much research has been done to define what a PLC is and how to implement one

successfully. Pounder (1998) defined a PLC as a team of educators designed to build one another's capacity to increase performance, create work interdependence, and form opportunities for self-management. The teams Pounder referred to are characterized by six areas: social interactions, autonomy, skill variety, feedback from others, feedback from the work itself, and the importance of the task the team is working on. Little (1990) stated that PLCs are "joint work" (p. 519) where teachers share a collective responsibility and commitment to improve the organization's culture with constructive feedback. In order for effective collaboration to take place, a culture where educators feel comfortable addressing critical issues and asking intrusive questions must exist. Hord (1997) defined PLCs as a collegial group of educators who are unified in the commitment to increase student learning. Fullan and Hargreaves (1996) emphasized that for PLCs to be effective, educators need help, support, trust, professional respect, and openness to be at the heart of the PLC. As teachers begin to open up to colleagues, they shift their focus from a private individual autonomy to a more public collective autonomy. Their personal teaching agendas become collectively shared values and goals. Focused engagement with colleagues where mutual respect exists has the potential to challenge teaching practices and develop shared beliefs and values that transform teaching practices (Tschannen-Moran, 2001).

DuFour (2004), a leader at the forefront of the PLC movement, identified three big ideas that define and mold a PLC, "ensuring that students learn, a culture of collaboration, and a focus on results" (p. 6). Additionally, DuFour stated that schools must shift their focus from teaching to learning and, in doing so, ask three essential questions: What do we want each student to learn, how will we know when each student

has learned it, and how will we respond when a student experiences difficulty in learning? When a school makes this shift, their mission becomes one of ensuring student learning rather than ensuring educators have taught students. DuFour's second big idea for a PLC was promoting a collaborative culture where educators recognize the need to work together to "achieve their collective purpose of learning for all" (p. 3). Finally, DuFour recommended that PLCs focus on the results of their PLC's decisions. Following each of these big ideas and continually revisiting each leads to an effective PLC. The sociocultural theory founded by Vygotsky and Cole (1978) supported the functionality of effective PLCs. Vygotsky believed that individuals learn through structured social interactions and their own mental processing (Scott & Palinscar, 2013). Effective PLCs hold these same characteristics by requiring organized and purposeful interactions with colleagues that challenge one another to meet the goals of the PLC team.

Sociocultural Theory

Marsh and Farrell (2014) defined the sociocultural phenomenon as the act of individuals making sense of information and constructing new knowledge based on prior knowledge, beliefs, attitudes, and experiences and through activity and social interactions in everyday contexts. Cherry (2019) referred to sociocultural theory as a social process that allows participants to learn and deepen their cognition through their interactions with others. Cherry stated that Vygotsky, the founder of sociocultural theory, believed knowledge is learned through two levels: first through social interactions, then through cognitive development. Sociocultural theory has its basis in the understanding that people learn from their interactions with one another, then take the information learned and add it to their own knowledge, assisting them in building their own cognition. Herrenkohl

(2008) used the sociocultural theory to support the idea that interactions among colleagues in social and organizational settings encourage “professional development, leadership development and opportunities, organizational learning, and ultimately student learning” (p. 673). The sociocultural theory supports the idea that the professional social interaction that occurs during PLCs develops and deepens the knowledge of fellow teachers. The sociocultural theory intertwines with the organizational learning theory and is built upon the notion that collegial collaboration fosters knowledge and growth of knowledge among its members.

Effective PLCs

Effective PLCs are characterized by those that yield results in a variety of ways and are held accountable (DuFour, 2004). Effective PLCs flourish in organizations where a focused collaborative culture exists (Easton, 2016; Fisher et al., 2012; Fullan, 2001; Gruenert & Whitaker, 2015). Easton (2016) defined the difference between effective and ineffective PLCs as their ability to embrace strategic accountability. This strategy holds all members of a PLC accountable to their own professional growth, the goals of the PLC, the school goals, and the district goals, as they align to the collective vision and mission of the organization. The purpose and importance of strategic accountability within effective PLCs is the impact it has on student achievement. Easton stated, “students win when classroom and school culture and teaching and learning processes lead to improved achievement and well-being” (p. 43). Strategic accountability occurs in two ways, informal accountability and formal accountability. Informal accountability is personal efficacy and is affected by an individual’s personal “integrity, honor, and values” (Easton, 2016, p. 45). Formal accountability is driven by concrete outcomes, such

as setting goals and achieving them in a way that “enhanced student learning and well-being” are met (Easton, 2016, p. 46).

DuFour, the leader of the PLC movement, and colleagues stand on the platform that effective PLCs are those that strive to obtain a culture shift where teachers share a collective responsibility for student outcomes (Richardson, 2011). PLCs become effective when teachers realize that working with one another yields greater achievement than working alone.

Many researchers have noted that effective PLCs have similar common practices such as established norms and values, shared vision and goals, and problem-solving engagement among PLC team members; operate best in a functioning collaborative culture; and use student data to drive decision-making (Drago-Severson, 2009; DuFour et al., 2008; Easton, 2016; Fisher et al., 2012). Naturally, if effective PLCs exist, it is also safe to assume that ineffective PLCs exist as well.

Ineffective PLCs

Effective PLCs are part of collaborative school cultures that have a focused, collective mission, vision, and goals. The ineffective PLC may have collaboration, but it may be focused on the wrong things (Fullan, 2001). Ineffective PLCs lack focus and accountability and can often be described as “gripe and gossip sessions” (Easton, 2016, p. 43) and time and money wasters. Provini (2013) stated that ineffective PLCs do not allow sufficient time for teachers to meet, provide insufficient student data in a timely manner, lack teacher buy-in and ownership, and have a competitive culture rather than a collaborative culture. The ineffective PLC lacks a unified vision, mission, and goals that all team members are striving to meet. Ineffective PLCs often do not have established

norms and leadership roles that keep teams concentrated on continual student and educator achievement.

Self-Efficacy

Self-efficacy was coined first by Bandura in the 1970s. Bandura (1977) defined self-efficacy as an individual's belief or confidence in their own ability to be successful at attaining goals or tasks. Bandura (1977) coined social cognitive theory as well.

Social Cognitive Theory

Social cognitive theory, founded by Bandura, began as social learning theory; however, in 1986, it was changed to social cognitive theory (LaMorte, 2019). Social cognitive theory states that learning occurs within a social context and involves the person, environment, and behaviors (LaMorte, 2019). Knowledge is continually received and given through social interactions (Fullan, 2001). Furthermore, social cognitive theory includes the construct of self-efficacy, which focuses on the confidence of a person's belief in their own ability to perform tasks. A teacher with a high level of self-efficacy has the potential to influence high student academic achievement versus the teacher with low self-efficacy, due to their personal belief that they can achieve the task set before them (Bray-Clark & Bates, 2003). Building a teacher's self-efficacy through organizational learning and social interactions has the potential to have a positive impact on student achievement.

Teacher Self-Efficacy

Teacher self-efficacy is present when a teacher has confidence in their own ability to guide their students to success (Bandura, 1997). Self-efficacy is what encourages or discourages a person's desire to try something new (Bray-Clark & Bates, 2003). Hattie's

(2017) meta-analysis determined that teacher efficacy has a 0.92 effect size on student achievement, and collective teacher efficacy has a 1.57 effect size on student achievement. Hattie's research indicates that efficacy has a greater positive impact on student achievement than other elements such as school climate or use of technology in the classroom. Hall and Hord (2015) stated,

Teachers who believed themselves to be supported in their ongoing learning and classroom practice were more committed and effective than those who believed they were not supported. Such support was manifested as teachers worked together sharing their craft and wisdom, learning from each other, and collaborating on problems and issues of concern to them. This support increased teacher efficacy, which meant that they gave more attention to students' needs and adopted new classroom behaviors more readily. (pp.164-165)

From positive, goal-centered, trustworthy, mission- and vision-minded collaboration, a strengthened self-efficacy can emerge.

Student Achievement

Achievement encompasses a greater vision than simply academic achievement and embodies many aspects of the student, such as personal, social, and economic achievement. Achievement alone can be defined as reaching a goal set by an individual. For educators, student achievement comes when students acquire the knowledge, skills, and attitudes that will prepare them to lead successful lives. Educators measure a student's growth in particular areas, not necessarily by fixed grade-based assessments. When students struggle, intervention should be provided to encourage growth in that area. Conversely, students who have a general understanding of skills being taught should

be pushed to achieve mastery and beyond in those areas (Edsal, 2016).

Collaborative School Culture and Student Achievement

Research has shown that the presence of a collaborative school culture leads to greater student achievement. Bland (2012) stated, “Collaboration and shared learning have been identified as vital components in the development of a school’s culture” (p. 12). School culture and student achievement are “complementary, reciprocal, and convergent in nature” (Gruenert, 2005, p. 8) and should be viewed as such by stakeholders rather than viewed as separate entities. From purposeful dialogue among educators centered on student learning, a culture of collaboration emerges (Bland, 2012). Schools that have greater student achievement are associated with having a collaborative school culture (Rennie Center for Education Research & Policy, 2013). Collaborative culture has been identified as the best condition for learning for both students and teachers as well as the best setting for student achievement. In fact, elementary, middle, and high schools with greater collaboration tend to yield higher student achievement results (Gruenert, 2005). A collaborative school culture empowers teachers to have purpose and professional respect of one another’s opinions, which in turn creates a unified vision that leads to positive change and a rise in student achievement (Fullan & Hargreaves, 1996). Fullan (2001) believed that in order to encourage collaboration, teachers must feel valued or must feel as though they are contributing to a greater vision, i.e., student achievement. Teachers who come together to collaborate and develop a strong sense of collective efficacy promote achievement, which in turn creates a collaborative school culture that values student academic achievement (Bandura, 1993).

PLCs and Student Achievement

Gruenert (2005) identified six factors of a collaborative school culture that affect student achievement: collaborative leadership, teacher collaboration, professional development, unity of purpose, collegial support, and learning partnership. At the root of collaborative school cultures are PLCs. School leaders who invest in creating a collaborative school culture should see an increase in student achievement and teacher performance and satisfaction (Gruenert, 2005). Gray et al. (2016) stated that PLCs are considered a school reform that has contributed to increased student achievement.

PLCs and Collaborative School Culture

Collegial PLCs lead to increased collegial and teacher efficacy as well as the establishment of a positive collaborative culture that may lead to a positive impact on student achievement. Schools with a collaborative culture have certain characteristics that set them apart from organizations that are not classified as collaborative. These characteristics include trust, support, openness, and collective efficacy. In order for a school to be collaborative, teachers must be allotted the time to collaborate. However, true teacher collaboration requires trust, collegial support, professional development that supports teacher attitudes towards increasing their capacity to improve, and unity of purpose (Gruenert, 2005; Gruenert & Whitaker, 2015; Rennie Center of Research & Policy, 2013). Rosenholtz (1989) identified two types of school cultures: those that are stuck and those that are moving. Schools whose cultures are moving are schools where a collaborative culture among teachers exists. In Rosenholtz's research, the moving school had active PLCs and teachers shared resources, planned together, and shared their teaching experiences within the classroom with one another. Fullan (2001) supported

Rosenholtz's research in noting that the collaborative culture lends itself to the action of giving and receiving knowledge. Not only does this type of collegial collaboration increase teacher efficacy within the PLCs, but it also increases teacher confidence and commitment to continuous improvement. Fullan and Hargreaves (1996) stated,

In collaborative cultures, failure and uncertainty are not protected and defended, but shared and discussed with a view to gaining help and support. Teachers do not waste time and energy covering their backs here. Collaborative cultures require broad agreement on educational values, but they also tolerate disagreement and to some extent actively encourage it within these limits. Schools characterized by collaborative cultures are also places of hard work, of strong and common commitment, dedication, of collective responsibility, and of a special sense of pride in the institution. (p. 48)

Gray et al. (2016) agreed that a culture of trust plays an essential role in the effective implementation of PLCs and relies heavily on the role of the leaders within the organization.

Trust

Scholars agree trust plays an important role in organizations; however, the topic of trust has been a difficult one to explore due to its complex meaning (Costa, 2003; Hoy & Tschannen-Moran, 1999). Relationships are built on the ability to trust: Relationships lacking trust have an absence of depth and openness, while relationships built on trust have depth and openness. Lewicki and Wiethoff (2000) defined trust as "an individual's belief in, a willingness to act on the basis of the words, actions, and decisions of another" (p. 87). Lewicki and Wiethoff stated that an individual's ability to trust is determined by

three elements: a person's own belief system and experiences in trust, an organization's establishment of rules and norms, and existing experiences within a relationship; in other words, the ability to trust is an individual's willingness to be vulnerable to others (Hoy & Tschannen-Moran, 1999). Lewicki and Wiethoff have suggested there are two types of trust relationships: those that exist within organizations, calculus-based trust; and those that exist within personal relationships, identification-based trust. Hoy and Tschannen-Moran (1999) observed that trust has five influencing elements: benevolence, honesty, openness, reliability, and competence.

Trusting relationships, either within or outside of an organization, develop over time (Hoy & Tschannen-Moran, 1999; Lewicki & Wiethoff, 2000). Fullan (2001) stated that within good relationships, trust, satisfaction, and a feeling of safety exist which allows members to feel free to share knowledge with one another. Kochanek (2005) noted that the latest research on trust in schools has shown a positive correlation between the development of trust and school effectiveness which can lead to improved student achievement. A transition from a calculus-based trust relationship to an identification-based trust relationship in an organization creates a unified, goal-oriented environment (Lewicki & Wiethoff, 2000).

Cognitive Theory of Trust

Researchers defined trust as a state of mind with varying levels of vulnerability; the more vulnerable people allow themselves to be, the more trusting they are of people to react in a positive way at a risk taken (Hill & O'Hara O'Connor, 2006). The existence of trust is at the heart of interpersonal relationships and plays an essential role in the establishment of healthy organizations (Hill & O'Hara O'Connor, 2006). Hill and O'Hara

O'Connor (2006) explored the idea that there are two types of trust: "trust in" and "trust that." "Trust that" is one's willingness to trust that someone will complete a task in which they said they would complete, while "trust in" is an attribute-based trust that is stronger and represents your belief in someone or something. Lewicki and Wiethoff (2000) referred to the types of trust as calculus-based trust and identification-based trust. Calculus-based trust is built by "engaging in predictable, constant, reliable ways" (Lewicki & Wiethoff, 2000, p. 88) and is less personal; identification-based trust is more emotional and is developed through "common interests, values, perceptions, motives and goals" (Lewicki & Wiethoff, 2000, p. 88). It is believed that identification-based trust is fostered through the development of calculus-based trust, which requires shared goals, interests, and time spent together, which is the foundation of a collaborative school culture and PLCs (Lewicki & Wiethoff, 2000). At the heart of the organizational learning theory is the ability of its members to collaborate, learn, and work together to achievement organizational goals; and in order for this to optimally take place, an element of trust must exist among its members.

Trust in a PLC

When discussing trust within a PLC, the PLC must be an established part of an organization that has an attainable goal that team members are responsible for working toward, and members have to share knowledge and problem-solving for the goal to be attained (Costa, 2003). The level of trust present within an organization impacts the ability to share knowledge between individuals and encourages organizational growth. PLCs where trusting relationships have been established are open to share learned experiences as well as take risks in learning new knowledge (Attiq et al., 2017; Hallam et

al., 2015). Tschannen-Moran (2001) stated, “for teachers to break down norms of isolation and to sacrifice some of the autonomy they value so highly in order to reap the potential benefits of greater collaboration they must trust their colleagues” (p. 311). Trust relationships among PLC members could be a predictor of success within the PLC. Effective PLC teams are those in which formal and informal collaboration occurs. The sharing of student achievement data and teaching practices by team members within PLCs creates a sense of vulnerability, which requires the existence of trust. When teachers in a PLC have developed high levels of trust, this allows critical information to be shared, and team effectiveness and teacher growth increase. It is equally important to acknowledge the effects of a lack of trust within a PLC. A PLC lacking high levels of trust prevents goal achievement, authentic communication, and sharing of knowledge and decreases student achievement (Costa, 2003; Hallam et al., 2015).

Distrust in PLCs

If trust is considered to be a critical element of the effectiveness of PLCs, the same can be said for the effect of the absence of trust in a PLC. If trusting relationships are replaced with distrust, team members will not risk becoming vulnerable to one another, therefore impeding the collaboration process and decreasing PLC effectiveness (Costa, 2003). Research has shown that even high-quality teachers cannot thrive in atmospheres of distrust (Bryk & Schneider, 2003). Lack of trust prevents the attainment of goals, stifles collaboration, and ultimately negatively affects student learning (Hallam et al., 2015; Tschannen-Moran & Hoy, 2000).

