PRINCIPAL IMPACT ON PLC AS A 21ST CENTURY SCHOOL DISTRICT INITIATIVE

by

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For Ava and Davis

I love you both and am prouder of you than you know.

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ABSTRACT

Change is an inevitable factor that schools will face. School leaders need tools and strategies to help their teams know how to navigate the school culture issues that can arise when changes occur. This study examined teacher leader and administrative perceptions of how the PLC framework is implemented within schools and across a district to determine if school leadership in schools experiencing success exhibit specific leadership traits different from schools not experiencing success.

Based on a review of the literature around the PLC framework, participants were given a survey to self-report commitment to the PLC process. Responses were compared to extant data available through an existing survey to determine trends within and across participating schools. Results suggest that trends vary across schools and that those schools experiencing high commitment to the PLC process do exhibit traits beyond those schools experiencing moderate or low commitment to the PLC process. Based on these findings it is recommended that school districts recognize the importance of modeling for school leaders to know how to successfully implement the PLC framework. Further research is needed to determine if the traits identified are unique to this study or common in multiple school districts.

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CHAPTER I:

INTRODUCTION

Overview

In the October 2012 issue of *Wired Magazine,* editor Chris Anderson interviews Elon Musk to discuss the entrepreneur's plans for space exploration to Mars. When asked about the obstacles that stifle creativity in the field of space exploration, Musk states that, "there is a tremendous bias against taking risks. Everyone is trying to optimize their ass-covering" (Anderson, 2012). This sentiment is also true in education; however, schools and leaders do not need to be afraid of risks if a balance can be found for the teeter-totter effect between maintaining the status quo and pursuing innovative practice that currently exists in most schools in the nation. Finding balance between innovation and accountability is crucial for schools to be successful in ensuring that students are learning. Often leaders find an imbalance between district, State, or Federal mandates and the day to day operations that must occur to provide environments where students are able to learn and be successful. Finding and maintaining this balance by creating culturally stable schools has become crucial to a leader's longevity. The Professional Learning Community (PLC) framework provides leaders with the tools they need to create nimble organizations with structurally sound cultures, capable of balancing the imbalances modern schools face.

Background

We have now been in the twenty-first century for almost two decades. The United States Census Bureau cites that there are over 14,000 school districts in the United States (United States Census Bureau, 2018). Of these, only 3,100 school districts have

taken the Future Ready Pledge according to the Future Ready website (Alliance for Excellent Education, 2015). The Future Ready Pledge is an agreement offered to schools and districts to become a part of a think tank in collaboration with other forward-thinking schools. This pledge is a risk because the type of learning in 21st century settings is not typical of what has occurred in classrooms in the past and school culture takes on a new meaning in 21st century learning environments, including key functions such as branding or digital presence which have not historically been associated with the philosophical ideations of school culture permeating the public-school setting (Sheninger & Murray, 2017). The lack of risk taking in most schools is not surprising based on the history of school reform since January 2001 with the passing of the No Child Left Behind (NCLB) Act moving forward to the passing of Every Student Succeeds Act (ESSA) in December of 2015. The strict guidelines accompanying the national reform models of NCLB, as well as ESSA, have put a national focus on student performance on tests that do not necessarily guarantee students will be able to maintain a job in an increasingly changing world (Darrow, 2016).

Employers are demanding different skills from workers as students graduate and begin to enter the workforce during what is now being called the fourth industrial revolution (Sheninger & Murray, 2017). Many futurists, business leaders, and innovators have hypothesized the top ten skills being sought by 2020 will include complex problem solving, critical thinking, and creativity (Gray, 2016). Although some skills will not change or shift much in the five-year predictive span of the World Economic Forum, there are new skills emerging that students may not possess if schools do not change approaches to instruction. Cognitive flexibility, emotional intelligence, and creativity are

three skills showing up by 2020 that schools may not know how to adequately prepare students for (Gray, 2016). Schools need to know where to look to begin to implement and design curriculum around the life skills that students need. Pedagogical shifts can create stress on an organization which can in turn shatter those schools with weak or wavering cultures.

School leaders are faced with finding ways to transform schools to embrace the changes that are necessary to ensure students are being exposed to the type of learning that occurs in 21st century environments. The PLC framework provides a structure that school leaders can implement to help teams find the balance they need to transform the culture of their schools. When schools focus on key areas as a PLC, student learning can be impacted through cultural enhancement of ten key areas:

(1) Norms

(2) Mission, Vision, and Beliefs

(3) Assessed Standards

(4) Student SMART Goal Setting

(5) Teacher SMART Goal Setting

(6) Grade Level SMART Goal Setting

(7) Data Notebooks

(8) Common Formative Assessments

(9) Intervention and Acceleration

(10) Collaborative Meetings (DuFour, DuFour, Eaker, Many, & Mattos, 2016).

As a school becomes more experienced with best practice in these areas, the overall culture of the building becomes focused on student learning and improved results begin to emerge (DuFour, DuFour, & Eaker, 2008).

Purpose of the Study

Achilles Public Schools is currently implementing the work necessary of becoming a PLC district. This change began as new leadership was brought into the district and a systematic process was developed to provide building level Principals with the training and tools needed to implement the principles and practices of PLC work. This included district level training, selection and incorporation of PLC teacher leader positions, attendance at a PLC institute in June of 2016, and autonomy at each building level for leadership to implement and introduce a system focused around the four pillars of a PLC, (1) Mission, (2) Vision, (3) Values, (4) Goals (DuFour, DuFour, Eaker, 2008).

Schools were expected to utilize the PLC framework as a means to develop implementation, fidelity, and sustainability plans of action to support the integration of project-based learning, move to the use of technology in 1:1 environment, and increase academic accountability through a measurable score card based on local and State academic data. Schools rated themselves in ongoing improvement using the PLC plan rubric and developed plans of action to adjust implementation as needed. In addition, schools were provided yearly data through the Tennessee Teaching, Empowering, Leading, and Learning (TELL) survey. This instrument is an anonymous, online survey taken each Spring with the purpose of providing school and district leadership with data around teacher perceptions of school culture (TELL Tennessee, 2012). School leaders were provided training and resources appropriate to different areas of need from the

survey and developed year to year plans to improve on the cultural areas identified. The specific areas that the TELL survey addresses are (1) Community Engagement and Support, (2) Teacher Leadership, (3) School Leadership, (4) Managing Student Conduct, (5) Use of Time, (6) Professional Development, (7) Facilities and Resources, (8) Instructional Practices and Support, (9) and New Teacher Support (TELL Tennessee, 2012).

Achilles Public Schools is a middle-sized school system composed of a few high schools, several middle schools, and close to a dozen elementary schools. As each of these schools began the work of implementing the PLC framework at the same time with the same access to resources, support, and data, it appeared that each of the twenty-one schools in the district moved at varying rates to embrace the cultural change that these shifts brought with it. After twenty-nine months, each school may still be at very different progress points along the path to fully implementing PLC practice but the root cause of that variance is not known. District feedback suggests that the variance of implementation could be due to individual building level leadership practice and style as well as cultural issues permeating each school's campus. The purpose of this study is to examine perceptions of implementation of the PLC framework between leadership and teachers within elementary schools as well as how these perceptions reflect the culture of the schools studied.

Statement of the Problem

This study will utilize an explanatory sequential mixed method design to evaluate school implementation of the PLC framework, utilizing the PLC Plan Rubric as compared to school results on the TELL culture survey. This study will investigate the

relationship between school culture and schools working in the context of a Professional Learning Community framework. Research questions considered are:

(1) What are teacher perceptions of the implementation of PLC practice in schools?