Trust in leadership

Leadership plays an important role in the development and nurturing of trust

within an organization. Leaders develop relationships of trust with employees when exhibiting fair treatment and support (Attiq et al., 2017). Some studies suggest that trust in leaders determines the organization's performance (Bryk & Schneider, 2003; Dirks, 2000; Louis, 2007). Trust in leadership allows members of the organization to be willing to work in tandem with the leader to achieve the goals of the organization and accept the decisions of the leader (Dirks, 2000). Team members are willing to follow leadership when they feel they can rely on their decision-making and have their best interest in mind or the best interest of the organization. The opposite can be said for team members who do not feel leadership values them, which makes it difficult for high levels of achievement to occur within the organization.

Conclusion

As shown in Chapters 1 and 2, many factors play a role in the development of effective PLCs that positively influence student achievement. In the succeeding chapters, an explanatory sequential mixed methods study design will be presented to investigate the impact PLC implementation and collegial trust have at the organizational level and the effect these elements have on a positive school culture that encourages academic achievement in rural Title I elementary schools.

Chapter 3: Methodology

Introduction

The purpose of this mixed methods study was to determine the current level of trust among teachers working in PLCs, the effectiveness of PLCs, the perceived role of the principal in facilitating trust within PLC teams, and the implication these three elements have on student achievement within select Title I elementary schools located in a rural southeastern county of North Carolina.

Research Questions

I conducted a mixed methods study to answer the following research questions:

1. How can the levels of trust present among PLC team members be described at two rural Title I elementary schools?
2. How can the level of PLC effectiveness be described at two rural Title I elementary schools?
3. How can the perceived role of the principal in facilitating trust among teachers in PLC teams be described at two rural Title I elementary schools?

Setting

The selected schools used in this study were chosen because they have implemented PLCs at their site. The schools utilize common planning, and PLCs are facilitated by the grade-level chairperson, although school administration does attend some PLC meetings.

Description of EE

One of the schools included in this study was called EE to protect its privacy. EE is one of 24 elementary schools in the county. EE was opened in 1924 and was originally

housed in a local Baptist church. The school has been accredited by the Southern Association of Colleges and Schools since 1984. EE's current mission statement is "to establish a foundation for life-long learning while building strong moral character so students can become productive citizens of tomorrow," and the vision is "learning today for a better tomorrow." Table 3 shows the breakdown of students attending EE in 2019-2020.

Table 3

Demographics of Students Attending EE

Total students enrolled		Total number of boys	Total number of girls
399		215	184
Total number of students by grade		Total number of boys in each grade	Total number of girls in each grade
PreK	28	16	12
Kindergarten	64	36	28
First	79	40	39
Second	79	46	33
Third	72	41	31
Fourth	77	36	41

The racial diversity of the students attending EE in 2019-2020 is displayed in Table 4.

Table 4

Racial Demographics of EE

African American	Hispanic	American Indian	Multi-Racial	Caucasian
27.5%	5.01%	16.7%	16.04%	34.5%

EE is composed primarily of African American, American Indian, and Caucasian students with a very small percentage of Hispanic and Multi-Racial students. Of the students attending EE, 21% are identified as Students with Disabilities, 2% are identified

as Limited English Proficiency, and 1% are identified as Gifted and Talented.

In 2019, all LBC (pseudonym given to North Carolina county to protect privacy) schools were granted free and reduced lunch under the Community Eligibility Provision National School Lunch Program. In 2019, of the 24,200 students registered at LBC schools, 99.3% qualified for free and reduced lunch; due to the high poverty rate in the county, LBC has continued to meet the qualifications for the Community Eligibility Provision National School Lunch Program, and all students continue to receive free and reduced lunch.

PLCs have taken place at EE for 5 years. At EE, the administrator chooses who participates in specific PLCs; most are by grade level and meet twice a week. The grade-level chair or administrator leads the PLCs and provides the team with an agenda. Each PLC has a set of team-created norms that are followed at each meeting. Each PLC session is structured to be intentional and data driven.

Description of WE

The second school included in this research study was called WE to protect its privacy throughout the study. WE was established in 1923 and has grown from a 6-classroom school to a school employing 40 certified classroom teachers, 19 assistant teachers, a full-time speech teacher, six cafeteria workers, a nurse, a social worker, a secretary, a data manager, a principal, and an assistant principal. The vision of WE is to “educate all students by building a foundation for life-long learning,” and their mission is to “provide a variety of academic, social, emotional, and physical learning experiences to ensure the growth of all students in an ever-changing global society.” WE is a PreK-6 school with 582 students enrolled as of the 2019-2020 school year. Table 5 displays the

2019-2020 enrollment of WE.

Table 5

Demographics of Students Attending WE

Total students enrolled		Total number of boys	Total number of girls
582		312	270
Total number of students by grade		Total number of boys in each grade	Total number of girls in each grade
PreK	34	16	18
Kindergarten	82	45	37
First	84	46	38
Second	62	36	26
Third	84	47	37
Fourth	86	45	41

WE has an average class size of 18 students. The student population of the school comprised of 53% boys and 46% girls. Table 6 shows the 2019-2020 racial demographics of WE.

Table 6

Racial Demographics of WE

African American	Hispanic	American Indian	Multi-Racial	Caucasian	Asian	Pacific Islander
8.9%	21.9%	56.1%	6.1%	5.8%	0.34%	0.51%

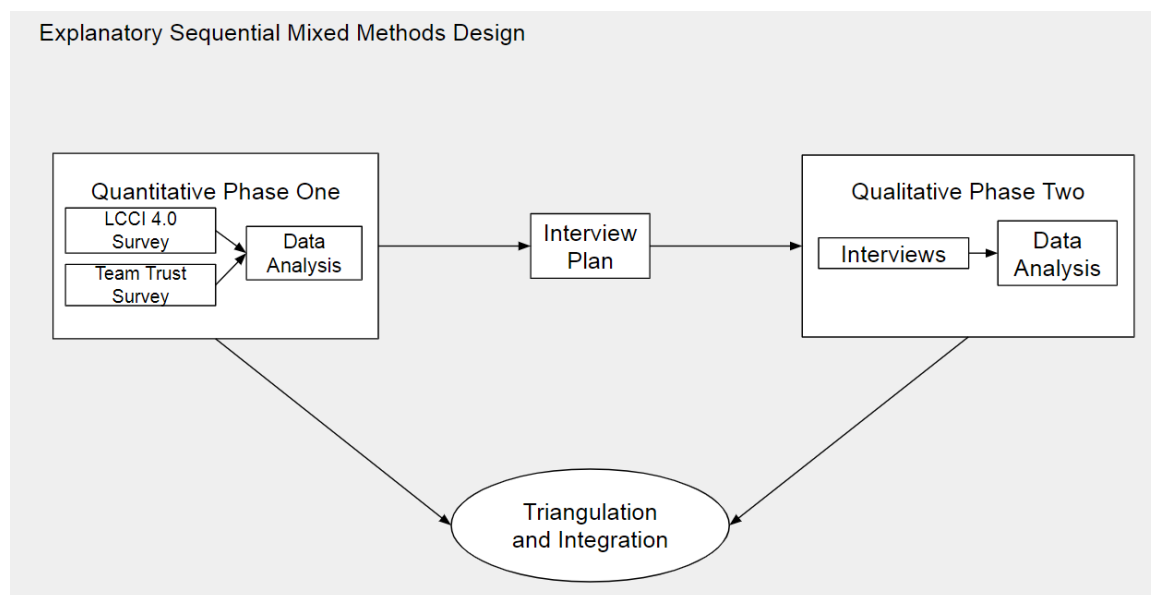
WE is composed of predominately American Indian and Hispanic students with a fewer number of African American, Caucasian, Asian, Pacific Islander, and Multi-Racial students. WE has 99.5% of students who qualify for free and reduced lunch.

PLCs at WE have taken place for the past 2 years, and the administrator chooses who participates in specific PLCs; most are by grade level and meet a minimum of once a week. PLCs are data driven and members analyze student strengths and weaknesses in order to plan new strategies to assist students in increasing academic growth. WE also

participates in vertical planning that allows teachers to have discussions on the academic performance of students coming to them the following school year.

Research Design and Rationale

A mixed methods research design provided a stronger understanding of the research questions and problem (Creswell, 2014). The mixed methods design combined the strengths of both a qualitative and quantitative study to provide a deeper understanding of the problem being researched. The explanatory sequential mixed methods approach was used to design this study. The study occurred in two phases. Phase 1 of the study used the quantitative data collected through the LCCI 4.0 survey (Williams et al., 2007) and the Team Trust Inventory (Costa & Anderson, 2011). Results from the surveys were used to guide the qualitative interviews in Phase 2 of the study and further explain the quantitative data collected in Phase 1 of the study (Creswell, 2014). Each phase of the study built upon the data collected in the previous phase. Figure 2 depicts the explanatory sequential mixed methods design from Wu (2012) that was modified further to represent this particular study that was used to frame the design of this research.

Figure 2*Explanatory Sequential Mixed Methods Design*

The explanatory sequential mixed methods research design used in the study took place in two phases: Phase 1 being the collection and analysis of quantitative data, and Phase 2 being the collection and analysis of qualitative data.

Intended Population

According to district guidelines, approval to conduct research in the district has to be obtained from an assistant superintendent currently serving. Approval was granted by the assistant superintendent of curriculum, instruction, and accountability via email. Due to the nature of the county, two elementary schools were recommended for inclusion in the research, and both principals agreed to have their teachers participate. Principals within the county were apprehensive to share sensitive information regarding their school within this county. Also, it has been observed that principals are regularly removed from one school and placed in another.

Only teachers participating in PLCs in kindergarten through fourth grades at both

schools were used, due to the makeup of one of the participating schools. The participating schools covered PreK through fourth grade and PreK through sixth grade. In order to have comparable data, I used only the grades that were similar in both populations.

Eligible participants were required to have been an employee of the school for at least 1 year. Experience working with team members within a PLC is a necessity for completing both surveys. The purpose for this selection process was to provide more accurate data evaluating the level of team trust and PLC effectiveness. Approximately 42 teachers were invited to participate in the survey portion of the study. The qualitative phase of the student sought to have a minimum of 12 interviewees. The topic of “how many interviews is enough” when collecting qualitative data is a widely debated question of interest; however, most scholars argue that the number of interviews indicating “enough” is when saturation occurs (Dworkin, 2012; Latham, 2019). Saturation is described as the point in which the researcher is no longer learning new information from research participants (Dworkin, 2012; Guest et al., 2006; Latham, 2019). Guest et al. (2006) stated that 12 interview participants are typically sufficient when describing perceptions, beliefs, or behaviors of a group of research participants. Five interviews were conducted in the study.

Instrumentation

The measurement instruments in this study were used to answer the research questions presented. The following instruments provided a wealth of data on the level of implementation and trust in the current PLCs at both sites being studied and were used to develop interview questions that further explained the data collected. After the

explanation of the instruments used for this study, data analysis procedures were detailed in the text.

LCCI 4.0

The LCCI 4.0 is a questionnaire used to provide an overall level of PLC implementation as well as identify individual elements of a PLC (Stewart, 2009). The LCCI 4.0 survey was used as created by Williams et al. (2007). See Appendix A for the full questionnaire. Through the identification of the overall level of PLC implementation, a level of collaborative culture is indicated (Bland, 2012). The LCCI 4.0 instrument includes 10 PLC elements created by Williams, Matthews, and Stewart and derived from the work of Senge, Kruse, Louis, Hord, DuFour, Eaker, and Blankstein (Stewart, 2009). Stewart (2009) stated, “this measure will provide empirical evidence on which leaders will be able to assess their success in establishing PLC elements in their schools and to plan for the next steps” (p. 20). The LCCI 4.0 measurement was selected due to its ability to provide information at the school level on its existing elements of a PLC and at what level the school is functioning within the elements (Stewart, 2009).

Respondents were asked to use an 11-point (0-10) Likert scale to rate 48 items on the survey ranging from agree strongly to disagree strongly. The survey items are grouped into the eight PLC elements identified by the work of Williams et al. (2007). The elements include (a) common mission, vision, values, and goals; (b) principal leadership that is focused on student learning; (c) participative leadership focused on student learning; (d) interdependent culture based on trust; (e) systems of prevention and intervention that assures academic success for all students; (f) professional development that is teacher driven; (g) data-based decision-making using continuous assessment; and

(h) teaming that is collaborative (Stewart, 2009).

The LCCI 4.0 was validated and proven reliable using descriptive statistics, factor analysis, structural equation modeling, and Cronbach's alpha (Stewart, 2009). The validation process occurred in three phases: cognitive interviews and written critiques, a first pilot study, and a following second pilot study.

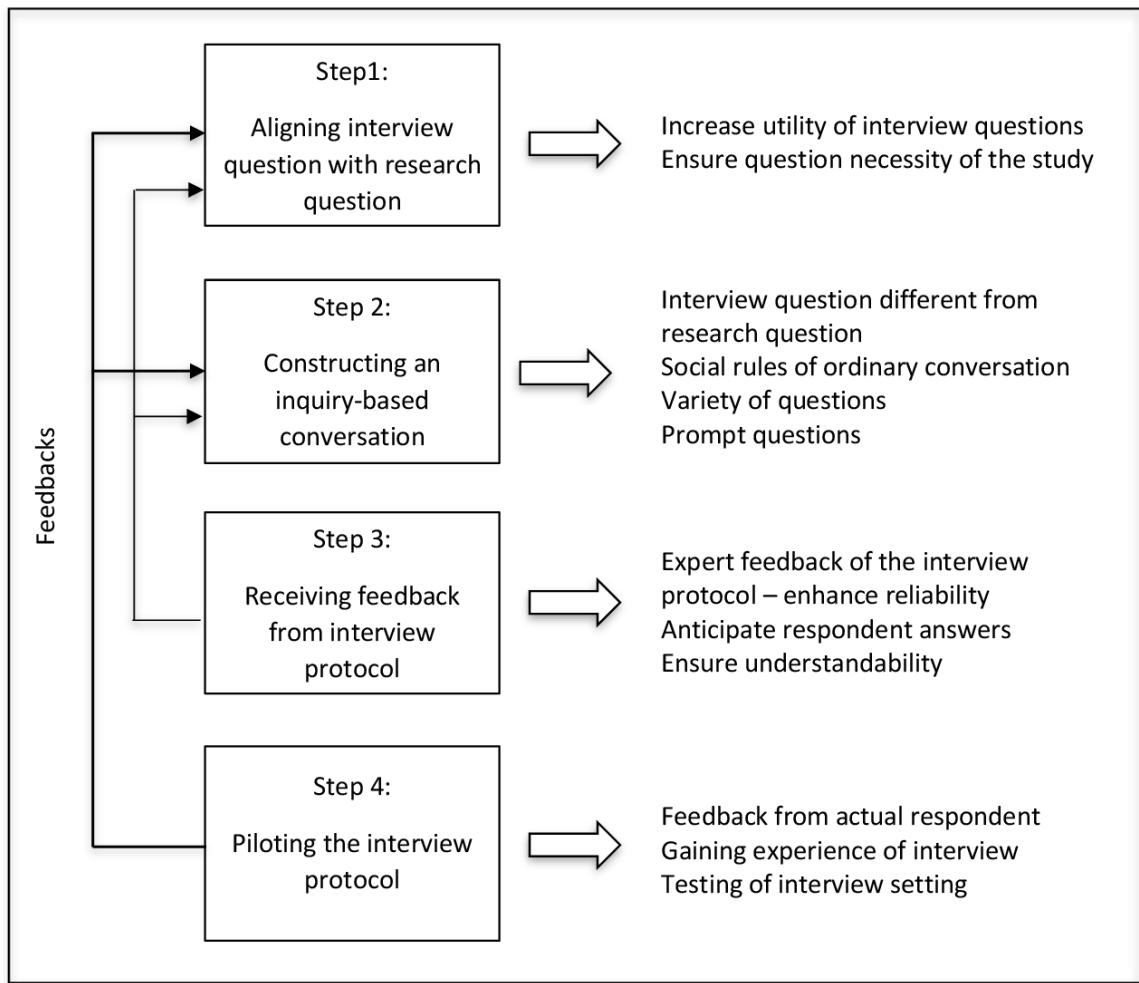
Team Trust Inventory

Costa and Anderson (2011) explained that the Team Trust Inventory is a 21-item, 7-point Likert scale survey ranging from completely agree to completely disagree, evaluating four elements affecting trust among team members, propensity to trust, perceived trustworthiness, cooperative behaviors, and monitoring behaviors. The Team Trust Inventory was used as published by Costa and Anderson. See Appendix B for the full questionnaire. Costa and Anderson developed the Team Trust Inventory based on the argument that "trust within teams reflects a climate that is shared among team members and is likely to influence and be influenced by individual propensities and perceptions of trustworthiness and lead to behavior patterns that reflect that climate" (p. 123). Costa and Anderson also proposed that trust is influenced at the organizational level as well because of organizational arrangements, thus aligning to the organizational theory, the framework of this study. Organizations can promote or constrain trust relationships between members through established norms and procedures that impact individual's decision-making (Costa & Anderson, 2011).

Interview Validity

Creswell (2014) discussed eight strategies that incorporate validity into qualitative studies and recommended the use of a variety of these strategies. Triangulation of data

collected from survey data, interview data, and archival student achievement data were used to justify the themes established (Creswell, 2014). Two additional validity strategies were incorporated into the study: the use of detailed narrative description and the presentation of information that supported the themes as well as information that did not support themes. By presenting data that may be contradictory, the information shared will become “more realistic and more valid” (Creswell, 2014, p. 202). Member checking was also utilized following the analysis of interview data to determine if participants felt that the emerging themes were accurate (Creswell, 2014). An interview protocol was used to increase the validity of the process. Figure 3 is a representation of the interview protocol used adapted from the work of Yeong et al. (2018) and supported by the recommendations of Creswell (2014) and Fitzpatrick et al. (2011).

Figure 3*Interview Protocol*

Yeong et al. (2018) recommended aligning interview questions with research questions and building upon the survey results as well as constructing the conversation the interviewer had with the interviewee. Beginning the interview with an icebreaker or conversational type question assisted the interviewer in building rapport with the interviewee. After building rapport, the interview questions were open-ended and non-bias. The interviewer maintained a neutral disposition throughout the interview and elicited guided discussion that led to the responses directly related to the research

questions being explored (Creswell, 2014; Fitzpatrick et al., 2011). The dissertation committee was used to enhance the reliability of the interview protocol through the review of the interview questions and feedback from the interview protocol used. Pilot interviews were conducted prior to interviewing participants. When selecting participants for pilot interviews, it is suggested to choose participants who are similar to those participating in the major study (Majid et al., 2017). Conducting pilot interviews allowed for the development of improved interviewing skills, such as maintaining eye contact, asking probing questions, and remaining neutral throughout the interview (Creswell, 2014; Fitzpatrick et al., 2011).

Interview Questions

Phase 2 of the research study was built upon the data collected in Phase 1; the interview questions were derived from the data collected from the LCCI 4.0 survey and Team Trust Inventory. Table 7 is the alignment of research questions to the interview questions. See Appendix C for the list of interview questions.

Table 7

Alignment of Research Questions to Interview Questions

Research question	Interview question alignment
1: How can the levels of trust present among PLC team members be described at two rural Title I elementary schools?	Interview Questions 7-17
2: How can the level of PLC effectiveness be described at two rural Title I elementary schools?	Interview Questions 3-8, 15-20
3: How can the perceived role of the principal in facilitating trust among teachers in PLC teams be described at two rural Title I elementary schools?	Interview Questions 2-5

Each interview question was intended to develop a deeper understanding of how PLCs are operating at selected sites, how team members feel within their PLC, and the importance of student achievement. Each data point assisted me in answering specific research questions.

Data Collection and Procedures

Data collection occurred in two phases; each phase built upon the previous phase. Phase 1 consisted of the collection of quantitative data collected from the LCCI 4.0 survey (Williams et al., 2007) and the Team Trust Inventory (Costa & Anderson, 2011). Permission from the survey developers was obtained in order for the instruments to be used in the research study (Appendices D and E). The LCCI 4.0 survey was used to evaluate the current level of PLC effectiveness at both sites as well as to identify unique elements of the PLC teams. The Team Trust Inventory was used to assess PLC team members' propensity to trust, perceived trustworthiness, cooperative behaviors, and monitoring behaviors (Costa & Anderson, 2011).

Survey Design

In an explanatory sequential mixed methods study, the collection of survey data is used to develop a generalization in order for inferences to be made about the population being studied (Creswell, 2014). The use of an electronic survey to collect this information is preferable due to its cost-effective nature, ease of accessibility for participants, and ability to provide quantitative data regarding participant opinions of PLC implementation and collegial trust. The survey data collected were cross-sectional with data being collected at one period in time rather than longitudinal and used to describe the opinions of a large population of participants (Creswell, 2014; Fitzpatrick et al., 2011).

I distributed surveys to participants electronically via email at two separate times. Informed consent was included in the email inviting qualified teachers to participate in the study. By selecting the link to begin the survey, participants were providing their consent to take part in the survey. See Appendix F for email invitation. Conversations with administration at each site ensured that only qualified teachers were receiving the email invitation to participate in the study. After the LCCI 4.0 survey was sent and data collected, the Team Trust Inventory was sent out 2 weeks after the close of the LCCI 4.0 survey, so as not to overwhelm participants or cause survey fatigue (Davies, 2019). A 2-week wait period between surveys is recommended due to the frequency in which participants interact with the material being surveyed; if participants interact on a weekly basis with the information being collected, a survey assessment sent bi-weekly is recommended (Davies, 2019). Table 8 depicts the timeline for Phase 1.

Table 8

Timeline for Phase 1 Data Collection

Instrument	Survey administration	Survey duration	Survey close
LCCI 4.0	August 17	2 weeks	August 31
Team Trust Inventory	September 14	2 weeks	September 28

Phase 1 consisted of the collection of data from both quantitative surveys given at 2-week intervals as recommended by researchers so as to prevent survey fatigue and maintain interest (Davies, 2019; LeFlore, 2020).

Phase 2 built upon the results of the quantitative data and further explained the data collected. Phase 2 utilized one-on-one interviews of survey participants. Interviews were chosen as an instrument due to the ambiguous nature of the topic of trust and the need to learn the perspective and experiences of participants (Fitzpatrick et al., 2011).

The goal was to recruit at least 12 interviewees from participating sites. If more than 12 participants were interested in taking part in the interview process, the point of saturation, as previously discussed, would determine the cutoff of interview data collection (Guest et al., 2006; Latham, 2019). If 12 interviews were not obtained after the completion of the second survey, an email requesting voluntary participation would be sent to survey participants (Appendix G). After allowing time for volunteers to respond to the email, the research continued with the participants who volunteered for the interview process of the study. The interviews were conducted through video conference and recorded with interviewee permission. Next, the responses were transcribed and coded (Fitzpatrick et al., 2011).

Alignment

In order to answer the research questions related to the study, an alignment table was developed. The alignment table displays each research question, the measurement tool, the method of collecting the information, and method of analysis.

Table 9*Research Alignment Table*

Research question	Measurement tool	Method of data collection	Method of analysis
1: How can the levels of trust present among PLC team members be described at two rural Title I elementary schools?	LCCI 4.0 questions 8-9, 11, 13, 17	Quantitative survey-Likert scale	Descriptive statistics
	Team Trust Inventory		
	Interview Questions 4, 5, 10-13	Qualitative	Coding
2: How can the level of PLC effectiveness be described at two rural Title I elementary schools?	LCCI 4.0	Quantitative survey-Likert scale	Descriptive statistics
	Team Trust Inventory		
	Interview Questions 2, 4-6, 9-13	Qualitative	Coding
3: How can the perceived role of the principal in facilitating trust among teachers in PLC teams be described at two rural Title I elementary schools?	Interview Questions 1, 5, 8-9	Qualitative	Coding

Each measurement tool described was used to answer the research questions of this mixed methods study to the fullest extent. The specific analysis plan for each phase of the research is explained next.

Data Analysis Plan

The data were analyzed using descriptive statistics and coding in order to determine the level of effectiveness of PLC implementation, the levels of trust present within the PLCs, and the principal's role in regard to PLCs and trust. Using descriptive

statistics to discuss quantitative data enabled the data to be summarized in a meaningful way that allowed patterns within the data to emerge (Laerd Statistics, 2018).

Phase 1

Phase 1 began with the collection of quantitative data from the LCCI 4.0 survey first, followed by the Team Trust Inventory second. The LCCI 4.0 survey and the Team Trust Inventory were shared with participants via email. Participants were provided with an electronic consent form prior to beginning the surveys (Appendix H). Surveys remained open for 2 weeks, and a reminder email was sent out on the seventh day. According to Survey Monkey, 80% of survey data are collected within 7 days and decrease to 11% beyond 7 days (Zheng, 2010). The surveys were sent out at two separate times so as not to overwhelm participants. The LCCI 4.0 was sent out first, and participants were allowed 14 days to complete the survey; the Team Trust Inventory was sent out 2 weeks after the close of the LCCI 4.0 survey date.

LCCI 4.0

The LCCI 4.0 survey was used to determine the level of PLC effectiveness present at select rural elementary schools in the LBC district. The LCCI 4.0 survey was given to participants electronically as part of Phase 1 of the study. The data were analyzed using descriptive statistics to summarize the set of information in an easily understandable manner (Slavin, 2007). Unpacking the data using descriptive statistics allowed for patterns to emerge within the data that further guided the interview questions in Phase 2 of the study (Laerd Statistics, 2018). The type of descriptive statistics used was exploring the mode or frequency of the scores collected per question and the mean (Slavin, 2007). When reporting the survey results, discussing the frequency by which

participants responded in particular ways to each question allowed for the emerging of patterns that guided the interview questions for deeper understanding. Computing the mean and standard deviation of the set of numbers overall and per questions assisted in portraying a detailed picture of the data collected. When reporting the data collected, information aligning to the research questions were pulled out and reported.

Team Trust Inventory

Participants in the study also completed the Team Trust Inventory to determine the levels of trust present within the PLCs at select rural elementary schools in the LBC district. The survey was given electronically to participants as part of Phase 1 of the study. Team Trust Inventory data were analyzed using descriptive statistics. As with the LCCI 4.0 survey, the results of the Team Trust Inventory were reported using mode or frequency descriptions as well as the mean and standard deviation, for the same purpose as to explore emerging patterns in an easily understood way to guide the interview questions in Phase 2 (Slavin, 2007).

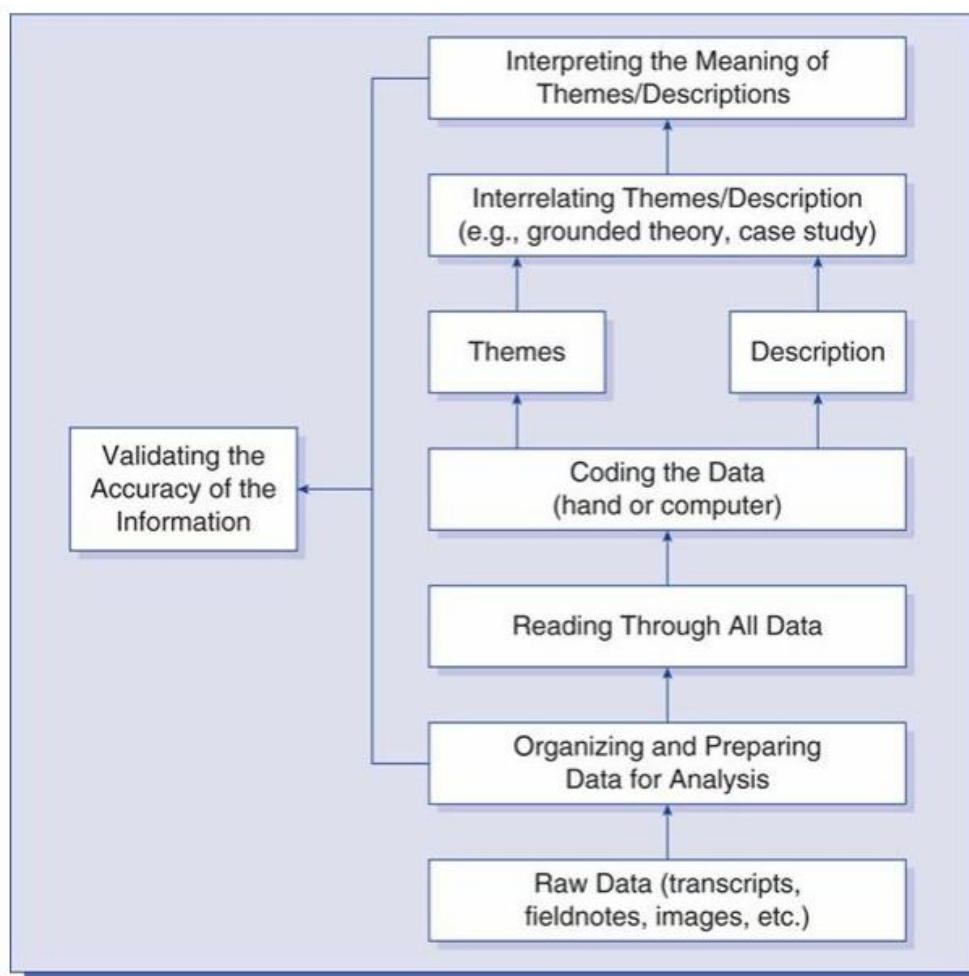
Phase 2

Phase 2 of the research took place following the collection of quantitative data and its analysis. After utilizing descriptive statistics to analyze each survey given in Phase 1 of the study, the information collected was used to develop a series of interview questions that provided a deeper understanding of the quantitative data.

Interviews

Interviews occurred as part of Phase 2 of the explanatory sequential mixed methods study. Participants received an informed consent form prior to beginning the interview (Appendix I). Interview questions were built upon the quantitative data

collected in Phase 1 and aimed to develop a deeper understanding of the statistical data (Creswell, 2014). Interview questions are explained in the next section. Permission was granted to record all interview sessions, which provided me the ability to maintain eye contact and build rapport with the interviewee throughout the process rather than be more focused on notetaking (Fitzpatrick et al., 2011). See Appendix C for the complete interview protocol. Recording interview sessions allowed me to provide more detail for data analysis and coding (Fitzpatrick et al., 2011). Following the completion of the interview, I transcribed the interviews. I then recorded general thoughts about the data collected (Creswell, 2014). After the transcription process, coding for common themes among interview responses occurred. Creswell (2014) provided researchers with a linear, bottom-to-top process used to analyze qualitative data which I used throughout the qualitative data collection process. This information is depicted in Figure 4.

Figure 4*Data Analysis Process for Qualitative Research*

By following Creswell's (2014) bottom-to-top approach to analyzing qualitative data, I first transcribed all interviews and arranged them by question response. Each interviewee response was color coded to assist in organization and referencing. After transcription of interviews and reading through the data, the process of coding took place. Coding was done through a combination of both predetermined and emerging codes (Creswell, 2014). Predetermined codes emerged from research such as common goals and vision present at their site, a sense of trust, data referencing leadership roles, and student achievement. The coding process allowed for themes to emerge from the data that

were supported by multiple quotations and specific evidence (Creswell, 2014). Each component described in Figure 2 lead to the validation of qualitative data analyzed. The narrative provided through the qualitative data added to existing research on PLC implementation, collegial trust among PLC team members, and its implications in nurturing student achievement.

Ethical Considerations

I am a classroom teacher in the LBC district and was serving as an observer throughout the collection of data. All participation in the study was voluntary. School principals were informed when both surveys were distributed to their staff members. The surveys distributed were anonymous, and participants were informed that they could stop the survey at any time. During the interview process, interviewees were informed they may choose to stop the interview at any time or choose to not answer some interview questions. Interviewee identity was protected through the use of pseudonyms in the reporting process and left out possible identifiable comments.

Threats to Validity

Potential threats to the validity of the study could be the sampling size of participants. It is recommended that at least 30 people per subgroup should be examined in a study for validity (Fitzpatrick et al., 2011). However, neither school participating in the study had 30 people per subgroup. The study was not able to be expanded to include more schools within the district due to the unwillingness of other schools to participate. As a result of the unwillingness atmosphere of the LBC district, only two elementary schools were used in the study. Approximately 42 classroom teachers were asked to voluntarily complete the surveys and were asked if they would like to be interviewed.

Conclusion

The design of this research was a mixed method, explanatory sequential study. The study occurred in two phases: Phase 1 was the quantitative data collection that guided the series of questions asked in Phase 2. The research aimed to develop a deeper understanding of the level of PLC implementation at select rural elementary schools, the levels of trust within the PLCs, the principals' roles in PLC implementation and in the development of trust among team members, and the implied impact these elements have on student achievement.

Chapter 4: Results

Introduction

The purpose of this study was to determine the current level of trust among teachers working in PLCs, the effectiveness of PLCs, the perceived role of the principal in facilitating trust within PLC teams, and the implication these three elements have on student achievement within select Title I elementary schools located in a rural county of North Carolina. Results contribute to existing research regarding trust within PLC teams, school culture, and PLC effectiveness. Data were collected via electronic surveys distributed through Qualtrics and interviews conducted by me. Qualtrics is a company that allows its members to create surveys to evaluate customer experiences. The research questions guiding the study are provided:

1. How can the levels of trust present among PLC team members be described at two rural Title I elementary schools?
2. How can the level of PLC effectiveness be described at two rural Title I elementary schools?
3. How can the perceived role of the principal in facilitating trust among teachers in PLC teams be described at two rural Title I elementary schools?

Data collection occurred through the survey and participant interviews.

Participant population and demographic information are presented in this chapter. Results from the LCCI 4.0 survey, the Team Trust Inventory, and participant interviews are analyzed and reported. Each data collection point was used to answer the aforementioned research questions. Due to the similarities in quantitative data collection in both surveys, data were not reported separately by participating schools but combined.