(2) What are school leader perceptions of the implementation of PLC practice in schools?

(3) Do high commitment schools experiencing success with the PLC process exhibit specific traits related to school culture that are different to those schools with low commitment to the PLC process?

Theoretical Framework

According to Peterson (2002), "School Culture is the set of norms, values and beliefs, rituals and ceremonies, symbols and stories that make up the 'persona' of the school" (p. 1). Culture differs from climate in that "culture is a school's personality, climate is its attitude" (Gruenert & Whitaker, 2015, p. 11). Rick DuFour (2004) defines a Professional Learning Community as, "a grand design-a powerful new way of working together that profoundly affects the practices of schooling" (p. 6). The PLC framework helps schools focus their work on key areas that answer the four big questions of a PLC (1) What is it we want our students to know and be able to do? (2) How will we know if each student has learned it? (3) How will we respond when some students do not learn it? (4) How will we extend the learning for students who have demonstrated proficiency? (DuFour, DuFour, Eaker, Many, & Mattos, 2016). The PLC framework provides school leaders with a system that helps them understand the aspects of school culture that can be changed. Eaker and Keating (2012) provide a concise listing of the uncontrollable and

controllable variables that are present in schools (p. 9). Table 1 lists both sets of variables.

Table 1

Uncontrollable and Controllable Variables in a PLC

Uncontrollable Variables	**Controllable Variables**
Children cannot choose: • Their parents • Where they live • The school they attend • Their teachers • The high-stakes summative assessments they'll take	Collaborative teacher teams can develop: • A school and classroom culture of caring and encouragement • A guaranteed, viable curriculum • Effective, research-based teaching strategies • Common formative assessments of student learning • Systems of providing additional time, support, and enrichment • Ways to frequently recognize and celebrate improvement

These controllable variables become the elements of a school's culture that can be shaped and influenced by school leaders.

For this study, the controllable variables presented by Eaker and Keating (2012) will be considered those elements existing in a school culture that are influenced by school leaders to impact student performance when working collaboratively with teachers. The PLC Plan Rubric addresses these areas and can be used as a self-reflection tool to monitor growth and progress.

Definition of Terms

21st Century Learning Skills: The seven skills identified by Wagner (2008) will be used for this study (1) Critical Thinking and Problem Solving (2) Collaboration and Leadership (3) Agility and Adaptability (4) Initiative and Entrepreneurialism (5) Effective Oral and Written Communication (6) Accessing and Analyzing Information (7) Curiosity and Imagination (Wagner, 2008, p. 67).

School Culture: For the purpose of this study, using the Glossary of Education Reform definition, school culture, "refers to the beliefs, perceptions, relationships, attitudes, and written and unwritten rules that shape and influence every aspect of how a school functions, but the term also encompasses more concrete issues such as the physical and emotional safety of students, the orderliness of classrooms and public spaces, or the degree to which a school embraces and celebrates racial, ethnic, linguistic, or cultural diversity" (School Culture Definition, 2013, para. 1).

Professional Learning Communities (PLC): An educational organization which focuses on six core elements through collaborative practice and continuous improvement cycles, intended to improve student learning above all else (DuFour & Eaker, 1998, p. 25-29).

Significance of the Study

The purpose of this mixed methods study was to examine the use of the PLC framework to improve or maintain school culture. The perceptions of teachers and school leaders working in schools implementing the PLC framework were considered to better understand how specific tenets of the PLC framework enhance specific aspects of school culture. The study's approach utilized an explanatory sequential mixed methods design composed of two distinct phases: quantitative followed by qualitative (Creswell,

2013). The quantitative phase of the study used survey data to assist the researcher in developing interview questions during the qualitative phase that were designed to foster an understanding of the relationship between the PLC framework and school culture. The study addressed three local problems, (1) elementary schools effectively implementing the PLC framework and understanding where and why breakdowns existed (2) elementary schools understanding how school culture can be maintained or improved through use of the PLC framework (3) elementary schools working more efficiently as a collaborative group instead of buildings working in isolation.

The results of the study will provide practical insight into teacher and school leader views about the PLC framework. Evidence from the study will also identify trends in school culture as compared to existing, identified themes from the literature available. Additionally, results from this study may inform existing literature around the nuances of developing, maintaining, and restructuring school culture. Understanding effective practices in those schools with the most appropriate use of the PLC framework will help struggling schools know best approaches to leading the cultural changes that must occur in buildings or districts to establish the principles of the PLC system. Results from this study could also help develop a framework for school culture that allows new or existing schools to implement specific, actionable steps that helps to create a nimble system capable of dealing with change in a more strategic and efficient manner.

Limitations, Delimitations, and Assumptions

This study was limited both in time and scope taking place over the course of one semester. Given such a short time period it is doubtful that a full picture of school culture was captured. Culture is a complex part of a school environment and additional time may

have allowed the researcher to capture a more robust sense of what constructs shaped each school studied. However, given that school systems are notorious for quickly removing leaders there is a practical rationale for the shorter time scale of the study. Furthermore, the instruments used may not have fully captured all aspects of school culture possible as each of the ten buildings considered for the study may have had cultural phenomenon not represented in the surveys. Moreover, the researcher serves as Principal at one of the elementary schools in the study. There is a chance that responses were not as accurate as they may have been had the researcher not been serving in a leadership capacity within the school system being studied.

Additionally, this study was restricted to ten elementary schools in a school system that is also comprised of 4 middle schools, 3 high schools, 3 unit schools, and 1 alternative/ graduation school. Given the small number of secondary schools it seemed logical to focus on a larger sample size of schools for this study. The researcher chose to focus only on elementary schools because of the scope of the study and the desire to study the nuances of the PLC work occurring in similar contexts.

The researcher assumed participants were as honest as possible with answers during both the qualitative and quantitative phases of the study. Additionally, it was assumed that participants had a sincere interest to participate in the study with no motives in place other than contributing to the knowledge base of the work.

Summary

Schools are under a tremendous amount of pressure to perform on many different levels, however, the focus should remain on student learning and preparation for the work force and future. School culture must be nimble so that the organization can respond to

change in a successful manner. This chapter contained information about the purpose of this study, the research questions that will be answered, the theoretical framework and significance the study may provide for education, specifically, those leaders working through changes of school culture.

CHAPTER II:

REVIEW OF LITERATURE

Introduction

The PLC framework provides schools with a system that focuses work on student learning. Once schools are solely focused on student learning for all, they can then leverage the latent power of PLC's to successfully launch into the 21st century school mindset with a strong, stable school culture. The nimbleness of this culture becomes critical for school success. School leadership can greatly impact the factors that make a school culture nimble. This literature review examines the relationship between risk aversion, school culture, and the PLC framework while also exploring the nature of 21st century schools and school leadership through change.

Risk

To best understand the concept of risk-aversion in school, it is important to first understand what risk can be considered and how it interacts with change in school culture (Gruenert & Whitaker, 2015). Specifically, the concept of first-order and second-order change in schools impacts the risk-taking that occurs among adults in these environments (DuFour & Fullan, 2013). Risk is typically associated with the potential of losing or gaining something of value. In education, this concept can be expanded to include the attitudes and behaviors of those in a school setting to act on new initiatives, curriculum changes, assessment practices, etc. (Sheninger & Murray, 2017). Resnick (2017) says, "Today, everyone needs to be a risk-taker, a doer, a maker of things – not necessarily to bend the arc of history, but to bend the arcs of their own lives" (p. 32). Such risk-takers are what Sheninger and Murray (2017) call change-agents, those leaders who can act, risk

it all, to initiate change in their buildings or systems to improve the learning outcomes available.

These opinions of risk assume that school needs to change. As schools shift towards models of learning that incorporate 21st century skills and changes in pedagogical structures, many teachers face a fear of change, often knowing the need for change is present for students, fearful to take the risks necessary to act due to the sudden shifts in school culture that can occur (Robinson, 2016). This fear of action is often associated with the cultural shifts that can come to a school that has moved beyond first order change and that is amid second-order change.

Change. Change is inevitable but how we respond to it is not. Cuban (1990) identifies two types of change that is planned and acted on by organizations and systems. First-order change is tied to systems and operations, focusing on how to improve those things already in place making them more effective, while second-order change deals with uprooting the core of an organization and changing most of its parts due to ineffectiveness (Cuban, 1988). DuFour, DuFour, Eaker & Many (2010) elaborate on these types of change stating that "the goal of first-order change is to help us get better at what we are already doing [and] second-order change, however, is a dramatic departure from the expected and familiar" (p. 248). The nuances of first-order and second-order change are captured in table 2:

Table 2

First Order vs. Second Order Change

First-Order Change	**Second-Order Change**
An extension of the past	A break from the past
Within existing paradigms	Outside of existing paradigms
Consistent with prevailing norms, values	Conflict with prevailing norms, values
Incremental	Complex
Implemented with existing knowledge and skills	Requires new knowledge and skills
Implemented by experts	Implemented by stakeholders

(Walters & Grubb, 2004)

Second-order change is transformational, but it is also hard. DuFour, Dufour, Eaker, and Many (2010) point out that, "the goal of second-order change is to modify the very culture of the organization and the assumptions, expectations, habits, roles, relationships, and norms that make up that culture" (p. 248). Second-order change requires schools to adopt new paradigms after rounds of experimentation and commitment to a new way of doing things (Marzano, Zaffron, Zraik, Robbins & Yoon, 1995). Resnick (2017) notes that, "Even as new technologies have flowed into schools, the core structures and strategies of most schools have remained largely unchanged, still stuck in an assembly-line mindset, aligned with the needs and processes of the industrial society" (p. 180). These shifts to school culture take time, but individual buildings or systems must determine methods to initiate the risk taking necessary to start even the smallest changes that could eventually lead to overall systems change (Gruenert & Whitaker, 2015). Lezotte and Snyder (2011) point out that the heavy lifting that comes with real organizational change is often bypassed to maintain the status quo regardless of

how much the organization demands change occurs. The complex nature of second-order change, which challenges the historical paradigms that have existed in organizations, typically leads to risk-aversion.

Risk-Aversion. Different types of teachers typically emerge in schools experiencing second-order change (Muhammad, 2011; Schlechty, 1993). As change is introduced to school culture the personalities and behaviors of each group becomes more apparent with teachers either being risk-averse or risk-seeking (Howard, 2013). Each type of teacher has strengths and challenges, and all have the potential to impact the culture of a school in positive and negative ways (Muhammad, 2011). Helping teachers understand what is at risk and building competencies in new areas can also help move teachers from exhibiting behaviors of risk-aversion to risk-seeking as they understand more of the why and how behind new initiatives and paradigms (DuFour, DuFour, Eaker, Many, & Mattos, 2016). Risk-seeking behaviors encourage creativity, experimentation, and chance while risk-averse behaviors encourage fear, resistance, and complacency (Howard, 2013).

Bandura's (2002) research discusses the relationship between task avoidance and an individual's willingness to exert the effort necessary to overcome hardship, commonly known as self-efficacy. As individuals are developing personal beliefs around their ability to successfully complete or fail at tasks, their actions begin to follow a pattern of improvement or deconstruction (Bandura, 2002). This concept applied to the classroom or school can be called teacher efficacy and can be one of the biggest barriers that hinders teachers from adopting risk-seeking behaviors. Lezotte and Snyder (2011) define efficacy as "the belief that individuals can successfully accomplish what is being asked of

them" (p. 47). Efficacy also relates to teacher mindset. How teachers respond to challenges and adversity may be based on past experiences, interactions with failure, and fear. If these experiences have been negative, teachers will typically have a fixed-mindset or false-growth mindset, however, if the experiences have been positive the teacher mindset will be focused more on growth and possibility (Dweck, 2015). Fortunately, under the right conditions and leadership mindset can change, cultivating an environment rich with risk-seeking behavior.

School Culture/Climate

School culture is a difficult term to define. Lezotte and Snyder (2011) state that, "the culture of a school represents a complex and powerful set of interdependent forces that function to ensure that the school does again tomorrow what it did today" (p.67). Kent Peterson in his interview with Education World states, "school culture is the set of norms, values and beliefs, rituals and ceremonies, symbols and stories that make up the 'persona' of the school" (Cromwell, 2002).

Culture vs. Climate. To better understand the concept of culture an understanding of how it differs and relates to school climate may be beneficial. Gruenert and Whitaker (2015) discuss the nuances between school culture and school climate, both concepts that stem from our head and surround us in our schools. Table 3 illustrates the differences between culture and climate:

Table 3

Culture vs. Climate

Culture	Climate
is the group's personality	is the group's attitude
gives Mondays permission to be miserable	differs from Monday to Friday, February to May
provides for a limited way of thinking	creates a state of mind
takes years to evolve	is easy to change
is based on values and beliefs	is based on perceptions
can't be felt, even by group members	can be felt when you enter a room
is part of us	surrounds us
is "the way we do things around here"	is "the way we feel around here"
determines whether or not improvement is possible	is the first thing that improves when positive change is made

(Lezotte & Snyder, 2011)

As shown in this table, the two concepts can be difficult to distinguish between. Culture is more like personality while climate is more like an attitude, attitudes can change quickly but personality or who you are takes time to change and will not occur over night (Gruenert & Whitaker, 2015). Climate can influence culture, however, culture allows us to understand the "why" behind what we do and once we understand that we can better understand if things need to change (Grunert & Whitaker, 2015). The concept of school culture and school climate being interchangeable terms can lead to the concept of toxic or positive school cultures (Cromwell, 2002). Anthony Muhammad (2011) elaborates further that school culture is a powerful force in the organizational change that schools may face, moving beyond technical changes that may occur at any time. DuFour and Fullan (2013) elaborate further on the concept of cultural change noting that change to culture is hard work, busting through the status quo long held by schools, creating

conflict that will eventually lead to implementation of practices important for student growth and success. Culture is all around us and though it may not be tangible it certainly impacts initiatives at any level (Gruenert & Whitaker, 2015).

Muhammad (2011) elaborates on how the school culture takes on the personality of different groups within the school setting, specifically, believers, tweeners, survivors, and fundamentalists. Each group plays a pivotal role in shaping the school culture and has specific opportunities of interaction with one another that can be influenced by school leadership (Muhammad, 2011). Schlechty (1993) also discusses five groups that can impact organizational change and growth. These groups are compared in Table 4.

Table 4

Types of Groups in Schools

Muhammad's Groups	Schlechty's Groups	Common Themes
Believers	Trailblazers	Will move the needle in organizational change the quickest but also run the greatest risk of burnout or becoming toxic
Tweeners	Pioneers	Have the most potential to grow but must be groomed by the positive people in the building to keep the culture growing in a positive direction
Survivors	Stay-at-Homes/ Settlers	Are there because they have to be but are not willing to take major risks. Comfort is a good thing.
Fundamentalists	Saboteurs	Want to see any kind of change outside of the status quo fail. Sometimes will go to great lengths to make initiatives fall apart.