LCCI 4.0 Data Collection

Data collection from the LCCI 4.0 survey was used during Phase 1 of the study. The LCCI 4.0 survey was used to provide an overall level of PLC implementation as well as identify individual elements of a PLC (Stewart, 2009). The LCCI 4.0 instrument includes eight PLC elements created by William, Matthews, and Stewart and derived from the work of Senge, Kruse, Louis, Hord, DuFour, Eaker and Blankstein (Stewart, 2009). The elements include (a) common mission, vision, values, and goals; (b) principal leadership that is focused on student learning; (c) participative leadership focused on student learning; (d) interdependent culture based on trust; (e) systems of prevention and intervention that assures academic success for all students; (f) professional development that is teacher driven; (g) data-based decision-making using continuous assessment; and (h) teaming that is collaborative (Stewart, 2009).

Demographics of LCCI 4.0 Participants

The LCCI 4.0 survey was distributed to two rural southeastern North Carolina elementary schools: EE and WE. Forty-two possible participants received the survey and were asked to take part in data collection; 20 participants responded, a 48% participation rate. While 48% of respondents attempted the survey, data was gathered from 36%. Fifteen of the LCCI 4.0 respondents were from EE, and five were from WE. Respondents were asked to share the grade they taught. These results are as seen in Table 10.

Table 10*Current Grade Level Taught*

Grade level	Number of respondents
PreK	1
Kindergarten	4
First grade	3
Second grade	3
Third grade	2
Fourth grade	2
Not recorded	5

Of the respondents, 27% taught kindergarten; 20% taught first grade; 20% taught second grade; 13% taught third grade; 13% taught fourth grade; and 7% taught PreK. Five respondents chose not to include the grade they taught.

LCCI 4.0 Survey Results by Construct

The LCCI 4.0 survey evaluates PLC implementation utilizing eight constructs. The results collected indicate the current level of PLC effectiveness present at participating schools. Each construct evaluated has been identified by leading PLC researchers as one of the essential elements in creating successful PLC implementation (Blankstein, 2004; DuFour & Eaker, 1998; Hord, 1997; Kruse et al., 1994; Senge, 1990). The survey was an 11-point Likert scale ranging from 0 to 10, with 0 indicating strongly disagree and 10 indicating strongly agree. Overall scores for each construct ranged from 0-900, 0-750, and 0-600 depending on how many items were included in the construct based the 41 items utilized for analysis.

Table 11*LCCI 4.0 Construct Range and Functionality*

Construct	Construct range and functionality
Construct 1: Common mission	0-200 Low 201-400 Middle 401-600 High
Construct 2: Interdependent culture	0-300 Low 301-600 Middle 601-900 High
Construct 3: Collaborative teaming	0-300 Low 301-600 Middle 601-900 High
Construct 4: System of prevention	0-300 Low 301-600 Middle 601-900 High
Construct 5: Data based	0-250 Low 251-500 Middle 501-750 High
Construct 6: Professional development	0-300 Low 301-600 Middle 601-900 High
Construct 7: Principal leadership	0-250 Low 251-500 Middle 501-750 High
Construct 8: Participative leadership	0-200 Low 201-400 Middle 401-600 High

The ranges for each construct were determined by the number of participants rating a possible 10 for each item. For example, Construct 2 contained six items with 15 participant responses. Each item could have had a maximum score of 10, resulting in a total of 150 points for each item. This total, multiplied by all six items, created a range of

900 for this construct. The range was calculated for each construct to determine a level of high-, middle-, or low-level PLC functionality. Items 1-3 were omitted for analysis purposes as they were not related to the eight constructs. A high mean indicated a higher functioning PLC, while a middle-level mean or low-level mean indicated a lower functioning PLC (Stewart, 2009). The high-, middle-, or low-level PLC functionality was determined by the frequency of responses for individual constructs. Each construct was given an acronym to abbreviate its meaning. Tables 12-19 provide a detailed description of the results collected from each construct.

Table 12*LCCI 4.0 Survey Results Construct 1*

Construct 1: Common mission, vision, values, and goals that are focused on teaching and learning.														
Rating	0	1	2	3	4	5	6	7	8	9	10	Total frequency	Item average	
Q4 The primary purpose of our school is to help all children learn at high levels	0	0	0	0	0	1	1	0	2	2	9	135	9	
Q5 We are trying to create a school culture in which more students would achieve at high levels.	0	0	0	0	0	1	0	0	2	1	11	140	9.33	
Q6 I am aligning my efforts with a primary purpose of the school which is to help all children learn at high levels.	0	0	0	0	0	0	0	0	2	2	11	144	9.6	
Q7 Our school-wide goals and objectives guide teachers' work to help more students achieve at high levels.	0	0	0	0	0	0	0	0	2	2	11	144	9.6	
Construct overall frequency rating	0	0	0	0	0	10	6	0	64	63	420	563	9.38	

Construct 1 evaluated respondent perspectives on the common mission, vision, values, and goals of their school, focused on teaching and learning. The overall frequency rating of Construct 1 for participating schools was 563 of 600 with an average of 9.38,

indicating a high level of perceived established common mission, vision, and goals by respondents.

Table 13

LCCI 4.0 Survey Results Construct 2

	Construct 2: Interdependent culture based on trust													
Rating	0	1	2	3	4	5	6	7	8	9	10		Total frequency	Item average
Q8 I share my knowledge and expertise with other teachers to solve problems of teaching and learning.	0	0	0	0	0	0	0	1	3	2	9		139	9.26
Q9 I seek out other teachers' expertise to help me solve problems of teaching and learning.	0	0	0	0	0	0	0	0	1	1	12		137	9.13
Q10 In addition to formal team meetings, teachers in this school spontaneously collaborate to solve problems of teaching and learning.	0	0	0	0	0	0	1	2	3	1	8		133	8.86
Q11 The trust I feel among teachers facilitates open decision-making and problem-solving.	0	0	0	0	0	1	1	1	5	3	4		85	5.66
Q12 I feel safe to take the risk of using innovative instructional methods.	0	0	0	0	0	0	0	1	5	4	5		133	8.86
Q13 I feel safe to express my opinions even when I am in the minority.	1	0	0	0	0	0	2	3	4	1	4		114	7.6
Construct overall frequency rating	0	0	0	0	0	5	24	56	168	108	420		741	8.23

The data collected from Construct 2 also revealed a high level of PLC functionality in the area of interdependent culture based on trust.

Construct 3 evaluated how teachers view their time working with colleagues within their PLC.

Table 14*LCCI 4.0 Survey Results Construct 3*

	Construct 3: Collaborative teaming													
Rating	0	1	2	3	4	5	6	7	8	9	10	Total frequency	Item average	
Q14 I am on an instructional team that collaborates to improve teaching and learning.	0	0	0	0	0	0	2	3	2	0	8	129	8.6	
Q16 My instructional team meetings are scheduled during the contracted day (e.g., common preparation periods, early out, late start).	0	0	0	0	1	0	0	0	3	3	8	135	9	
Q17 My instructional team has sufficient collaboration time to improve teaching and learning.	1	0	0	0	0	0	3	2	5	1	2	101	6.73	
Q18 My instructional team collaborates on finding instructional solutions that help all students improve their learning.	0	0	0	0	0	0	0	0	7	1	7	135	9	
Q19 My instructional team collaborates on finding instructional solutions that help all students improve their learning.	0	0	0	0	0	0	2	1	3	0	9	133	8.86	
Q20 My instructional team finds the most effective instructional approaches to help students master selected learning targets.	0	0	0	0	0	0	1	0	6	0	8	134	8.93	
Construct overall frequency rating	0	0	0	0	4	0	48	42	208	45	420	767	8.52	

Respondent data revealed a high level of collaborative teaming functionality at their sites, with an overall average of 8.52. This number is a positive indicator that a culture of collaboration is in existence within the organization. Item 17, which asked respondents for their opinion on whether there was sufficient time for collaboration, had

the lowest average within Construct 3.

Construct 4 elicited respondent opinions on the systems of prevention and intervention that assure academic success for all students. Yet another imperative element of high functioning PLC that indicate a culture of collaboration is the process of prevention and intervention of academic success for all students.

Table 15*LCCI 4.0 Survey Results Construct 4*

Construct 4: Systems of prevention and intervention that assures academic success for all students.													
Rating	0	1	2	3	4	5	6	7	8	9	10	Total frequency	Item average
Q21 At my school teachers provide high quality instruction for all students including those who may be at risk for academic failure.	0	0	0	0	0	0	2	0	4	1	8	133	8.86
Q22 The faculty in this school has enacted systems for intervening with students who are at risk for academic failure.	0	0	0	0	0	0	2	0	6	0	7	130	8.66
Q23 Any student who experiences academic difficulty in my class receives extra time and support.	0	0	1	0	1	0	0	0	2	3	8	129	8.6
Q24 In this school, the additional time and support for learning provided to students who experience academic difficulty is developed in a systematic way rather than being left to the discretion of teachers.	0	0	1	0	0	3	0	0	7	1	3	112	7.46
Q25 Rather than just being invited, students who experience academic difficulty are required to participate in activities that provide them with additional time and support for learning.	0	0	1	0	1	0	3	1	4	1	4	112	7.46
Q26 In my grade level or department team, we systematically assist students who have difficulty mastering core content by providing extra teacher-directed learning time.	0	0	0	0	1	0	2	0	5	0	7	126	8.4
Construct overall frequency rating			6		12		48	7	224	54	370	742	8.24

The overall mean of systems of prevention for the organizations evaluated was 8.24, indicating a high level of PLC functionality within this construct. Within the systems of prevention construct, items 24 and 25 ranked lowest, while respondent opinions of the type of instruction provided to at-risk students ranked highest.

Construct 5 assessed respondent opinions of data-based decision-making using continuous assessment at their site.

Table 16*LCCI 4.0 Survey Results Construct 5*

Rating	Construct 5: Data-based decision-making using continuous assessment.											Total frequency	Item average
	0	1	2	3	4	5	6	7	8	9	10		
Q27 My instructional team uses data from district or state end of level tests to make instructional decisions.	0	0	1	0	0	1	0	0	4	0	9	129	8.6
Q28 My instructional team has identified common core learning standards on which we assess student learning.	0	0	0	0	0	0	1	1	4	0	9	135	9
Q29 I use evidence of student learning to adjust my instructional practice.	0	0	0	0	0	0	0	0	4	1	10	141	9.4
Q30 My instructional team has created common assessments	0	0	0	0	1	0	1	0	5	2	6	128	8.53
Q31 My instructional team continuously assesses student learning to guide instruction.	0	0	0	0	0	0	0	1	6	1	7	134	8.93
Construct overall frequency rating	0	0	2	0	4	5	12	14	184	36	410	667	8.89

Construct 5 received a high PLC functionality average for overall data-based decision-making processes within the organization. Respondents felt most strongly that they use student evidence to guide their instructional practice regularly.

Professional development that is teacher driven and embedded in daily work

was the foundation for all items asked in Construct 6.

Table 17

LCCI 4.0 Survey Results Construct 6

Construct 6: Professional development that is teacher driven and embedded in daily work.													
Rating	0	1	2	3	4	5	6	7	8	9	10	Total frequency	Item average
Q32 My collaborative team process has been an important source of professional learning for me.	0	0	0	0	0	1	2	2	1	0	9	129	8.6
Q33 The professional development in which I participate in this school improves my classroom instruction.	0	0	0	0	0	1	0	1	7	1	5	127	8.46
Q34 Teachers participate in lesson studies, in which teachers co-develop lessons, observe a colleague teach the lessons to students, and critique and refine the lessons for use in their own classrooms.	0	0	3	0	0	1	2	1	4	0	4	102	6.8
Q35 Teachers help design professional development.	0	0	2	0	0	0	5	0	3	1	4	107	7.13
Q36 Teachers share their instructional expertise.	0	0	0	0	0	0	5	0	4	1	5	121	8.06
Q37 Teachers new to our school are provided with mentoring in a systematic way.	0	0	1	0	0	0	0	2	2	1	9	131	8.73
Construct overall frequency rating	0	0	12	0	0	15	84	42	168	36	360	717	7.96

When compared to the seven other constructs evaluated in the LCCI 4.0 survey, Construct 6 was ranked one of the lowest. Twenty percent of respondents rated two elements less than 5: They play a role in designing their own professional development or they have opportunities to co-develop lessons that they are then able to observe one another teach in order to improve the quality of the lesson. Although Construct 6 had one of the lowest overall averages, its average still fell in the high PLC functionality range.

Construct 7 evaluated respondent opinions of principal leadership focused on student learning.

Table 18*LCCI 4.0 Survey Results Construct 7*

Construct 7: Principal leadership that is focused on student learning.													
Rating	0	1	2	3	4	5	6	7	8	9	10	Total frequency	Item average
Q38 My principal focuses on improving student learning.	0	0	0	0	0	0	1	0	1	1	12	143	9.53
Q39 My principal coaches my instructional team towards improving student learning.	0	0	0	0	0	0	1	1	2	1	10	138	9.2
Q40 My principal uses data to improve teaching and learning.	0	0	0	0	0	0	1	0	3	0	11	140	9.33
Q41 My principal has helped to create conditions that improve student learning	0	0	0	0	0	0	1	0	4	0	10	138	9.2
Q42 My principal has help me create conditions that promote teacher learning.	0	0	0	0	0	0	1	0	4	0	10	138	9.2
Construct overall frequency rating	0	0	0	0	0	0	30	7	112	18	530	697	9.29

Principal leadership was the highest ranking construct in the survey, with an overall construct average of 9.29, indicating high PLC functionality within the organization as it pertains to principal leadership that is focused on student learning.

The final construct evaluated in the LCCI 4.0 survey was participative leadership focused on teaching and learning. Respondents had four items pertaining to their opinions of participative leadership at their site.

Table 19

LCCI 4.0 Survey Results Construct 8

Construct 8: Participative leadership that is focused on teaching and learning.													
Rating	0	1	2	3	4	5	6	7	8	9	10	Total frequency	Item average
Q43 Teachers help make school-wide decisions that relate to teaching and learning.	0	0	1	0	1	0	0	0	7	1	5	121	8.06
Q44 Teachers help make most decisions that relate to teaching and learning in this school.	0	0	1	0	0	0	3	1	4	2	4	117	7.8
Q45 Teachers are able to make good decisions regarding teaching and learning without being inhibited by layers of bureaucracy.	0	0	0	0	1	1	2	1	6	0	4	116	7.73
Q46 Teachers collaboratively exercise leadership with the principal on issues that relate to improving teaching and learning.	0	0	0	0	1	0	1	0	7	1	5	125	8.33
Construct overall frequency rating	0	0	4	0	12	5	36	14	192	36	180	479	7.93

Construct 8 was the second overall lowest performing construct of PLC

functionality evaluated in the LCCI 4.0 survey. Although when compared to the other constructs this one was relatively low, the overall average still fell in the high range of PLC functionality.

The overall scores were divided into three functioning PLC levels: high, middle, and low. When determining the functionality of each construct, the number of questions aligned with each construct determined the range of overall PLC functionality per construct. The alignment of construct and range of overall PLC functionality is depicted in Table 20.

Table 20*LCCI 4.0 Survey Construct Overall Average and Functionality*

Construct	Construct range and functionality	Overall score	Construct overall average	Level of PLC functionality
Construct 1: Common Mission	0-200 Low 201-400 Middle 401-600 High	563	9.38	High
Construct 2: Interdependent Culture	0-300 Low 301-600 Middle 601-900 High	741	8.23	High
Construct 3: Collaborative Teaming	0-300 Low 301-600 Middle 601-900 High	767	8.52	High
Construct 4: System of Prevention	0-300 Low 301-600 Middle 601-900 High	742	8.24	High
Construct 5: Data Based	0-250 Low 251-500 Middle 501-750 High	667	8.89	High
Construct 6: Professional Development	0-300 Low 301-600 Middle 601-900 High	717	7.96	High
Construct 7: Principal Leadership	0-250 Low 251-500 Middle 501-750 High	697	9.29	High
Construct 8: Participative Leadership	0-200 Low 201-400 Middle 401-600 High	479	7.93	High

Reporting the mean of each construct provides a clear depiction of PLC functionality aligned with each construct. The lowest performing constructs were participative leadership and professional development. Both of these constructs had an

overall mean ranging between 7 and 8. The constructs of interdependent culture, collaborative teaming, systems of prevention, and data-based decision-making followed behind with an overall mean ranging between 8 and 9. The constructs of common mission and principal leadership ranked highest with an overall mean above 9. Although there was variance in the scores, each construct average indicated that PLCs were functioning at a high level.

Team Trust Inventory Data Collection

Data collection from the Team Trust Inventory was used during Phase 1 of the study. The Team Trust Inventory was used to evaluate the levels of trust within PLC teams. The Team Trust Inventory included four elements affecting trust among PLC team members: propensity to trust, perceived trustworthiness, cooperative behaviors, and monitoring behaviors (Costa & Anderson, 2011).

Demographics of Team Trust Inventory

The Team Trust Inventory was distributed to two rural North Carolina elementary schools: EE and WE. Forty-two possible participants received the survey and were asked to take part in data collection; 16 participants attempted the survey. While 38% of participants attempted the survey data was gathered from 33% of respondents. Eleven of the Team Trust respondents were from EE, and five were from WE. Respondents were asked to share the grade they taught. Results are presented in Table 21.

Table 21*Current Grade Level Taught*

Grade level	Number of respondents
PreK	1
Kindergarten	2
First grade	4
Second grade	4
Third grade	1
Fourth grade	2
Not recorded	2

Of the respondents, 6% were PreK teachers, 13% were kindergarten teachers, 25% were first-grade teachers, 25% were second-grade teachers, 6% were third-grade teachers, and 13% were fourth-grade teachers. One respondent's data were not recorded in the study because according to Item 2 of the survey, the participant was not employed at their current site in the year 2019-2020, and the survey therefore ended for them.

Team Trust Inventory Results by Element

The Team Trust Inventory evaluated the level of trust within PLC teams utilizing four elements: propensity to trust, perceived trustworthiness, cooperative behaviors, and monitoring behaviors (Costa & Anderson, 2011). The survey was a 7-point Likert scale ranging from 1 to 7, where 1 indicated completely disagree and 7 indicated completely agree. Items 13, 14, 19, and 20 were reverse scored. Items 1-3 and 25 were omitted for analysis purposes due to their relevance in measuring levels of trust within a PLC. Overall scores for each element ranged from 0-588 and 0-294, depending on how many items were included in the element based the 21 items utilized for analysis.

Table 22*Team Trust Element Range and Level of Trust*

Element	Element range and level of trust
Element 1: Propensity to trust	0-196 Low 197-392 Middle 393-588 High
Element 2: Perceived trustworthiness	0-196 Low 197-392 Middle 393-588 High
Element 3: Cooperative behaviors	0-196 Low 197-392 Middle 393-588 High
Element 4: Monitoring behaviors	0-98 Low 99-196 Middle 197-294 High

The ranges for each element were determined by the number of participants rating a possible 7 for each item. For example, Element 1 contained six items with 14 participant responses. Each item had a maximum score of 7, resulting in a possible total of 98 points for each item. When multiplied by all six items, the score created a range of 0-588 for Element 1. The range was calculated for each element to determine a level of high-, middle-, or low-level Team Trust. Tables 23-26 depict the frequency of item response for each element of the Team Trust Inventory along with an average of each question and element.

Table 23*Team Trust Inventory Element 1: Propensity to Trust Data*

Rating	Element 1: Propensity to trust							Total frequency	Item average
	1	2	3	4	5	6	7		
Q4 Most people in this team do not hesitate to help a person in need.	0	0	1	0	3	4	6	84	6.00
Q5 In this team most people speak out for what they believe in.	0	1	1	0	2	4	6	81	5.78
Q6 In this team most people stand behind their convictions.	0	1	0	2	3	3	5	78	5.57
Q7 The typical person in this team is sincerely concerned about the problems of others.	0	0	0	2	3	4	5	82	5.85
Q8 Most people will act as “Good Samaritans” if given the opportunity.	0	0	0	1	4	5	4	82	5.85
Q9 People usually tell the truth, even when they know they will be better off by lying.	0	0	0	5	1	5	3	76	5.42
Element overall frequency rating	0	4	6	36	80	150	203	479	5.70

The propensity to trust simply stated is the general willingness of a person or group of people to trust others (Costa & Anderson, 2011). Element 1 measured respondent propensity to trust those with whom they work closely within the PLC team. The overall frequency rating of Element 1 fell in the high range, indicating a high level of

propensity to trust.

Perceived trustworthiness refers to the expectation individuals have of others “to be and to behave according to their claims” (Costa & Anderson, 2011, p. 125). Perceived trustworthiness was accessed in this element through the evaluation of respondent integrity, benevolence, motives, and intentions when working with their PLC team members (Costa & Anderson, 2011).

Table 24

Team Trust Inventory Element 2: Perceived Trustworthiness Data

Rating	Element 2: Perceived trustworthiness							Total frequency	Item average
	1	2	3	4	5	6	7		
Q10 In this team people can rely on each other.	0	0	0	1	5	3	5	82	5.85
Q11 We have complete confidence I each other's ability to perform tasks.	0	0	0	2	4	4	4	80	5.71
Q12 In this team people will keep their word.	0	0	1	1	4	5	3	78	5.57
Q13 There are some hidden agendas in this team (r).	0	1	3	5	0	0	5	66	4.71
Q14 Some people in this team often try to get out of previous commitments (r).	0	0	0	3	0	7	4	82	5.85
Q15 In this team people look for each other's interests honestly.	0	0	1	4	2	5	2	73	4.56
Element overall frequency rating	0	2	15	64	75	144	161	461	5.48

Note. *Reverse scored items denoted by (r).

Element 2 received a high level of trust rating. Respondents indicated they felt as

though they could rely on one another when it came to getting the job done or accomplishing team goals. However, members of PLC teams may not feel as though their fellow team members are interested in genuinely getting to know them personally.

Cooperative behaviors refer to the extent to which team members communicate, depend on, learn from one another, and involve themselves with their team members on a personal level (Costa & Anderson, 2011). Within Element 3, respondents were evaluated on their opinions of the cooperative behaviors present in their PLC teams.

Table 25*Team Trust Inventory Element 3: Cooperative Behaviors Data*

Rating	Element 3: Cooperative behaviors							Total frequency	Item average
	1	2	3	4	5	6	7		
Q16 In this team we work in a climate of cooperation.	0	0	0	3	2	6	3	79	5.64
Q17 In this team we discuss and deal with issues or problems openly.	0	1	0	2	5	3	3	74	5.28
Q18 While making a decision we take each other's opinion into consideration.	0	0	0	2	5	3	4	72	5.14
Q19 Some people hold back relevant information in this team (r).	0	3	2	4	2	1	2	62	4.42
Q20 In this team people minimize what they tell about themselves (r).	0	2	2	5	0	4	1	61	4.35
Q21 Most people in this team are open to advice and help from others.	0	0	2	2	4	2	4	74	5.28
Element overall frequency rating	0	12	18	72	80	114	119	415	4.94

Note. *Reverse scored items denoted by (r).

Cooperative behaviors contained the greatest average of all four elements. Two items, Q19 and Q20, were reverse scored in this element. Both reversed scored items held

the lowest question average. Q16 received the greatest average in this element, indicating participants view themselves as working in a collaborative school culture.

Monitoring behaviors often occur when there is an absence of trust within PLC teams. When team members feel the need to monitor one another's work, they lack the confidence that team members can accomplish tasks for their team that are relevant to the team goals (Costa & Anderson, 2011). Conversely, when team members do not feel it is necessary to monitor one another's actions and behaviors related to the team, more trust is present among team members.

Table 26

Team Trust Inventory Element 4: Monitoring Behavior Data

Rating	Element 4: Monitoring behavior							Total frequency	Item average
	1	2	3	4	5	6	7		
Q22 In this team people watch each other very closely.	0	1	0	5	4	2	2	68	4.85
Q23 In this team people check whether others keep their promises.	0	1	0	7	1	5	0	65	4.64
Q24 In this team most people tend to keep each other's work under surveillance.	0	1	1	7	3	2	0	60	4.28
Element overall frequency rating	0	6	3	76	40	54	14	193	4.59

The overall average for Element 4 was one of the lowest among all four elements. This element indicated that respondents feel as though they can trust their PLC team members without having to check up on them to ensure they will do what they say they

will do.

Overall scores for each element ranged from 0-588 and 0-294, depending on how many items were included in the element based on the 21 items utilized for analysis.

Items 1-3 were omitted for analysis purposes due their irrelevance to the four elements being evaluated. Table 27 provides a detailed description of the overall average per element and its meaning.

Table 27

Team Trust Inventory Overall Average and Level of Trust

Element	Element range and level of trust	Overall score	Element overall average	Level of team trust
Element 1: Propensity to trust	0-196 Low 197-392 Middle 393-588 High	479	5.70	High
Element 2: Perceived trustworthiness	0-196 Low 197-392 Middle 393-588 High	461	4.56	High
Element 3: Cooperative behaviors	0-196 Low 197-392 Middle 393-588 High	415	4.94	High
Element 4: Monitoring behaviors	0-98 Low 99-196 Middle 197-294 High	193	4.59	Middle

Elements 1, 2, and 3 all had high overall scores, while Element 4 had an overall average scoring in the middle range. Overall, the data collected revealed respondents have a high level of trust among their team members.

Interviews

After the administration of the LCCI 4.0 survey and the Team Trust Inventory,

interviews were scheduled and conducted. A total of five interviews were conducted over the span of 3 weeks. Each interview lasted approximately 30 minutes.

Participants

Five interviews were conducted to examine the trends from the LCCI 4.0 survey and Team Trust Inventory. Table 28 displays the demographics of the interview participants.

Table 28

Demographics of Interviewees

Interviewee	Grade level	Years of experience	Site
Teacher 1	1	20	EE
Teacher 2	2	19	EE
Teacher 3	3	5	EE
Teacher 4	4	18	EE
Teacher 5	4	16	EE

All those who participated in the LCCI 4.0 survey and Team Trust Inventory had the opportunity to participate in the interview portion of the study. Participants represented Grades 1-4 and had been an employee of their current school for at least 1 complete school year. Each participant was employed at the same site, EE. Teacher 1 has spent her entire teaching career at her current school.

Analysis

Participants were asked questions regarding PLCs, team trust, leadership, and student achievement. Creswell's (2014) bottom-to-top approach to analyzing qualitative data was used to identify common themes and key ideas from participant responses.

Trends in the data emerged from the interview questions.

First, interviews were transcribed. Interview recordings were listened to multiple

times during the transcription process to ensure interviewee responses were properly transcribed. After transcription, member checking was utilized. Each interviewee was sent their interview transcription to read and approve as well as to approve themes that emerged from their interview (Creswell, 2014). During the coding process, emerging themes were color coded. Table 29 show the themes that emerged from initial coding.

Table 29

Common Themes from Interviews

Color code	Theme
Blue	Openness
Green	Cooperative
Red	Trust
Orange	Benevolence
Purple	Dependable
Yellow	Communication
Pink	Student growth
Light blue	Reliability
Light green	Collective efficacy
Brown	Leadership

Following initial coding, interviews and initial themes were reviewed again for deeper analysis of commonalities that provided further in-depth alignment to research questions. These themes included culture of trust, culture of collaboration, culture of respect, culture of collective efficacy, culture of shared decision-making, and culture of student achievement. The culture of an organization is observed through the functionality, relationships, and behaviors of the organization (Fullan & Hargreaves, 1992; Gruenert & Whitaker, 2015; Hattie, 2017). Throughout the qualitative data collection process, interviewees consistently referred to themes related to those of the organization's culture.

Research Question 1: How Can the Levels of Trust Present Among PLC Team Members Be Described to Select Rural Title I Elementary Schools?

In order to answer Research Question 1, Items 8, 9, 11, and 13 from the LCCI 4.0 survey were examined, and the Team Trust Inventory in its entirety was examined. Qualitative data from interviews were used to support the quantitative findings from the survey. Results indicated four elements factor into determining the level of trust present among PLC teams. These elements were propensity to trust, perceived trustworthiness, cooperative behaviors, and monitoring behaviors. Survey data were used to create interview questions that would provide a deeper understanding of the qualitative data collected. Interview Items 7-17 aligned with Research Question 1.

Propensity to Trust and Perceived Trustworthiness

Interview Items 8, 9, 10, 12, 14, and 15 were asked to build a stronger understanding of interviewee thoughts and value of trust as it pertains to the way in which they work with PLC team members. Both propensity to trust and perceived trustworthiness were examined together due to their close similarities and alignment. Propensity to trust examines a person's willingness to trust others, influenced by their personal experiences (Costa & Anderson, 2011). Perceived trustworthiness is the expectation individuals have of others, such as people do what they say they will do, people maintain their commitments, and people behave honestly (Costa & Anderson, 2011). Qualitative data revealed the value interviewees had on the propensity to trust and perceived trustworthiness aspects of PLCs.

Interview Item 8 asked interviewees their opinion of the value of a genuine PLC team member. Teacher 1 stated that a PLC team member who is "willing to give and

take” and share responsibilities “even though they may not agree with everyone” would be “irreplaceable.” Teacher 3 spoke of PLC team members needing to be “open-minded” and “to be helpful and understanding for everybody.” Teacher 5 added to the value of a genuine PLC team member by saying, “we look out for one another.”

Interview Item 9 sought to explore individuals’ thoughts on the importance of trust within their PLC teams. Each interviewee shared that when they trust their teammates, they feel comfortable talking to them, thereby creating an environment in which they feel they can share their ideas. Teacher 2 stated, “If you trust each other then you feel like you can share your ideas, if you don’t trust each other or you don’t like each other then you’re not going to want to share your ideas.” Teacher 3 put it another way by saying, “If you can’t trust your teammates then who can you trust?” Teacher 4 felt trust is, “the most important aspect of a relationship between the PLC team members.”

Item 10 built upon Item 9 and asked interviewees what type of trust they felt they had with PLC teammates. Varying views of the type of trust interviewees felt they had with PLC team members emerged from this question. Teacher 1 spoke of a developing relationship of trust among team members: “I would say it’s not as strong as it probably needs to be or should be but it’s building.” Teacher 2 spoke of having a complete open relationship with teammates that lends itself to sharing both personal and working information: “I feel like I can share whatever.” Teacher 3 stated that she keeps things very surface level with her PLC team members because she feels “like sometimes my PLC team can be very judgmental and not only judge me as a teacher but also as a person.” Teachers 4 and 5 both discussed being on teams in the past where a feeling of trust was absent from their PLC team; however, both spoke of feeling just the opposite on

their current PLC teams. Teacher 4 noted, “I feel like trust is not an issue”; and Teacher 5 said, “I feel like we all have each other’s backs.”

Item 14 asked interviewees to expound on the idea of mistrust among team members by asking what they felt prevented individuals on their team from being truthful with one another. Teacher 1 felt time played a role in the truthfulness of PLC members and stated, “I don’t know if it’s that we are not being truthful with one another, it’s that being a new team we have to build that trust.” Teachers 2 and 3 spoke of misplaced trust being due to members discussing information outside of their team. Teachers 4 and 5 discussed team members not wanting to “hurt” others feelings or being “scared” to share their opinions because of what others may think of them.

Item 15 allowed for deeper understanding of interviewee responses to getting to know their teammates on a personal level and the effects this has on trust within the team. Surprisingly, each interviewee shared getting to know team members on a personal level did affect the level of trust they had in their team. Teacher 3 stated, “You don’t always know what’s going on outside the four walls of the school, so if you don’t know what’s going on then you may not necessarily understand your team members and you can’t really trust them.” Teacher 1 said,

I think knowing them on a personal level, which some team members you know more personally than others but knowing some of their background kind of does help you understand where they come from and how they come so it does make you build that trust a little more.

Teacher 5 also talked about understanding team member backgrounds:

Understanding someone’s background and what triggers them, it’s important

because then you understand why they are like they are and it has nothing to do with you, it's about their personal experience and their background and then you will take them in a different manner and not take it so personally but the only way to do that is to spend that time getting to know about their childhood about their home life how they were raised so you can understand that.

Interview Items 8, 9, 10, 14, and 15 assisted in developing a deeper understanding of PLC team members' propensity to trust and perceived trustworthiness and how each of these elements play a valuable role in the development of trust among PLC team members.

Cooperative Behaviors

Cooperative behaviors are measured by the way in which team members "rely on each other," openly communicate, and are influenced by one another and the level at which team members are involved with one another (Costa & Anderson, 2011, p. 125). Interview Items 7, 11, and 13 sought to further examine the cooperative behaviors of PLC team members.

Item 7 asked interviewees about the type of cooperative behaviors that were present in their teams and the role these behaviors played in improving the collegiality of their PLC team. Teacher 4 discussed "building off each other's strengths" and PLC team members feeling "comfortable" sharing opinions and ideas with one another (Teacher 3) as being influencing cooperative behaviors. Teacher 1 echoed this sentiment by stating the importance of "taking in everyone's opinion" and "coming together" as a team. Teacher 2 stated, "everyone feels like they can voice their opinion." Although each teacher was interviewed separately, each spoke of common ideas of their opinions of

cooperative behaviors that evoke trust in PLC teams.

Item 11 expanded on the cooperative behavior of open decision-making and problem-solving within PLC teams. Each interviewee except one felt the trust they had with PLC teammates facilitated open decision-making and problem-solving with their team. Each interviewee spoke of the collaboration they had with teammates as being a contributing attribute to the way in which their team made decisions and problem solved together. Teachers 4 and 5 discussed the “open communication” of the PLC team and how this attribute assisted in problem-solving and decision-making. Teacher 3 stated that open decision-making and problem-solving were not present in the PLC team at this time, but indicated that “we are getting there.” Teacher 3 felt that in the past, members of the PLC team have operated as “a one man show” and have just recently “started to communicate and get on the same page and not only take just our own ideas but everybody’s ideas and form them into one big idea.”