Table 2.3 juxtaposes Muhammad and Schlechty's classification of groups and illustrates that regardless of the labels placed on the humans in a school, specific personality types will emerge and with those personalities specific types of interactions can and will occur which shape and develop school culture.

Positive cultures are more favorable than toxic cultures (Muhammad, 2011). Hansen (2009) uses the term insular culture to describe what a toxic culture can do to an organization. When coupled with the variables of status gap, self-reliance, and fear, the insular culture creates a not-invented-here barrier which stifles collaboration and a group's mentality of seeking other ways of doing things, regardless of productivity rates (Hansen, 2010). As compared to the six types of school cultures discussed by Gruenert and Whitaker (2015), the insular culture would most reflect the attitudes present in a balkanized, fragmented, or toxic school culture. The balkanized culture celebrates competition among small groups creating sub-cultures within a school while the fragmented culture celebrates lack of collaboration over individual work with the toxic school culture eliciting a sense of negativity and defeatism as the normal behavior accepted on a daily basis (Gruenert & Whitaker, 2015). None of these cultures are favorable for student success or academic gains and they are counter-productive to the PLC culture. The attitudes and actions of teachers in a school can be shaped by school leaders to change the dynamic and direction of a school in a way favorable to students and their overall performance and success (Muhammad, 2011).

Leadership. School leaders can shape the type of culture a school develops by understanding the nuances of the different groups and personalities teachers may take on in a building (Eaker & Keating, 2015). Typically, school leaders can begin with the

following strategies: (a) stop with excuses (b) stop generalizing (c) introduce a new enemy to the group (d) let the most effective teachers in on the skinny (Gruenert and Whitaker, 2015). Acting on these four core areas allow school leaders to begin to shape the overall value system of the school which is the first aspect that impacts culture to any degree (Gruenert & Whitaker, 2015). Values become a collective mold of those things deemed important in a setting or context based on the interactions of parents, teachers, and administrators in a school setting (Peterson & Deal, 1998). The values of the school shape the beliefs of the school (Eaker & Keating, 2015). Building a collective sense of commitment and establishing shared knowledge of practice impacts school belief in a positive way which in turn impacts the environment created for students and adults on a day to day basis (DuFour et al., 2016). Beliefs impact actions, which are typically played out in rituals and ceremonies. In a school setting the type of rituals and ceremonies observed can vary drastically, however, in the most positive cultures an emphasis on the total student and learning become the focus (Abbott, 2014).

The introduction of celebrations into the school can also serve as a means for school leaders to influence and change groups (Muhammad, 2011). Celebrations are informed by the actions of a school and the celebrations of adults and students can be transformative and provide outlets for schools to continuously communicate what is important (DuFour et al., 2016). Shifting the focus of stakeholders to positive interactions can also be shaped and supported by celebrations (Muhammad, 2011). Finally, the way the parents, adults, and students of a school tell their story becomes the branding of the school (Sheninger & Reuben, 2017).

Public perception can be detrimental to a school's success, but if appropriate branding is in place the school can experience success (Lezotte & Snyder, 2011). As technology becomes more readily available and affordable for schools, blogging, social media outlets, and electronic communications make branding easier than ever before (Sheninger, 2014). Establishing an appropriate brand presence allows schools to share their culture with the world in ways not previously seen (Sheninger & Rubin, 2017).

21st Century Schools

In light of shifts in society some have argued that it is time for school to change because political fixes such as NCLB and ESSA are failing our schools and our students and as we enter the next industrial revolution, schools need to be organizations that are focused on preparing students to keep up with the rapidly changing pace of modern technology (Sheninger & Murray, 2017). Accountability needs to be present in schools, however, alternative models need to be considered to better provide evidence of student learning tied to 21st century life skills (Tucker, 2014). Rotherham and Willingham (2009) suggest the three components that must be present for schools to be ready for 21st century skills as improvements to curriculum, changes in teacher training, and a change in the types of assessments used to assess student learning.

Curriculum. Student learning in the 21st century school, though still grounded in standards, shifts to incorporating life skills students will need (Sheninger, 2014). Wagner (2014) suggests providing curriculum that is based on "demonstrated mastery of the core competencies for work, citizenship, and life-long learning" (p. 111). Sheninger and Murray (2017) continue that the learning experience for students should be redesigned to include curriculum that focuses on practices in science, technology, engineering, and

math (STEM), deeper learning, linked learning, project-based learning, blended learning, competency-based learning, social emotional learning, and career and technical education. Gustafson (2017) also points out that students should participate in learning that builds relationships and creates experiences that will help connect students to career pathways they may experience in the future.

The Future Ready website also lists a framework with additional areas that schools can focus on to grow towards creating learning environments that students need to be successful including curriculum, instruction, and assessment. Specifically, schools create a personalized learning environment that incorporates technology to enhance the learning process for students (www.futureready.org, n.d.). Global learning networks also become an important aspect of the 21st century school as learning breaks out of the walls of the traditional classroom and students can make connections across boundaries (Larson, 2017). Learning in the 21st century school is still grounded in the standards; however, students are presented with a more robust curriculum with choices that allow them to gauge their learning experiences on a more diversified level than previously experienced (Wagner, 2014).

Teachers. Schools must adopt a manageable framework when shifting to a 21st century skills focus ensuring that high quality instruction becomes the standard practice for all students (Rotherham & Willingham, 2009). Fortunately, the shift to being a 21st century school is attainable in a school that practices the core values of a Professional Learning Community (DuFour & DuFour, 2010). The DuFour's (2010) establish that there are four vital behaviors of schools that embrace the values of being a PLC, (1) People must work collaboratively rather than in isolation, (2) People must engage in

collective inquiry to address the issues most essential to student learning, (3) People must resolve issues and answer questions by building shared knowledge about both their current reality and the most promising practices occurring both within and outside of the school and district, (4) People must continuously monitor student learning and gather evidence of that learning in order to inform and improve their professional practice, respond to students who need additional support, and drive their continuous improvement process (DuFour & DuFour, 2010, p. 80).

Of these four behaviors, collective inquiry and building shared knowledge are the most beneficial in creating school cultures that embrace and understand the need for teaching in new, innovative ways as collaboration and building collective understanding of pedagogical shifts help schools move forward with new ways of teaching (Sheninger & Murray, 2017). Collective inquiry allows educators to work together to solve problems which can translate to more meaningful experiences in classrooms for students (Couros, 2015). Providing research, discussing teaching practice, learning from mistakes and successes, and allowing for time to apply new learning can lead to more meaningful professional development experiences for teachers which can, again lead to more powerful experiences for students in classrooms (Gustafson, 2017).

Leadership. School leadership is of paramount importance in working to establish these behaviors as the norm of a school culture (Eaker & Keating, 2011). Sheninger and Murray (2017) establish that school leaders adopt the following behaviors to shift school culture to embrace the pedagogical changes that come with embedding 21st century skills into the classroom:

(1) Model expectations

(2) Talk less and do more

(3) Create a shared vision and implement it

(4) Believe in taking calculated risks

(5) Do not fear failure and learn to 'fail forward'

(6) Work tirelessly to build positive relationships with others

(7) Collaborate for the greater common good

(8) Constantly learn and reflect

(9) Help others see the value in change

(10) Focus on solutions as opposed to excuses (p. 36).