Item 13 called for deeper understanding of how PLC teams handle differences of opinion and how this process affects the trust within the team. Teachers 1 and 3 shared different views on differences of opinion within their teams than the other interviewees. Teacher 1 shared an experience of broken trust due to members “reaching a breaking point” and losing control, while Teacher 3 shared an experience of avoidance: “We’ve kind of just let it go and not talked about it and we’ve kind of just went our own way.” Both teachers felt these experiences harmed the trust among PLC team members. However, Teachers 2, 3, 4, and 5 all discussed the importance of communication and listening as being important cooperative behaviors that affect the trust within teams. Teacher 3 stated,

I feel like if we can't accept everybody's opinions and we can't listen to and mold our opinions to let in other people's opinions then there really isn't a whole lot of trust that is going to be able to be built or be able to stay because you don't feel valued.

Teacher 5 said, "You have to be genuinely willing to listen not sitting here waiting on what you're going to say next but stop and listen to what they're saying so you can open your mind to thinking how they think."

Monitoring Behaviors

Costa & Anderson's (2011) research discusses that PLC team members exert monitoring behaviors when there is a lack of or an absence of trust. Monitoring behaviors are described as feeling the need to control team members work by checking behind them or surveilling what they do (Costa & Anderson, 2011). Both Items 16 and 17 required interviewees to reflect on their monitoring behaviors by asking if they feel it is necessary to monitor team member behaviors and how monitoring behaviors affect the trust in the team. Two interviewees stated they felt team member behaviors should be monitored, but neither felt they should be responsible for doing the monitoring. Teacher 1 said, "I think everybody needs to stay in check; I don't really think it's one person's duty to monitor them all." Teacher 4 echoed the previous teacher by stating, "I don't necessarily believe I should be the one monitoring it but I do feel like there are always differences of opinion and personalities...and there needs to be monitoring of that." However, Teacher 3 responded, "I feel like I do not need to monitor that my teammates are going to do what they say they are going to do." Teacher 5 provided a differing interpretation of monitoring behaviors:

We keep each other in check all the time; you can kind of pick up when somebody is being off, like something's not right and then if you're a true team member you're going to try to figure out well what can I do because this is my teammate and I'm supposed to be here to help them.

Interviewees had varying views on how monitoring behaviors impact the collegiality of their PLC team. Teacher 1 felt monitoring behaviors, if done correctly, could bring PLC team members "closer together and makes us work better as a team." Teacher 4 echoed Teacher 1's thoughts and stated that monitoring behaviors could "add to the collaboration, the effort that goes into the collaboration and willingness to collaborate, and it brings people together." The opposite was felt by Teachers 2 and 3. Teacher 2 responded that monitoring behaviors would "cause turmoil and if you're having to go behind people then ... you don't want to work with someone who you feel like you have to go behind." Teacher 3 stated knowing her behaviors were being monitored would "make me feel uneasy or like I was not trusted."

Overall, the quantitative and qualitative data collected and analyzed supported that the level of trust present in PLC teams at participating schools fell in the high range.

Research Question 2: How Can the Level of PLC Effectiveness Be Described at Select Rural Title I Elementary Schools?

In order to answer Research Question 2, quantitative data from the LCCI 4.0 survey was analyzed along with qualitative interview data that provided further insight into respondent thoughts on PLC effectiveness. Interview Items 3-8 and 15-20 were aligned with Research Question 2. Quantitative data revealed that participating schools had a high-level PLC functionality present at their site. The LCCI 4.0 survey examined

eight elements that play a role in the functionality of PLC teams in an organization: common mission, vision, and goals; principal leadership; participative leadership; interdependent culture; professional development; system of prevention; collaborative teaming; and data-based decision-making. The element of principal leadership is discussed in the section to follow as its data align with Research Question 3.

Common Mission, Vision, and Goals

A number of researchers have identified the importance of the existence of a common mission, vision, and goals in organizations (DuFour, 2004; Easton, 2016; Stewart, 2009). Members of an organization work toward one focus. Interviewees spoke of a common mission, vision, and goal being present in their organization. Each interviewee discussed data and collaboration as being a major push at their site. Teacher 1 described her principal: “Her big focus is data and collaborating, so everyone has a say in what’s going on ... but her main focus is data.” Teacher 2 put it another way: “promoting student success, getting everybody meeting their goals.” Teacher 5 concurred by saying, “it’s all about the children, meeting their needs and growth, what are we doing to meet their needs, when we lesson plan why are we doing this? What’s important, how is it meeting the children’s needs?” It is evident from qualitative data that there is a common mission, vision, and goal present at participating sites.

Participative Leadership

Participative leadership is viewed as the act of including teachers in the decision-making process of the organization and is an influencing element of the existence of a collaborative PLC (DuFour, 2004; Gruenert & Whitaker, 2015; Stewart, 2009). When asked about the decision-making processes within participating organizations, Teacher 1

explained, “it’s a combination of the administrator and teachers.” Teacher 4 stated, “I think teachers all over the campus have input but the administration makes sure that we are using our goals.” Teacher 5 expressed that although there are nonnegotiables set by the district that must be followed, administration allows for teachers to have autonomy within the classroom as long as teacher decisions within the classroom are purposeful and goal centered.

Professional Development

Professional development in this capacity refers to the learning that takes place among colleagues working together in a PLC; in other words, teachers collaborating in PLCs to improve student learning and expand their pedagogical skills to meet the academic needs of their students (Stewart, 2009). Interviewees were asked three questions pertaining to their views on professional development. Each interviewee agreed that professional development was an important element in an educator’s career and contributed to expanding their pedagogical skills. Interviewees also noted the importance of educators taking an active role in their professional development. Teacher 4 discussed the importance of self-reflection and honesty with oneself in order to know the type of professional development to seek out or the purposeful conversations to have with colleagues in PLC meetings that would refine craft and skill.

Interviewees were asked if they felt developing lessons with colleagues and then observing these lessons and refining them would contribute to their professional development. Each spoke positively of this type of PLC interaction. Teacher 1 stated, “I can learn from others.” Teacher 3 even shared a weakness they have in teaching English language arts and how collaborating with the PLC team on “how they teach ELA is very

beneficial for me” because it provides strategies that can be incorporated in lessons to strengthen their effectiveness.

Consistently throughout the discussion of professional development, interviewees shared their interest in learning from their colleagues through meaningful conversation and observation and how this interaction with PLC team members added to their professional growth.

Interdependent Culture and Collaborative Teaming

Interdependent culture and collaborative teaming in this respect refers to the way in which stakeholders of an organization work together or interact with one another to improve teaching and student learning. It is a collective responsibility of the organization for the learning and growth of students (Stewart, 2009). Qualitative Interview Items 4-6 provided a deeper understanding of the quantitative data collected from the LCCI 4.0 survey. Interviewees felt that decisions made in their organization were a combination of both administrators and teachers. Teacher 2 explained, “Our administration allows everybody to put in their opinion on what they believe would work best” and then administration makes the “final decision.”

During scheduled PLC meetings, interviewees were asked to share their thoughts on what topics should be covered during that time and how much time should be spent weekly collaborating with teammates. Qualitative data showed a variety of responses related to time spent per week for team collaboration, ranging anywhere from an hour and a half weekly to there is not enough time. However, interviewees did speak of similar topics they felt should be discussed during PLCs, such as lesson plans, addressing student needs, differentiation, and pacing.

System of prevention and data-based decision-making are two elements from the LCCI 4.0 survey that were not explored further during qualitative data collection because an adequate amount of quantitative data were collected and analyzed. The qualitative and quantitative data collected regarding the functionality of PLC teams at participating sites reveal the existence of a collaborative school culture whose mission is to improve student and teacher learning.

Research Question 3: How Can the Perceived Role of the Principal in Facilitating Trust Among Teachers in PLC Teams Be Described at Two Rural Title I Elementary Schools?

Organization team members are willing to follow leadership when they feel they are able to trust and rely on them (Bryk & Schneider, 2003; Dirks, 2000; Louis, 2007). Quantitative data from the LCCI 4.0 survey and Team Trust Inventory were used to develop interview questions that would provide further understanding of the role participants perceive the principal has in facilitating trust among teachers in PLC teams. Qualitative Items 2-5 provide insight into the perceived role of the principal in facilitating trust according to interviewees.

Interviewees were asked the role of administration in facilitating team collaboration. Themes such as lead by example, encourage, set expectations, and listen emerged through conversation. Teacher 4 stated,

I believe administration has a critical role as far as team collaboration, because they are the leader ... leading by example is most often the highest priority which would require their dedication to what they feel is most important for us to do on a daily basis that they are equally doing those things and being that role model.

Administration is expected to model how collaboration should look, set the expectation for the collaboration, and provide focus and guidance for collaborative teams.

Interviewees felt their opinions were valued by administration when having to make decisions regarding teaching and learning. Teacher 3 explained, “Our administration does well listening to our concerns and listening to things we think would help our kids and others; her ability to listen makes my opinion feel valued.” Teacher 5 explained that administration “makes our work environment such a positive working environment where it’s a nice place to come to work because you know that your opinion matters.” Administration encourages the same respect within PLC team collaboration, which in turn facilitates trust within the team.

Conclusion

The purpose of this study was to determine the current level of trust among teachers working in PLCs, the effectiveness of PLCs, the perceived role of the principal in facilitating trust within PLC teams, and the implications these three elements have on student achievement. Descriptive statistics were used to analyze survey and interview data and have been presented. Survey and interview results have been displayed. Data analysis for each research question has been provided.

Chapter 5 presents a summary of research and findings, a conclusion, and recommendations for further research.

Chapter 5: Discussion

Introduction

The purpose of this mixed methods study was to determine the current level of trust among teachers working in PLCs, the effectiveness of PLCs, the perceived role of the principal in facilitating trust within PLC teams, and the implication these three elements have on student achievement within select Title I elementary schools located in a rural county of North Carolina. The study was used to provide further research supporting the importance of the development of trust within PLCs and PLC effectiveness in developing a collaborative school culture that impacts student achievement. Chapter 4 presented qualitative and quantitative data using descriptive statistics. Quantitative data were collected from the LCCI 4.0 survey and Team Trust Inventory, and interviews were conducted to provide a deeper understanding of the survey data analyzed. The following research questions were used to guide the study:

1. How can the levels of trust present among PLC team members be described at two rural Title I elementary schools?
2. How can the level of PLC effectiveness be described at two rural Title I elementary schools?
3. How can the perceived role of the principal in facilitating trust among teachers in PLC teams be described at two rural Title I elementary schools?

Chapter 5 provides a summary of the findings on the levels of trust in PLCs, PLC effectiveness, and perceived role of the principal in facilitating trust at rural Title I elementary schools.

Interpretation of Findings

This study examined the impact PLC implementation and collegial trust has at the organizational level and the effect these elements have on the positive school culture that nurtures academic achievement in select rural Title I elementary schools located in southeastern North Carolina. The examination occurred through the quantitative collection of survey data measuring PLC implementation and Team Trust and the qualitative collection of interview data. The following research questions were examined through this study and their findings are presented.

Research Question 1 asked, “How can the levels of trust present among PLC team members be described at two rural Title I elementary schools?” A growing topic in the research of PLC effectiveness is the presence of trust within PLCs. The benefit of the existence of trust within PLCs is team member willingness to be open and have purposeful collaboration focused on student academic achievement and collective efficacy. Tschannen-Moran (2001) stated, “for teachers to break down norms of isolation and to sacrifice some of the autonomy they value so highly in order to reap the potential benefits of greater collaboration they must trust their colleagues” (p. 311). PLCs where trust is present experience goal achievement, authentic communication, widened pedagogy, and increased student achievement (Costa, 2003; Hallam et al., 2015).

Trust among PLC team members was measured using four elements from the Team Trust Inventory: propensity to trust, perceived trustworthiness, cooperative behaviors, and monitoring behaviors. In the area of propensity to trust, results indicated team members feel as though they can rely on one another for help. However, interviews revealed that some participants felt that not all members may be truthful at all times.

Interviewees cited issues such as not wanting to hurt a teammate's feelings or being uncertain of what teammates may think of them as reasons team members may not always be truthful. The feelings interviewees shared are reflective of a comfortable collaborative school culture where being friendly to one another supersedes providing constructive feedback to colleagues or offering alternative viewpoints (Gruenert & Whitaker, 2015). The absence of complete truthfulness expressed by interviewees toward their PLC teammates could very well be the difference between having the presence of a calculus-based trust versus an identification-based trust relationship (Lewicki & Wiethoff, 2000). The calculus-based trust relationship is often one that exists in the workplace and is characterized by being task oriented and reputation driven. People work together not for personal satisfaction but because there is a goal that needs to be accomplished, and they recognize that their performance on accomplishing this goal defines their reputation in the workplace (Lewicki & Wiethoff, 2000). In contrast, the identification-based trust relationship is often found among personal relationships and is characterized by being more like a marriage. When an identification-based trust relationship exists, parties understand one another to a point they know what one another would do in situations without asking; they are like minded and know the expectations of one another (Lewicki & Wiethoff, 2000). When the identification-based trust relationship exists in the workplace, it is easier for teammates to work together because they "understand the expectations, goals, and needs of one another" (Lewicki & Wiethoff, 2000, p. 1).

Monitoring behaviors scored in the middle range of level of trust. Monitoring behaviors, however, is viewed as a negative behavior within PLC teams, a behavior in

which team members lack trust and feel the need to check up on their colleagues' work and motives rather than trust their actions. However, the perceived definition of monitoring behaviors by interviewees seemed to be much different. Some viewed monitoring behaviors as keeping one another in check or to know one another so well that you recognize when a team member is not acting out of character. As a matter of fact, interviewees felt that monitoring one another's behaviors could bring each other closer together. In this respect, monitoring the behaviors of PLC team members seemed to be understood as a positive behavior rather than the negative one, as was its intent.

Cooperative behaviors held the highest average by respondents, indicating that team members felt as though they could rely on one another and openly communicate with one another about their work. Through qualitative and quantitative data, it was evident that team members of participating sites felt their teammates listened to them and they could communicate with team members about their pedagogy. Data indicated teams were in varying stages of cooperative behaviors. Handling differences of opinion was an area of cooperative behaviors that may need refining or strengthening. Interviewees reported varying ways in which their teams handled differences of opinion and how these differences affected the trust present in their PLCs. Examples such as ignoring differences, heated conversations, reflection of opinions, and lack of openness were discussed. However, with each of these varying approaches, the ability to communicate openly and overcome the differences of opinion remained a characteristic of PLC teams that participated in the study. Overall, a high level of team trust was present in PLC teams that participated in the study.

Research Question 2 stated, "How can the level of PLC effectiveness be described

at two rural Title I elementary schools?” The characteristics of effective PLCs and a collaborative school culture are nearly synonymous. Collaborative school cultures are those where a framework of help, support, trust, openness, collective reflection, and collective efficacy exist; the same could be said for PLCs (DuFour, 2004; Easton, 2016; Eller & Eller, 2009; Fullan & Hargreaves, 1996; Gruenert & Whitaker, 2015; Hall & Hord, 2015; Little, 1990). Measuring the level of PLC effectiveness described at rural Title I elementary schools provides a gateway into understanding the effectiveness of the organization and its ability to obtain its goals.

The LCCI 4.0 survey, Team Trust Inventory, and interview data were collected and analyzed to describe the level of PLC effectiveness at two rural Title I elementary schools. Overall, the LCCI 4.0 survey described the level of PLC effectiveness at participating sites to be operating at a high level of functionality in each of the eight constructs. However, the data revealed a need to concentrate in the areas of participative leadership focused on teaching and learning and the area of professional development that is teacher driven and embedded in daily work.

Construct 1 measured the presence of a common mission, vision, value, and goals. The presence of a common mission, vision, value, and goals in an organization drives the decisions made within the organization. Maintaining a high overall average is a positive indicator of a mission-centered organization. Qualitative data implied the existence of a unified organizational mission to improve student achievement and widen teacher pedagogy.

Construct 2 evaluated the interdependent culture based on trust within the organization. When establishing a collaborative school culture, the existence of the

element of trust within the PLC teams is of great importance. When teachers in a PLC have established high levels of trust, the walls of working in isolation are broken down and teachers become more comfortable sharing critical information that will improve their personal professional development and team effectiveness (Attiq et al., 2017; Costa, 2003; Hallam et al., 2015). Analyzed data from both the LCCI 4.0 and Team Trust Inventory indicate the inclusion of trust at varying degrees within PLC teams.

Construct 3 measured the collaborative teaming that takes place at each site. Purposeful collaboration is imperative when developing an organization that is focused on increasing student achievement and growing highly qualified educators. Collective reflection and collective efficacy provide a framework for an effective PLC and collaborative school culture (Gruenert & Whitaker, 2015). Analyzed data revealed a high level of collaborative teaming takes place at participating sites. However, within this construct, the question of sufficient time being allotted to collaborate with teams received the lowest item average. When examined further through interviews, responses ranged from desiring an hour and a half per week to collaborate to an unlimited amount of time needed for collaboration. Interviewees who noted they felt there was never enough time for collaboration were also those who seemed to collaborate at a deeper level than those who found less time was needed. Construct 3 data also indicated that PLC team meetings were a protected scheduled event at their sites, where teams collaborated on finding instructional solutions that assisted all students in improving their learning and mastering targeted skills.

Construct 4 evaluated the systems of prevention and intervention in place at the organizations that assure student success for all students. It came as no surprise that this

construct received a high level of PLC functionality because, as previously stated, there is a unified mission within the organization that is understood to be the continuous improvement of student academic success. Data indicated high-quality educators provide high-quality instruction to all students and strive to intervene with students who are at risk for academic failure. Extra time is allotted for students who demonstrate a difficulty in academic skills, and PLC teams collaborate to provide extra teacher-directed learning time to assist students. However, data also indicated a need for the development of a systematic way for educators to intervene on academic progress that is required for students.

Construct 5 assessed respondent opinions of data-based decision-making using continuous assessment. Data indicated that PLC teams utilize student data from a variety of sources such as summative and formative assessments to guide their instruction and planning time.

Construct 6 evaluated the element of professional development that is teacher driven and embedded in daily work. Although still falling in the category of high functionality, Construct 6 received one of the lowest evaluations from respondents. The area of professional development indicated the importance and need for educators to be able to develop lessons, observe lessons being taught by colleagues, and refine those lessons for their own use. Educators from participating sites felt they were provided ample professional development that improved their classroom instruction, but the desire to see their colleagues in action and glean from this was lacking. Professional development comes not only in the form of attending trainings but also in observing best practices and collaborating on these best practices to expand collegial knowledge

(Bredeson, 2003; Little, 1990). Qualitative data analyzed supported the quantitative data analyzed from the LCCI 4.0 survey, and interviewees shared their opinions of the importance of having the opportunity to observe their colleagues and how this interaction assisted them in a rewarding professional growth experience.

Construct 7, principal leadership that is focused on student learning, was one of the highest ranking constructs. This finding came as no surprise, as the importance of student learning was an overwhelming theme present at participating sites. When referring back to the conceptual framework upon which this study was built, principal leadership plays a vital role in creating a culture of collaboration. Quality leadership cultivates teacher self-efficacy and challenges PLC team practices, greatly influencing a school's capacity to succeed (Fullan, 2001; Gruenert & Whitaker, 2015; Newman et al., 2000). It was evident that student learning has been embedded in the day-to-day conversation from principal leadership at participating sites. Interviewees consistently spoke of leadership's position on the importance of staff to focus on student learning in all areas. Throughout the interviews conducted, leadership was continually referred to and seeming admired, respected, and trusted for their leadership skills.

The final construct evaluated to provide a description of the level PLC effectiveness present at participating rural Title I sites was that of participative leadership focused on teaching and learning. Construct 8 was one of the lowest ranking but still received an overall high level of PLC functionality. This construct indicated conflicting evidence between qualitative and quantitative data. The quantitative data presented indicated that although respondents felt they are included in school-wide decision-making processes that relate to teaching and student learning, they did feel inhibited to some

degree in their decision-making abilities that affect teaching and learning. However, qualitative data revealed interviewees did feel their opinion was valued and they were very much a valued part of the decision-making processes of teaching and learning at their site. The discrepancy is discussed further in the limitations of the study.

Overall, the level of PLC effectiveness described at participating rural Title I schools indicated a high level of functionality which in turn leads one to believe the presence of a collaborative school culture is evident.

Research Question 3 asked, “How can the perceived role of the principal in facilitating trust among teachers in PLC teams be described at two rural Title I elementary schools?” Both survey and interview data proved the vital role of leadership in the development of effective PLCs and facilitation of trust within the PLCs. Trust in leadership permits members of the organization to be willing to work in tandem with the leader to achieve the goals of the organization and accept the decisions of the leader. When team members feel their opinions are valued and are part of decision-making processes, they are willing to follow leadership (Bryk & Schneider, 2003; Dirks, 2000; Louis, 2007). The development of a culture of trust plays an essential role in the implementation of PLCs and relies heavily on the role of organizational leaders (Gray et al., 2016).

Throughout the data, the influence leadership has had on facilitating the expansion of school capacity in all areas is apparent. Leadership has established a unified common mission, vision, and goals that have been cultivated through shared decision-making processes, the valuing of educator opinion, and the facilitating of team collaboration. Qualitative data indicated leadership takes the time not only to include

stakeholders in the decision-making processes, but to listen and reflect upon their opinions. A dictatorship does not seem to be present; instead, participants pointed to collective efficacy between leadership and team members, which in turn cultivates a trusting environment and culture.

Implications

The purpose of this study was to investigate the impact PLC implementation and collegial trust have at the organizational level and the effect these elements have on the positive school culture that nurtures academic achievement in select rural Title I elementary schools. After completion of the study and data analysis, implications for education emerged. This study highlighted the interconnectedness of how an organization's culture impacts its inner workings. Results suggest that investing in the nurturing of a positive collaborative school culture and a culture of trust positively influences the implementation of PLCs, which in turn impacts student academic achievement, making it relevant to all Title I school districts striving to improve their organization and improve student achievement.

Student achievement has long been a topic of discussion in education. Title I schools especially have added pressure to show student achievement due to the federal funding they receive (Hammonds, 2018). Much research has been conducted to learn influencing factors of student achievement. Organizations with a foundation built on continual learning and growing with a unified mission to expand their capacity to reach their goals invest in establishing a purposeful collaborative culture (Argyris & Schon, 1978; Gruenert & Whitaker, 2015). One such factor proven to impact student achievement is the presence of a purposeful collaborative culture and effective PLCs.

Organizational learning supports the idea that culture fosters collegial collaboration and trust and, conversely, that collegial collaboration and trust foster culture (Argyris & Schon, 1978; Bush, 2015). The school report cards discussed in Chapter 1 noted EE has implemented PLCs for the past 5 years and has experienced growth in academic performance of students during the 5 years, moving from a D school to a C school. WE has also implemented PLCs but overall has remained a D school. WE has not met expected growth since 2016. The data collected from this study show the implementation of PLCs and facilitation of trust among PLC team members have the potential to positively influence student achievement.

One practical implication learned from this study is the importance of cultivating a collaborative school culture that in return influences meaningful implementation of PLCs. If Title I schools identify the type of culture existing in their organization, this could enlighten leadership to areas of improvement that could impact student learning (Hammonds, 2018). Results from this study identified a need for leadership to invest in creating a collaborative culture in their organization that would allow for PLCs to flourish; a collaborative culture built on the framework of providing help, support, trust, openness, collective reflection, and collective efficacy for its stakeholders (Eller & Eller, 2009; Gruenert & Whitaker, 2015; Fullan & Hargreaves, 1996).

Another practical implication is the necessity of leadership to implement and cultivate PLCs that facilitate joint work, collegial support, trust, professional respect, openness, and collective efficacy with a focus on student and teacher learning as the driving force. The purpose of the development of the LCCI 4.0 was to provide leadership with an assessment tool that would offer critical information on their efforts in

establishing successful PLCs in their organization (Stewart, 2009). Regularly assessing the current implementation of PLCs with a survey such as the LCCI 4.0 to better understand what areas your organization has strengths as well as areas for improvement can facilitate continued improvement of PLC implementation. Then focus your efforts on improving the areas where improvement is needed. The purpose of establishing an effective PLC is the impact it has on student achievement in Title I schools. When organizations spend time cultivating teaching and learning processes, students win because these processes lead to improved achievement (Easton, 2016). Effective PLCs have created an environment where educators learn from one another and develop one another professionally (Attiq et al., 2017; Costa, 2003; Hallam et al., 2015). If the pedagogy of educators is increased, effective change in student achievement will occur (Hammonds, 2018).

Yet another implication emerging from this study is the importance of the cultivation of a culture of trust within the organization that is embedded in Title I PLC teams. Assessing the levels of trust within PLC teams will assist in pinpointing areas of improvement that can increase the effectiveness of the PLC. Using a trust survey such as the Team Trust Inventory would be beneficial to organizational leaderships in revealing elements of trust that could be capitalized on and improving those areas that show a deficit. When high levels of trust are present in PLC teams, this allows for critical information to be shared, which in turn allows team effectiveness and teacher growth to increase (Attiq et al., 2017; Costa, 2003; Hallam et al., 2015; Tschannen-Moran, 2001).

Leadership plays a valuable role in creating an organization with a foundation in collaboration, a focused mission, implementing effective PLCs, and facilitating trust

within these PLCs. It is suggested that trust in leadership determines the organization's performance (Bryk & Schneider, 2003; Dirks, 2000; Louis, 2007). Leadership should understand the benefits of the impact investing in effective PLCs and cultivating a culture of trust in their organization could yield and their role in implementing these elements.

The current COVID-19 pandemic has impacted education in Title I schools. The implementation of PLCs in Title I schools, the cultivation of trust, and the impact of these elements on student achievement all require effective, purposeful collaboration. Collaboration due to COVID-19 has been interrupted. Educators have had to make a quick shift in the way they reach students, teach students, and collaborate with PLC team members. It is uncertain how the pandemic has impacted student achievement or how the sudden transition from face-to-face learning to virtual learning will affect student achievement (Kuhfeld et al., 2020). Title I students already face many challenges to overcome low student achievement; now Title I schools are not only facing the preexisting challenges but the challenges left in the wake of the pandemic. There are concerns that the gap of high- and low-achieving students will become greater due to the impact COVID-19 has had on education (Soland et al., 2020). School closures and the sudden switch from a face-to-face learning environment to a virtual learning environment have lengthened the time frame students typically go without face-to-face instruction from teachers (Soland et al., 2020). Teachers are scrambling to transition from teaching content in a face-to-face learning environment to adapting the content for a virtual platform while providing the same rigor (Kuhfeld et al., 2020; Soland et al., 2020). The effects of each of these elements on student achievement in Title I schools and the implementation of PLCs among educators are yet to be seen.

Recommendations

The purpose of this study was to examine the current levels of trust present within PLC teams, the effectiveness of the PLC teams, the perceived role of the principal in facilitating trust within PLCs, and the implication these three elements have on student achievement within select rural Title I elementary schools located in southeastern North Carolina. After analyzing the data of this mixed methods study, several recommendations for future research have arisen. One such recommendation being to conduct this study with more participants. With more participants, additional implications may emerge. Including more participants could broaden the scope of understanding and could strengthen the findings of further studies (Fitzpatrick et al., 2011). A second recommendation would be to conduct a continuous study that encompasses all Title I elementary schools in this district to determine the impact of effective PLC implementation on student achievement. Identifying the type of collaboration present in schools can lead to efforts to improve collaboration at the organizational level, thus creating the best setting for educators and students to learn (Gruenert, 2005). A third recommendation would be to conduct a study that examines the impact of the COVID-19 pandemic on PLC implementation, cultivating trust within PLCs, and its impact on student achievement. It stands to reason that the sudden shift in education due to COVID-19 has impacted the way in which teachers and students collaborate. "Collaboration is increasingly extolled as an important feature in the management of excellent schools" (Tschannen-Moran, 2001, p. 308). COVID-19 has disrupted the routine of collaboration among PLC team members, as they have been forced to switch from face-to-face interactions with colleagues and students to virtual interactions. Trust is developed overtime and through interactions with colleagues (Lewicki & Wiethoff, 2000). The

absence of these interactions due to COVID-19 could play a role in the development of trust among PLC team members. Student achievement has been proven to be positively impacted by the collaboration that occurs among PLC team members (Gruenert, 2005). If the interactions among PLC teammates is being strained due to COVID-19, it is possible student achievement will be impacted as well.

PLC implementation and cultivating trust within PLCs are recurrent works in progress that should be regularly evaluated for continual improvement. Each time a PLC changes with new members added or members taken away, the dynamics of the team change, which indicates a need to frequently evaluate how PLC teams are working. The dynamics of a PLC is an ongoing process (DuFour, 2004). The same could be said for leadership shifts and how they influence the organization. Changes in leadership will also affect the culture of collaboration and trust present in organizations and should be evaluated. “Culture is not some mystical power that thrives on superstition; the locus of control is within the scope of leadership” (Gruenert & Whitaker, 2015, p. 111).

The culture of an organization affects the implementation of the PLC; trust among PLC team members affects the implementation of the PLC; leadership’s role in these areas influences their impact on the organization; and ultimately, each of these elements impact student achievement. Regularly evaluating school culture, PLC implementation, and trust in PLCs can assist an organization and its leadership in continual improvement.

Limitation of the Study

The limitations to the study included the inability to control teacher turnover and years of experience served in respective PLCs. When studying the element of trust, it is widely known that trust takes time to build. The relatively small population size of the

study proved to be a limitation as well, as finding schools willing to participate in such an intimate study was difficult. Two rural Title I elementary schools were included in the study. Another limitation of the study was the relatively small population size of interviewees; the study sought to have a minimum of 12 interviewees but ended with five. It is also important to note that all five interviewees came from the same school as well and that the second school was not represented in Phase 2 of the study.

Conclusion

A collaborative school culture that cultivates trust nurtures effective implementation of PLCs and influences student achievement (Fullan & Hargreaves, 1996; Gruenert, 2005; Rennie Center for Education Research & Policy, 2013). School leaders who invest in creating a collaborative culture should see an increase in student achievement and teacher performance (Gruenert, 2005). Time and funding invested in the improvement of school cultures that lead to collaborative PLC teams and trust would be time and funding well spent and would leave a lasting imprint on teacher and student achievement.

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Appendix A
LCCI 4.0 Survey

Please respond to the following statements that pertain to your school's culture. Each statement offers a continuum of responses from 10 (agree strongly) to 0 (disagree strongly). Select the point on the continuum that you believe is the best indicator of yours and your school's practice. Some responses are on a percentage continuum. "Not applicable" (NA) or "I don't know" may be options for some statements.

Your initial thought in answering the statement might be your most accurate response.

If you encounter terminology that is not clear to you, please use your best guess as to the term's definition.

Please be assured that your identity in taking this survey is anonymous, and your responses are kept in confidence with the researcher.

Please select your school.

☐ East Elementary

☐ West Elementary

Were you employed at this school in the 2019-2020 school year?

☐ Yes

☐ No

What grade do you teach?

☐ Kindergarten

☐ First

☐ Second

☐ Third

☐ Fourth

☐ Pre-K

The primary purpose of our school is to help all children learn at high levels.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
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We are trying to create a school culture in which more students would achieve at high levels.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
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I am aligning my efforts with primary purpose of the school which is to help all children learn at high levels.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
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Our school-wide goals and objectives guide teachers' work to help more students achieve at high levels.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
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I share my knowledge and expertise with other teachers to solve problems of teaching and learning.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
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I seek out other teachers' expertise to help me solve problems of teaching and learning.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
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In addition to formal team meetings, teachers in this school spontaneously collaborate to solve problems of teaching and learning.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
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The trust I feel among teachers facilitates open decision making and problem solving.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
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I feel safe to take the risk of using innovative instructional methods.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
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I feel safe to express my opinions even when I am in the minority.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
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I am on an instructional team that collaborates to improve teaching and learning.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
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How often does your instructional team meet to collaborate on improving teaching and learning?

More than once a week <input type="radio"/>	At least weekly <input type="radio"/>	At least every other week <input type="radio"/>	At least monthly <input type="radio"/>	About every 3 months <input type="radio"/>	Never <input type="radio"/>
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My instructional team meetings are scheduled during the contracted day (e.g., common preparation periods, early out, late start).