Gustafson (2017) establishes that school leaders are responsible for shifting their schools towards practice that celebrates and encourages 21st century methods. Ultimately, the school leader creates an environment where teachers are willing to participate in endless cycles of learning to improve practice and cultivate classroom settings that will provide engaging and meaningful learning experiences for all students (Sheninger & Murray, 2017).

Assessment. Traditional, standardized assessments have not provided reliable results to support or prove student learning is occurring and have created additional conditions of stress and fear for teachers (Tucker, 2014). Reeves (2010) discusses the need to have different and more reliable forms of assessment for the 21st century school due to the changes of instructional practices and student activity. Reeves (2010) suggests that a framework assessing specific actions exhibited by students could be used which would allow teachers to determine student depth of learning. Understanding student

connection to the learning experiences fosters a greater sense of ownership for students and teachers alike, allowing students to demonstrate what they know through action and products (Wagner, 2014). This type of assessment system is appropriate but a challenge to provide due to the ongoing political and social angst that remains interwoven with school (Sheninger & Murray, 2017).

Classrooms in a 21st century school can begin to develop systems of assessment design that move towards what needs to occur to determine student mastery of content (McTighe & Sife, 2010). Aligning assessments to standards prior to deciding on instructional activities allows for more meaningful planning to occur, however, beginning with the end in mind and planning for assessments before planning for student activities may not be behavior that teachers are comfortable with (McTighe & Sife, 2010). A template or lesson plan like the backward design model that calls for three specific stages, identify desired results, determine acceptable evidence, plan learning experiences and instruction, provides for focus and sequence as teachers plan and design units of study (Wiggins & McTighe, 2005). Additionally, frameworks for project-based learning, like the gold standard model of the Buck Institute for Education allows for teachers to plan long term projects around seven key areas (1) design and plan (2) align to standards (3) build the culture (4) manage activities (5) scaffold student learning (6) assess student learning (7) engage and coach ("PBL in the Elementary Grades," n.d.).

Implementing a School Improvement Initiative

Initiatives begin with action, and under The Every Student Succeeds Act, States and systems are given stringent requirement to meet to avoid punitive action ("School Improvement Under ESSA", n.d.). These requirements include schools and systems

developing plans of action centered around student improvement across grade spans and demographics ("School Improvement Under ESSA", n.d.). To meet these requirements multiple frameworks for success have developed. Lezotte and Snyder (2011) suggest a school improvement cycle that ensures growth is continuous. Their system is composed of seven actions, (1) establish the process: inclusive and collaborative, (2) clarify mission, core beliefs, and core values, (3) identify essential student learning, (4) study the data, (5) reflect, (6) plan, (7) do (Lezotte & Snyder, 2011, p.135-137). Similarly, John Kotter (2012) provides an additional framework with eight steps:

(1) create a sense of urgency around a single big opportunity

(2) build and maintain a guiding coalition

(3) formulate a strategic vision and develop change initiatives designed to capitalize on the big opportunity

(4) communicate the vision and the strategy to create buy-in and attract a growing volunteer army

(5) accelerate movement toward the vision and the opportunity by ensuring that the network removes barriers

(6) celebrate visible, significant short-term wins

(7) never let-up, keep learning from experience/ don't declare victory too soon

(8) institutionalize strategic changes in the culture (p. 8).

As schools adopt specific frameworks for improvement, the themes of initiating change, momentum, fidelity, and sustainability can be observed (Gruenert & Whitaker, 2015). Regardless the framework chosen, systems that effectively manage change find ways to

initiate the change, maintain momentum of the change through fidelity of practices, and establish a plan of longevity for the change to be successful (Lezotte & Snyder, 2011).

Initiating Change. Creating a sense of urgency, establishing a process collaboratively, clarifying mission, core beliefs, and core values, identifying essential student learning are all strategies to initiate change (Kotter, 2012; Lezotte & Snyder, 2011). The PLC framework initiates change in school by focusing on the three big ideas of (1) a focus on learning, (2) establishing a collaborative culture and collective responsibility, (3) setting a results orientation (DuFour, DuFour, Eaker, Many, & Mattos, 2016). Setting norms and collective commitments, establishing a clear vision and mission, and establishing protocols for collaborative teams focused on student learning and mastery are also ways that schools can establish coherence, bringing clarity and focus to the organization as a continuous improvement initiative begins (DuFour & Fullan, 2013). Additionally, schools may look for natural jump starters to initiate a sense of urgency; test scores, new hires, shifts in district led professional development, new standards, etc. are all natural occurrences that schools in need of change may utilize to jump start initiatives (Gruenert & Whitaker, 2015). These actions can create the sense of urgency Kotter (2012) says must occur "around a strategically rational and emotionally exciting opportunity [becoming] the bedrock upon which all else is built" (p. 8).

Momentum. Building and maintaining a guiding coalition, formulating a strategic vision communicated to create buy-in as well as studying data, reflecting on practice, planning, and acting on plans are all actions integral to building the momentum necessary for initiatives to be successful (Kotter, 2012). The study, reflect, plan, do cycle presented by Lezotte and Snyder (2011) provides a logical sequence for schools to follow

when building momentum towards the established purpose set. This cycle also mirrors the four questions of a professional learning community as laid out by DuFour, DuFour, Eaker, Many, & Mattos (2016):

> (1) what is it we want our students to know and be able to do
>
> (2) how will we know if each student has learned it
>
> (3) how will we respond when some students do not learn it
>
> (4) how will we extend the learning for students who have demonstrated proficiency (p. 59).

The momentum phase allows schools to establish teams, refine practice, and establish new systems of leadership, generating excitement and building suspense for the possibilities of what can come (Gruenert & Whitaker, 2015). The excitement generated during this phase helps to build and maintain the guiding coalition for the school that can help secure the initiatives being implemented (Kotter, 2012). Attention must be given to avoiding initiative fatigue, absence of leadership, and balancing the loose-tight nature of the school during this phase as well (Dufour & Fullan, 2013; Gruenert & Whitaker, 2015).

Longevity. The longevity of an initiative is dependent on the fidelity of its parts (Lezotte & Snyder, 2011). Removing barriers, celebrating visible, significant, short-term wins and utilizing the data to repeat the process can help schools to maintain momentum and do so with fidelity (Kotter, 2012; Lezotte & Snyder, 2011). Managing and leading complex change can be complicated but does not necessarily have to be punitive by nature (Sheninger & Murray, 2017). Celebrations are a strategy that allow schools to ensure that initiatives are being implemented successfully and can be as simple or

complex as the organization allows (DuFour, DuFour, Eaker, Many & Mattos, 2016). Additionally, celebrations can develop intrinsic motivation and be tied to academic data as teams and individuals set incremental goals (Muhammad, 2011). Other strategies for managing the complex change that comes with initiatives includes tools like the model from Knoster & Thousand (2000) which captures five key areas necessary to ensure change is occurring at a rate that will eventually become sustainable. The key areas presented by Knoster & Thousand (2000) are captured in Figure 1:

The Knoster Model for Managaing Complex Change

Missing	Skill	Incentives	Resources	Action Plan	=Confusion
Vision	Missing	Incentives	Resources	Action Plan	=Anxiety
Vision	Skill	Missing	Resources	Action Plan	=Resistance
Vision	Skill	Incentives	Missing	Action Plan	=Frustration
Vision	Skill	Incentives	Resources	Missing	=False Starts
Vision	Skill	Incentives	Resources	Action Plan	=Change

Figure 1. The Knoster Model for Managing Complex Change

When all areas are present change is sustainable over time, however, if one item is missing specific behaviors can develop that can lead to the initiative failing over time (Knoster & Thousand, 2000). If leaders understand the nuances of the causes behind how the organization is feeling then action can be taken to improve and maintain the initiative

working to build a system of competence instead of compliance which in turn leads to leaders being more readily able to face any adversity that may appear (DuFour & Fullan, 2013). Additional factors of longevity can include finances, pedagogical shifts, and politics (Sheninger & Murray, 2017). However, these issues can be minimal if the leader understand the methods necessary for managing the complex change associated with initiatives (DuFour & Fullan, 2013).