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
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My instructional team has sufficient collaboration time to improve teaching and learning.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
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My instructional team's processes lead to improved student learning.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
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My instructional team collaborates on finding instructional solutions that help all students improve their learning.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
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My instructional team finds the most effective instructional approaches to help students master selected learning targets.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
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At my school teachers provide high quality instruction for all students including those who may be at risk for academic failure.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
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The faculty in this school has enacted systems for intervening with students who are at risk for academic failure.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
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Any student who experiences academic difficulty in my class receives extra time and support.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
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In this school, the additional time and support for learning provided to students who experience academic difficulty is developed in a systematic way rather than being left to the discretion of teachers.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
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Rather than just being invited, students who experience academic difficulty are required to participate in activities that provide them with additional time and support for learning.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
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In my grade level or department team, we systematically assist students who have difficulty mastering core content by providing extra teacher-directed learning time.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
---	----------------------------	--------------------------------------	----------------------------	---	----------------------------	---	----------------------------	---	----------------------------	---

My instructional team uses data from district or state end of level tests to make instructional decisions.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
---	----------------------------	--------------------------------------	----------------------------	---	----------------------------	---	----------------------------	---	----------------------------	---

My instructional team has identified common core learning standards on which we assess student learning.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
---	----------------------------	--------------------------------------	----------------------------	---	----------------------------	---	----------------------------	---	----------------------------	---

I use evidence of student learning to adjust my instructional practice.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
---	----------------------------	--------------------------------------	----------------------------	---	----------------------------	---	----------------------------	---	----------------------------	---

My instructional team has created common assessments.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
---	----------------------------	--------------------------------------	----------------------------	---	----------------------------	---	----------------------------	---	----------------------------	---

My instructional team continuously assesses student learning to guide instruction.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
---	----------------------------	--------------------------------------	----------------------------	---	----------------------------	---	----------------------------	---	----------------------------	---

My collaborative team process has been an important source of professional learning for me.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
---	----------------------------	--------------------------------------	----------------------------	---	----------------------------	---	----------------------------	---	----------------------------	---

The professional development in which I participate in this school improves my classroom instruction.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
---	----------------------------	--------------------------------------	----------------------------	---	----------------------------	---	----------------------------	---	----------------------------	---

Teachers participate in lesson studies, in which teachers co-develop lessons, observe a colleague teach the lessons to students, and critique and refine the lessons for use in their own classrooms.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
---	----------------------------	--------------------------------------	----------------------------	---	----------------------------	---	----------------------------	---	----------------------------	---

Teachers help design professional development.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
---	----------------------------	--------------------------------------	----------------------------	---	----------------------------	---	----------------------------	---	----------------------------	---

Teachers share their instructional expertise.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
---	----------------------------	--------------------------------------	----------------------------	---	----------------------------	---	----------------------------	---	----------------------------	---

Teachers new to our school are provided with mentoring in a systematic way.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
---	----------------------------	--------------------------------------	----------------------------	---	----------------------------	---	----------------------------	---	----------------------------	---

My principal focuses on improving student learning.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
---	----------------------------	--------------------------------------	----------------------------	---	----------------------------	---	----------------------------	---	----------------------------	---

My principal coaches my instructional team towards improving student learning.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
---	----------------------------	--------------------------------------	----------------------------	---	----------------------------	---	----------------------------	---	----------------------------	---

My principal uses data to improve teaching and learning.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
---	----------------------------	--------------------------------------	----------------------------	---	----------------------------	---	----------------------------	---	----------------------------	---

My principal has helped to create conditions that improve student learning.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
---	----------------------------	--------------------------------------	----------------------------	---	----------------------------	---	----------------------------	---	----------------------------	---

My principal has helped to create conditions that promote teacher learning.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
---	----------------------------	--------------------------------------	----------------------------	---	----------------------------	---	----------------------------	---	----------------------------	---

Teachers help make school-wide decisions that relate to teaching and learning.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
---	----------------------------	--------------------------------------	----------------------------	---	----------------------------	---	----------------------------	---	----------------------------	---

Teachers help make most decisions that relate to teaching and learning in this school.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
---	----------------------------	--------------------------------------	----------------------------	---	----------------------------	---	----------------------------	---	----------------------------	---

Teachers are able to make good decisions regarding teaching and learning without being inhibited by layers of bureaucracy.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
---	----------------------------	--------------------------------------	----------------------------	---	----------------------------	---	----------------------------	---	----------------------------	---

Teachers collaboratively exercise leadership with the principal on issues that relate to improving teaching and learning.

10. Agree Strongly <input type="radio"/>	9 <input type="radio"/>	8. Agree <input type="radio"/>	7 <input type="radio"/>	6. Agree Somewhat <input type="radio"/>	5 <input type="radio"/>	4. Disagree Somewhat <input type="radio"/>	3 <input type="radio"/>	2. Disagree <input type="radio"/>	1 <input type="radio"/>	0. Disagree Strongly <input type="radio"/>
---	----------------------------	--------------------------------------	----------------------------	---	----------------------------	---	----------------------------	---	----------------------------	---

In this school there are formal professional learning communities that meet regularly.

<input type="radio"/> Yes
<input type="radio"/> No

Thank you for your participation in this survey.

Appendix B
Team Trust Inventory

Please select your school.

☐ East Elementary

☐ West Elementary

Were you employed at this school in the 2019-2020 school year?

☐ Yes

☐ No

What grade do you teach?

☐ Kindergarten

☐ First

☐ Second

☐ Third

☐ Fourth

☐ Pre-K

Most people in this team do not hesitate to help a person in need.

Completely
Disagree

☐

Disagree

☐

Somewhat
Disagree

☐

Neither
Agree
Nor
Disagree

☐

Somewhat
Agree

☐

Agree

☐

Completely
Agree

☐

We have complete confidence in each other's ability to perform tasks.

[illegible]

In this team people will keep their word.

Completely Disagree	Disagree	Somewhat Disagree	Neither Agree Nor Disagree	Somewhat Agree	Agree	Completely Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

There are some hidden agendas in this team. (r)

[illegible]

Some people in this team often try to get out of previous commitments. (r)

Completely Disagree	Disagree	Somewhat Disagree	Neither Agree Nor Disagree	Somewhat Agree	Agree	Completely Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In this team people look for each other's interests honestly.

Completely Disagree	Disagree	Somewhat Disagree	Neither Agree Nor Disagree	Somewhat Agree	Agree	Completely Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In this team we work in a climate of cooperation.

[illegible]

In this team we discuss and deal with issues or problems openly.

[illegible]

While taking a decision we take each other's opinion into consideration.

Completely Disagree	Disagree	Somewhat Disagree	Neither Agree Nor Disagree	Somewhat Agree	Agree	Completely Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Some people hold back relevant information in this team. (r)

[illegible]

If you would be interested in participating in a video interview for the next portion of this study, please indicate below by providing your name and email address. If you are not interested in being contacted for an interview select next question below.

Appendix C

Interview Protocol

Interviewee _____

Date _____

Location: _____

Interviewer: _____

Script: *I'd like to start by thanking you again for your willingness to participate in the interview portion of my study. As stated in the email, this study seeks to explore the current levels of PLC implementation at rural Title I schools and the influence Team Trust has on PLC performance and student achievement. Our interview today will last approximately 30 minutes during which time I will be asking you questions related to PLCs, Team Trust, and student achievement at your school. You are free to not answer any questions or stop the interview at any time.*

Do I have your permission to record our conversation today to reference later? If no, I will not record the interview but will take notes as we proceed.

Before we begin this interview, do you have any questions for me?

Let's get started.

Interview Questions:

1. Please tell me about yourself and teaching experience (school, years of experience, grade level, etc.). (icebreaker)
2. What do you feel is administrations role in facilitating team collaboration? (RQ 3)
3. What do you feel is administrations focus at your site? (RQ 2-3)
4. Who makes the decisions related to teaching and learning at your school? (RQ 2-3)
5. Do you feel your opinion is valued when having to make decisions regarding teaching and learning? How? (RQ 2-3)
6. How much time do you feel is an adequate amount of time per week to collaborate with your PLC team to improve teaching and learning? What aspects do you feel should be covered during this time? (RQ 2)
7. What type of cooperative behaviors are present within your PLC team? What role do you feel these cooperative behaviors play in improving the collegiality of your PLC team? (RQ 1-2)
8. What is the value of a genuine PLC team member? (RQ 1-2)
9. How important do you feel trust among PLC teammates is? Why? (RQ 1)
10. What type of trust do you feel you have with your PLC teammates? (RQ 1)
11. Do you feel the trust you have with your PLC teammates facilitates open decision-making and problem-solving? (RQ 1)
 - a. If so, what attributes of your team make you feel this way?
 - b. If not, what attributes of your team make you feel this way?
12. Do you believe the level of trust you have with your PLC team members adversely or conversely effects student achievement? Why? (RQ 1)
13. How does your PLC team handle differences of opinion? How do you feel this affects the trust present in your team? (RQ 1)

14. What do you feel prevents people on your team from being truthful with one another? (RQ 1)
15. Do you feel getting to know your PLC team members on a personal level affects the trust you have with one another? Why or Why not? (RQ 1-2)
16. Do you feel it is necessary to monitor the behaviors of your PLC team members? Why or why not? (RQ 1-2)
17. How do you feel these monitoring behaviors impact the collegiality of your PLC team? (RQ 1-2)
18. What benefit do you believe developing lessons with colleagues, observing the lesson being taught, and refining the lesson for your own use would be to improving your teaching practices? (RQ 2)
19. How important to you feel observing others teach lessons is to your professional development and why? (RQ 2)
20. How important do you feel professional development is? Would you rather find and develop your own professional development or be provided your PD? Why? (what role do you feel you play in our professional development? What role do feel you should play in your professional development?) (RQ 2)

That concludes our interview. I'd like to take the opportunity to thank you again for your time and participation.

Appendix D

LCCI 4.0 Permission Email

LCCI 4.0 Survey

Stewart, Courtney <Courtney.Stewart@canyonsdistrict.org>

Sun, May 31, 2020 at 11:36 PM

To: Jessica McCellan Floyd <jessica.mcclellanflo[REDACTED]>

Hi Jessica,

You have my permission to use the LCCI for your dissertation work. Please let me know if I can answer any questions about the survey. Good luck with your research endeavors.

Thanks

Courtney Stewart, PhD

Program Evaluation Specialist

Canyons School District
9361 South 300 East

Sandy, UT 84070

(801) 826-5145
www.canyonsdistrict.org

Appendix E

Team Trust Inventory Permission Email

**Ana Cristina Costa**

to Neil, me ▾

Tue, Jun 2, 3:49 AM (3 days ago)



Dear Jessica,

Thank you very much for your interest and also for your extremely professional approach to requesting permission to use our measure.

Please go ahead and use the team trust inventory in your research. Good luck with the results and we will be looking forward to read your study.

Please feel free to pass on our commendations to your supervisors.

Kind regards,

Cristina

*Ana Cristina Costa, PhD*

Professor of Organizational Behaviour

Director of Postgraduate Studies

Faculty of Management, Law and Social Sciences

School of Management



+44 (0) 1274 238536



City Campus, Bradford, BD7 1DP, UK

<https://www.bradford.ac.uk/management/>

Appendix F

Invitation to Participate in Study Email

Good Afternoon Teachers,

My name is Jessica Floyd. I am a doctoral student at Gardner Webb University in the Curriculum and Instruction program.

I am kindly requesting your participation in a doctoral research study that I am conducting titled: Culture Change: Examining the impacts of PLCs and trust on school culture. The study seeks to explore the current levels of PLC implementation at rural Title I schools and the influence Team Trust has on PLC performance and student achievement.

The study involves completing basic demographic information and two surveys: LCCI 4.0 (Williams et al., 2007) and Team Trust Inventory (Costa and Anderson, 2001). The LCCI survey will take approximately 10 minutes to complete and the Team Trust survey will take approximately 4 minutes.

Participation is completely voluntary and you may withdraw from the study at any time. The study is anonymous, therefore, it does not require you to provide your name only your school, years of experience, and current grade level. If you would like to participate in the study please read the Informed Consent letter below. To begin the study, click the survey link below.

Your participation in the research will be of great importance to assist in positively impacting student achievement and collegial support.

Thank you for your time and participation.

Sincerely,
Jessica Floyd, Doctoral Student, GWU

[Electronic Informed Consent Form](#)

Clicking the link below to continue on to the survey indicates your consent to participate in the study: [Click here to begin the LCCI 4.0 Survey](#).

Appendix G

Interview Email to Participants

Good Afternoon Teachers,

My name is Jessica Floyd. I am a doctoral student at Gardner Webb University in the Curriculum and Instruction program.

You may have recently participated in two surveys requesting information about PLCs and Team Trust at your site and showed interest in participating in the interview portion of the study.

I am kindly requesting your participation in the interview process of a doctoral research study that I am conducting titled: Culture Change: Examining the impacts of PLCs and trust on school culture. The study seeks to explore the current levels of PLC implementation at rural Title I schools and the influence Team Trust has on PLC performance and student achievement. The interview will take approximately 30 minutes.

Participation is completely voluntary and you may withdraw from the study at any time. The study is completely anonymous, therefore, your name, school, or grade level you teach will be used, instead pseudonyms will be used to protect your privacy at all times. If you would like to participate in the interview portion of the study please read the Informed Consent letter below, and respond to this email informing me of your interest.

Your participation in the research will be of great importance to assist in positively impacting student achievement and collegial support.

Thank you for your time and interest in participating in this study.

Please read the informed participant consent form below, and email the document back to me with your signature. By doing so you are consenting to participation in the interview process and will be contacted with further information soon.
[Informed Participant Consent](#)

Sincerely,
Jessica Floyd, Doctoral Student, GWU

Appendix H

Electronic Informed Consent Form

Gardner-Webb University IRB
Informed Consent Form for Online Survey
Culture Change: Examining the impacts of PLCs and trust on school culture

The purpose of the research study is to explore the current levels of PLC implementation at two rural Title I schools and the influence Team Trust has on PLC performance. PLCs and Team Trust have been proven to impact school culture and student achievement. As a participant in the study, you will be asked to complete two surveys addressing PLC implementation and Team Trust. It is anticipated that the study will require about 10-15 minutes of your time. Participation in this study is voluntary. You have the right to withdraw from the research study at any time without penalty. You also have the right to refuse to answer any question(s) for any reason without penalty. The information that you give in the study will be handled confidentially. Your data will be anonymous which means that your name will not be collected nor linked to the data. There are no anticipated risks in this study. You will receive no payment for participating in the study. You have the right to withdraw from the study at any time without penalty by exiting the survey.

If you have questions about the study, contact:

Jessica Floyd
EdD Candidate
Gardner-Webb University
jfloyd6@gardner-webb.edu

Jennifer Putnam EdD
Gardner-Webb University
jputnam2@gardner-webb.edu

Dr. Sydney K. Brown
IRB Institutional Administrator
skbrown@gardner-webb.edu

The full Participant Informed Consent Form can be read by clicking the link below:

Click here to read the Participant Informed Consent Form,

Clicking the link below to continue on to the survey indicates your consent to participate in the study:

Click here to begin the LCCI 4.0 Survey

Appendix I

Participant Informed Consent Form

Gardner-Webb University IRB
Informed Consent Form

Title of Study: Culture Change: Examining the impacts of PLCs and trust on school culture

Researcher: Jessica Floyd, EDCI doctoral candidate

Purpose

The purpose of the research study is to explore the current levels of PLC implementation at select rural Title I schools and the influence Team Trust has on PLC performance. PLCs and Team Trust have been proven to greatly impact school culture and student achievement.

Procedure

The research study will occur in two phases. The first phase will consist of the distribution of two surveys to participants at two different times, two weeks apart, so as not to overwhelm participants. Both surveys will be anonymous and voluntary and will be distributed electronically. Phase 2 of the research will consist of one-on-one interviews conducted via online interviews and recorded for detailed data collection purposes only. Participation in interviews will be voluntary and interviewees may skip an interview question or terminate the interview at any time. Agreeing to participate in the interview is also agreeing to have the interview recorded for the researcher to transcribe. Analysis of all data will be presented anonymously.

Time Required

It is anticipated that each of the two surveys will require about 10-15 minutes of your time. Surveys will not be distributed at the same time. Interviews are anticipated to take 30 minutes depending on the responses of the interviewee.

Voluntary Participation

Participation in this study is voluntary. You have the right to withdraw from the research study at any time without penalty. You also have the right to refuse to answer any question(s) for any reason without penalty. If you choose to withdraw, you may request that any of your data that has been collected be destroyed unless it is in a de-identified state.

Confidentiality

Survey data will be collected electronically through a secure collection site such as Qualtrics. The site will store data anonymously. Interview data will be collected through online interviews and will be recorded, with permission, in order to further analyze the data. By consenting to participate in the interview, participants are consenting to recording as well. The recordings will be kept only until the closure of the research and will be permanently deleted following complete data analysis. During the official write up of data analysis, all interviewees will be identified by a pseudonym in order to maintain confidentiality.

The information that you give in the study will be handled confidentially. Your information will be assigned a pseudonym. The list connecting your name to this code will be kept in a locked computer file. Your name will not be used in any report. Recordings will be permanently deleted following the closure of research.

Risks

There are no anticipated risks in this study.

Benefits

There are no direct benefits associated with participation in this study. The study may help us to understand how to improve PLC implementation at the site and build team trust. The Institutional Review Board at Gardner-Webb University has determined that participation in this study poses minimal risk to participants.

Payment

You will receive no payment for participating in the study.

Right to Withdraw From the Study

You have the right to withdraw from the study at any time without penalty. If you choose to withdraw from the study, your recorded interview will be destroyed.

How to Withdraw From the Study

- If you want to withdraw from the study, tell the interviewer to “stop the interview”. There is no penalty for withdrawing.
- If you would like to withdraw after your materials have been submitted, please contact the researcher, Jessica Floyd at jfloyd6@gardner-webb.edu
- If you wish to withdraw from the surveys, simply stop the survey.

If you have questions about the study, contact:

Jessica Floyd
EdD Candidate
Gardner-Webb University
jfloyd6@gardner-webb.edu

Jennifer Putnam EdD
Gardner-Webb University
jputnam2@gardner-webb.edu

If the research design of the study necessitates that its full scope is not explained prior to participation, it will be explained to you after completion of the study. If you have concerns about your rights or how you are being treated, or if you have questions, want more information, or have suggestions, please contact the IRB Institutional Administrator listed below.

Dr. Sydney K. Brown
IRB Institutional Administrator
Gardner-Webb University
skbrown@gardner-webb.edu

Voluntary Consent by Participant

I have read the information in this consent form and fully understand the contents of this document. I have had a chance to ask any questions concerning this study and they have been answered for me. I agree to participate in this study.

_____	Date: _____
Participant Printed Name	
_____	Date: _____
Participant Signature	

You will receive a copy of this form for your records.