Professional Learning Communities

DuFour, DuFour, and Eaker (2008) define PLC as, "educators committed to working collaboratively in ongoing processes of collective inquiry and action research to achieve better results for the students they serve" (p.14). Process is a key term in this definition as developing the culture necessary for the collaborative work to be done takes time and energy (Eaker & Keating, 2015). Shifting perspective and focusing priorities on the things that matter in a PLC are the first obstacles many leaders and teachers have to face (DuFour, DuFour, & Eaker, 2002). A systemwide focus makes the work easier as this creates an environment where schools know they have the support of district leadership to complete the work that must be done to transform into a PLC (DuFour & Fullan, 2013). Establishing the four pillars of a PLC, (1) Mission, (2) Vision, (3) Values, (4) Goals, becomes the cornerstone of the PLC framework for schools with each pillar providing additional areas of focus for Schools (DuFour, DuFour, & Eaker, 2008). As schools zero in on the four critical questions that PLCs ask, teacher efficacy increases and a results orientation begins to take hold of the culture (Voelkel & Chrispeels, 2017). Student learning becomes the school focus and improvement, high expectations, and a relentless focus on results saturates the classrooms and building overall (Eaker &

Keating, 2015). This work can be accomplished in a year; however, some obstacles may occur if educators or systems are not vigilant with their actions (DuFour, DuFour, & Eaker, 2002).

Barriers. Careful attention to the pitfalls that PLCs can face is an important factor for districts and schools to consider (Eaker & Keating, 2015). DuFour, DuFour, Eaker, Many, and Mattos (2016) end each chapter of their book with dangerous detours and seductive shortcuts that schools or districts moving towards a PLC framework should avoid. Table 5 summarizes the obstacles that can possibly negate the work schools have begun:

Table 5

Obstacles in a PLC

CORE PLC VALUE	OBSTACLE
1. Defining a Clear and Compelling Purpose	• Complacency vs. action • Fixed mindset vs. growth mindset
2. Collaborative Culture	• Group vs. Team
3. Results Orientation	• Avoidance of the SMART process
4. Focus on Learning	• Letting the textbook determine learning
5. Common Formative Assessments	• Teacher made assessments vs. vendor provided assessments
6. Response When Students Don't Learn	• Letting interventions become a crutch or label for how well students can perform
7. Hiring Staff	• Choosing the quick fix over the right person • Letting hard to fill positions be an excuse
8. Conflict and Celebration	• Letting others do the dirty work
9. Districtwide Implementation	• Creating systems that overlook teachers as leaders

Adapted from: *Learning by Doing: A Handbook for Professional Learning Communities at Work*

Of these variables, the most challenging to overcome is the shift from a fixed mindset to a growth mindset as teachers often respond to the work of a PLC with resistance, resentment, or blame (Wilson, 2016). Woodland (2016), also discusses the need and importance of systematic evaluation tools for identifying the successes and challenges that PLC's face. Allowing districts or schools to evaluate practice in a consistent manner helps to ensure that the systemic change is occurring at appropriate rates (Woodland, 2016).

Goals. The fourth pillar of the PLC framework creates the greatest chance for leaders to implement and sustain change initiatives without the school culture crumbling apart (DuFour, Dufour, & Eaker, 2002). In a Professional Learning Community culture, goals are focused around the SMART acronym (DuFour, DuFour, Eaker, Many, & Mattos, 2016). Originally presented by Locke (1968) the power of goal setting was later refined into the S.M.A.R.T. acronym by George T. Doran (1981) as a method to help business managers organize and maintain information and strategies learned from multiple trainings in a way that can lead to strategic implementation of ideas and plans. The system provides a very tight structure for goal setting that adults and students can utilize to drive efficiency forward (Conzemius & O'Neil, 2013). Using this system, goals are set to meet five distinct criteria that allow teachers to focus on academic or behavioral areas dependent of various data points obtained through an ongoing cycle of improvement. The five areas are:

(1) Strategic, in that goals should be aligned with essential learning targets, tied to behavior, or other academic areas identified by the teacher with the student.
(2) Measurable, in that the area for improvement can show growth or declination over time.
(3) Attainable, the area chosen is not too far off the mark as to set the student up for failure of attaining the goal.
(4) Results oriented, in that the areas chosen are of importance to the student or are tied to essential learning of the grade.

(5) Time bound, in that a specific date is set to notify the student and teacher of when the goal will be completed (DuFour, DuFour, & Eaker, 2002, p.159-160).

Utilizing the SMART goal process allows a school to build a collective sense of commitment (DuFour, DuFour, Eaker, Many, & Mattos, 2016). Building a collective sense of commitment and establishing shared knowledge of practice impacts school belief in a positive way which in turn impacts the environment created for students and adults on a day to day basis (DuFour et al., 2016). Beliefs impact actions, which are typically played out in rituals and ceremonies (Muhammad, 2011). In a school setting the type of rituals and ceremonies observed can vary drastically, however, in the most positive cultures an emphasis on the total student and learning become the focus (Abbott, 2014). Shifting the focus of stakeholders to positive interactions can also be shaped and supported by celebrations (Muhammad, 2011).

Leadership. Eaker and Keating (2011) discuss the necessary leadership traits that must be present when schools or districts wish to move towards becoming a PLC:

(1) Moving beyond the Must Do's and focusing on the Should Do's

(2) Connecting all work to student learning

(3) Creating and participating with collaborative teacher teams

(4) Developing simultaneous top-down, bottom-up leadership

(5) Using compassionate leadership practices that focus on the importance of will and passion (p. 12-13).

These traits can then be compared to the three key ideas Dufour, Dufour and Eaker (2008) suggest Principals of PLCs embrace. These ideas are, (1) Be clear about their

primary responsibility, (2) Disperse leadership throughout the school, (3) Bring coherence to the complexities of schooling by aligning the structure and culture of the school with its core purpose (DuFour, DuFour, & Eaker, 2008, p. 308). Both lists make clear that building level leaders are faced with completing a seemingly unending list of things that must be accomplished (Eaker & Keating, 2011). Must do's include, (1) analyzing student data, (2) developing a school improvement plan, (3) monitoring team effectiveness, use of guaranteed and viable curriculum, products, and assessments, (4) providing feedback on plans for enrichment, (5) completing teacher evaluations. These five areas must be in place to ensure that learning occurs at high levels. Should do's include a cyclical approach to the observation framework within a school to ensure that pre-observation, observation, and post-observation practices are aligned to the goals targeted by the school (Eaker & Keating, 2011, p.13-15). This type of evaluation occurs best in systems that focus on adult learning more than competency scales (Marzano, 2012). As adults learn and improve, the quality of academics that students are exposed to also increases (Sanders, Wright, & Horn, 1997). Being very intentional with the work completed during the observation cycle stimulates the type of professional learning and purpose of practice tied to the skills implemented in classroom settings (Marzano, 2012).

Dufour and Fullan (2013) point out that the integration of purposeful components of school or system workings, such as a continuous feedback loop, allows for learning and improvement to occur in an ongoing and informing way. Data collected is only as good as how it is used (Lezotte & Snyder, 2011). Leadership must ensure that student data points are used to develop intentional plans to address if learning is occurring at the highest rates possible and that these plans are equalized across classrooms in a building,

(Kane, Taylor, Tyler, & Wooten, 2011). Student data can be utilized to ensure that systems are in place in a building that support goal setting, assessment cycles, and professional development opportunities for staff, (Hamilton, Jackson, Mandinach, Supovitz, Wayman, & Steele, 2009). Using data for these areas as well as shifting to the evaluation cycle helps leaders move towards the should do's that need to occur in a highly functioning PLC (Eaker & Keating, 2011).

Hipp, Huffman, Pankake, & Oliver (2008) examined two schools in their study and found that the importance of shared leadership and relationships in building a sustainable PLC culture drove the collaborative spirit of the schools observed (p. 183-187). The collaborative nature of the PLC has to move beyond teachers to leadership practices that may include study groups, action research teams, vertical learning communities, and leadership teams (Lambert, 2002). Dufour, Dufour, Eaker, Many, & Mattos (2016) also found that the role of the principal in successful implementation of the PLC process is crucial and the providing appropriate training and capacity building is critical for school or district success. Developing effective systems of shared leadership practice fall to the Principal to show transparency and vulnerability at levels that some may be uncomfortable with (Sheninger, 2014). Walker and Pagano (2008), establish nine specific steps leaders can take to establish transparency and credibility in leadership which then can be extended to specific tasks. Longevity of the organization becomes one of the final and most crucial functions of effective leadership in a PLC (Dufour, Dufour, & Eaker, 2008). Establishing the right cultural paradigms ensures the organization will outlast the leader and likewise that high levels of learning will continue to occur for students over time (DuFour & Fullan, 2013).

School Leadership

Lezotte and Snyder (2011) define leadership as, "the ability to take a 'followership' to a place they have never been and are not sure they want to go" (p. 53). Leaders must accept the challenge that change needs to happen and face the opportunity in a positive manner, ensuring the followership understands the logic behind the decisions being made (Sheninger, 2014, p.31-33). Specifically, leaders should be able to clearly articulate where and why the organization needs to move while also building relationships grounded in trust with those they are leading (Lezotte & Snyder, 2011). Because of this call to action, leadership styles develop (Finzel, 2007). Table 6 outlines several of the most commonly referred to leadership styles in the established research base.

Table 6

Leadership Styles

Leadership Style	Description	Citation
Authoritarian	Focus on rules, consequences, and fear.	Smith, Minor, Brashen, & Remaly, 2017
Contingent-Reward	Focus on rewards for task completion.	Arnold, Connelly, Walsh, & Martin-Ginis, 2015
Democratic	Focus on collaborative practices.	Smith, Minor, Brashen, & Remaly, 2017
Destructive	Focus on undermining the larger organization through abusive and toxic behavior.	Burns, 2017
Digital	Focus on 21st century skills embedded in action.	Sheninger, 2015
Directive	Focus on top down control.	Finzel, 2007; Lezotte & Snyder, 2011
Laisse-Faire	Focus on avoiding conflict or major issues to the organization.	Arnold, Connelly, Walsh, & Martin-Ginis, 2015
Management by Exception	Focus on reacting to failure only.	Arnold, Connelly, Walsh, & Martin-Ginis, 2015
Servant	Focus on bottom up and welfare of those working in the organization.	Finzel, 2007
Situational	Focus on adaptability dependent on the situation.	Smith, Minor, Brashen, & Remaly, 2017
Transactional	Focus on tasks and outcomes.	Arnold, Connelly, Walsh, & Martin-Ginis, 2015
Transformational	Focus on change over time.	Smith, Minor, Brashen, & Remaly, 2017; Arnold, Connelly, Walsh, & Martin-Ginis, 2015; Lezotte & Snyder, 2011

Leaders face four core problems in learning to lead in any organization including replicating the bad habits observed in other leaders, a lack of skills, a lack of appropriate models, and the need for additional training (Finzel, 2007). Additionally, understanding the should dos and must dos of leadership that help balance the loose-tight structure

organizations need to be successful also becomes a challenge for modern leaders (Eaker & Keating, 2012; DuFour, Dufour, Eaker, Many, & Mattos, 2016). Several systems and frameworks exist to support leaders to navigate these challenges, regardless, the most effective have been shown to provide leaders the tools needed to grow in the areas of trustworthiness, competence, forward-thinking, and enthusiasm (Lezotte & Snyder, 2011). Maxwell (2007) adds to this list with his 21 traits successful leaders maintain and cultivate including; character, charisma, commitment, communication, competence, courage, discernment, focus, generosity, initiative, listening, passion, positive attitude, problem solving, relationships, responsibility, security, self-discipline, servanthood, teachability, and vision.

Servant Leadership. Servant leaders believe in a bottom up over top down approach to leadership, viewing themselves as the tip of an inverted triangle supporting all the moving parts of the organization they work with (Finzel, 2007). These types of leaders develop and empower additional leaders, which in turn can lead to the overall success of an organization (Sheninger & Murray, 2017). Additionally, servant leaders allow their actions to speak louder than their words, working with others in the organization to cultivate specific behaviors and initiatives that convey a sense of collective ownership for the group (DuFour, DuFour, Eaker, Many, & Mattos, 2016). Servant leadership is unique in that it focuses on not only increasing the vitality of those working in an organization, it also places emphasis on increasing moral and personal development in those serving together (Gandolfi, Stone, & Deno, 2017). Spears (2004) suggests that the servant leader utilizes ten actions to move those they work with forward in an organization:

1. Listening: Servant leaders listen more than they speak, looking for trends in feedback from those they serve that can be acted on to improve the overall function of the organization.
2. Empathy: Servant leaders find the middle ground while working with others in the organization, understanding multiple points of view without overtly bullying personal bias.
3. Healing: Servant leaders recognize that the organization is composed of humans and that we are all imperfect.
4. Awareness: Servant leaders are self-aware of issues they are dealing with on a personal level as well as issues occurring in the organization.
5. Persuasion: Servant leaders work to build consensus within groups rather than utilize positional authority to make initiatives work.
6. Conceptualization: Servant leaders are able to operate with one foot in the present and the other in the future. Day-to-day operations do not stifle the servant leader's ability to cast vision for the future.
7. Foresight: Servant leaders have intuition and are able to think through possible consequences of decisions based on past experiences.
8. Stewardship: Servant leaders put the needs of others before their own.
9. Commitment: Servant leaders realize that all people deserve the opportunity to grow and actively seek out ways to help individuals become successful in multiple areas.
10. Building Community: Servant leaders develop strategies to connect people and build relationships that can go beyond the work place (p. 8-9).

Transformational Leadership. Transformational leadership is a favorable leadership style for organizations that are shifting or experiencing change at rapid rates (Getachew & Zhou, 2018). This style of leadership focuses on interactions between leaders and followers in behaviors that shift the focus to the collective vision of the organization while building on strengthening relationships along the way (Smith, Minor, Brashen, & Remaly, 2017). Additionally, these types of leaders may not be as structured, may be more emotional, are extraverted, and encourage risk-taking among followers (Arnold, Connelly, Walsh, & Martin-Ginis, 2015). Transformational leaders are able to shift a culture over time so that at the end of the evolution of the change being experienced the organization is able to find a balance of transformative leadership and collaborative culture with little need for top down initiatives (Lezotte & Snyder, 2011).

Digital Leadership. Eric Sheninger (2014) introduces the concept of digital leadership as a style appropriate for the shifts schools are experiencing as 21st century skills are introduced. Digital leadership incorporates seven pillars, (1) communication, (2) public relations, (3) branding, (4) professional growth and development, (5) student engagement and learning, (6) opportunity, (7) learning environment and spaces (Sheninger, 2014, p. 71). This list requires new competencies that leaders may not be prepared for without taking initiative to broaden learning (Sheninger, 2014). Sheninger and Murray (2017) stress the importance for leaders to act, adopting the term LEADERS as an acronym, emphasizing when leaders learn, empower, adapt, delegate, engage, reflect, and serve they can move the organization forward with success (p. 30-32).

Summary

As Willink and Babin (2015) point out, "the goal of all leaders should be to work themselves out of a job. This means leaders must be heavily engaged in training and mentoring their junior leaders to prepare them to step up and assume greater responsibilities" (p. 286). Preparing the organization to continue forward with success is crucial to the responsibility of a leader, investing in those within the organization so that as change comes the longevity of the group is protected and ensured to move forward (Finzel, 2007). Although the frameworks available for leaders can be exhaustive, to be successful, leaders must begin with the end in mind, establishing plans for fidelity and sustainability so that school culture will outlive the leader of the organization (Gruenert & Whitaker, 2015). This chapter contained a review of the literature related to the key topics of risk aversion, school culture, the PLC framework, 21st century schools, school leadership and change.

CHAPTER III:

METHODOLOGY

Introduction

This chapter provides information regarding the mixed methods research design used within this study. The researcher has also included a brief overview of the rationale behind choosing a mixed methods design, specifically, an explanatory sequential mixed method design. Additionally, this chapter includes descriptions of the population and sample participants, instruments used to gather data, as well as information regarding collection and analysis of both the quantitative and qualitative data.

Restatement of the Problem

This study utilized an explanatory sequential mixed method design to evaluate school implementation of the PLC framework, utilizing the PLC Plan Rubric as compared to school results on the TELL culture survey. This study investigated the relationship between school culture and schools working in the context of a Professional Learning Community framework. Research questions considered were:

(1) What are teacher perceptions of the implementation of PLC practice in schools?

(2) What are school leader perceptions of the implementation of PLC practice in schools?

(3) Do high commitment schools experiencing success with the PLC process exhibit specific traits related to school culture that are different to those schools with low commitment to the PLC process?

Research Design and Procedures

Mixed Methods Design. This study utilized a mixed methods research design. Mixed methods research allows the researcher to utilize both quantitative and qualitative data to better understand the nuances of the research questions in a study (Johnson, Onwuegbuzie, & Turner, 2007). Mixed methods research is not confined to positivist or constructivist methodologies traditionally held with quantitative or qualitative studies and allows the researcher to explore problems with more breadth and depth (Tashakkori and Teddlie, 2009). Greene, Benjamin, and Goodyear (2001) add that a deeper understanding of the data being studied can be achieved in mixed methods designs through (1) enhanced validity and credibility of inferences, (2) greater comprehensiveness of finding, (3) more insightful understandings, and (4) increased value and consciousness and diversity (p.30). Johnson, Onwuegbuzie, and Turner (2007) establish that mixed methods research, "recognizes the importance of traditional quantitative and qualitative research but also offers a powerful third paradigm choice that often will provide the most informative, complete, balanced, and useful research" (p. 129).

The paradigm "wars" are cited by Tashakkori and Teddlie (2009) as beginning in the 1950's and spanning into the 1980's and 1990's with the emergence of pragmatism and mixed methods designs (p.4-10). A paradigm can be considered a worldview or way of thinking that shapes how practitioners respond to the world around them (Patton, 2015; Tashakkori and Teddlie, 2009). Table 7 captures the nuances of the four paradigms that are primarily associated with the behavioral and social sciences (Tashakkori and Teddlie, 2009).

Table 7

Four Paradigms of Research Design

Paradigm	Positivism	Postpositivism	Pragmatism	Constructivism
Method	Quantitative	Primarily Quantitative	Quantitative + Qualitative	Qualitative

Qualitative and quantitative methods contain both advantages and disadvantages (Johnson and Onwuegbuzie, 2004). Qualitative research is very focused on capturing the voice of participants, providing detailed perspectives of a few individuals or groups, placing participant experiences in context, focusing on the views of the participants instead of the researcher, and appealing to people's love of stories. However, qualitative research may rely too heavily on participants instead of the researcher's expertise, may have a small sample size, is highly subjective, and is not easily generalized to larger populations. Quantitative research finds advantage in drawing conclusions based on large numbers of people or groups, efficiently analyzing data, investigating relationship among data, controlling bias, and appealing to people's preference for numbers. Quantitative findings can have disadvantage in the impersonal tone, lack of context, and researcher driven nature the studies take (Creswell, 2015, p. 4-5). Mixed methods utilized the advantages of both qualitative and quantitative findings to generate less possibility of researcher bias while also increasing the evidence needed to justify conclusions produced within a study (Johnson and Onwuegbuzie, 2004).

Greene, Caracelli, and Graham (1989) identify five key purposes of utilizing mixed methods designs, including triangulation, complementarity, development,

initiation, and expansion. Triangulation is designed to eliminate bias by converging, corroborating, and corresponding the results from the different methods implemented (Greene et al., 1989). Complementarity lets the researcher determine the best way to allow the methods used to support and enhance one another while using the results from one method to develop the other method is also acceptable in mixed methods studies (Greene et al., 1989). Initiation allows the researcher to increase the scope of the study by broadening and deepening the understanding of the results by analyzing the results unique to each method. To finish, expansion capitalizes on the method used to extend the research beyond the scope of the study, increasing the relevance to the field of study (Greene, et al., 1989). Additionally, Creswell (2015) lists three basic designs at the core of mixed methods research. These basic designs include the convergent design, the explanatory sequential design, and the exploratory sequential design.

This study used an explanatory sequential design as this design occurs in two distinct phases collecting quantitative data during the first phase that is further explained using qualitative methods during the second phase. Creswell (2015), notes, "the strength of this design lies in the fact that the two phases build upon each other so that there are distinct, easily recognized stages of conducting the design" (p. 38). Explanatory sequential designs also allowed the researcher to move back and forth between the results of both phases to better understand the results of the study (Hesse-Biber, 2010). The first phase of this study was conducted using quantitative methods to gather a large amount of data around teacher perception of PLC processes in their school setting using the PLC plan rubric. The first purpose of the quantitative phase was to determine a possible relationship between PLC performance indicators related to school culture and existing

data from the TELL school culture survey. The second purpose of the quantitative phase was to establish if there were any statistically significant discrepancies between teacher perception and school leader perceptions of PLC implementation practices. The second phase employed qualitative methods to gain more specific information from school leaders and randomly selected teachers around any possible discrepancies between the PLC plan rubric and TELL survey results. The first goal of the qualitative phase was to better understand leadership actions centered around school culture and the second goal of the qualitative phase was to determine possible common themes among school leaders that contribute to schools successfully establishing positive school cultures.

Research Design

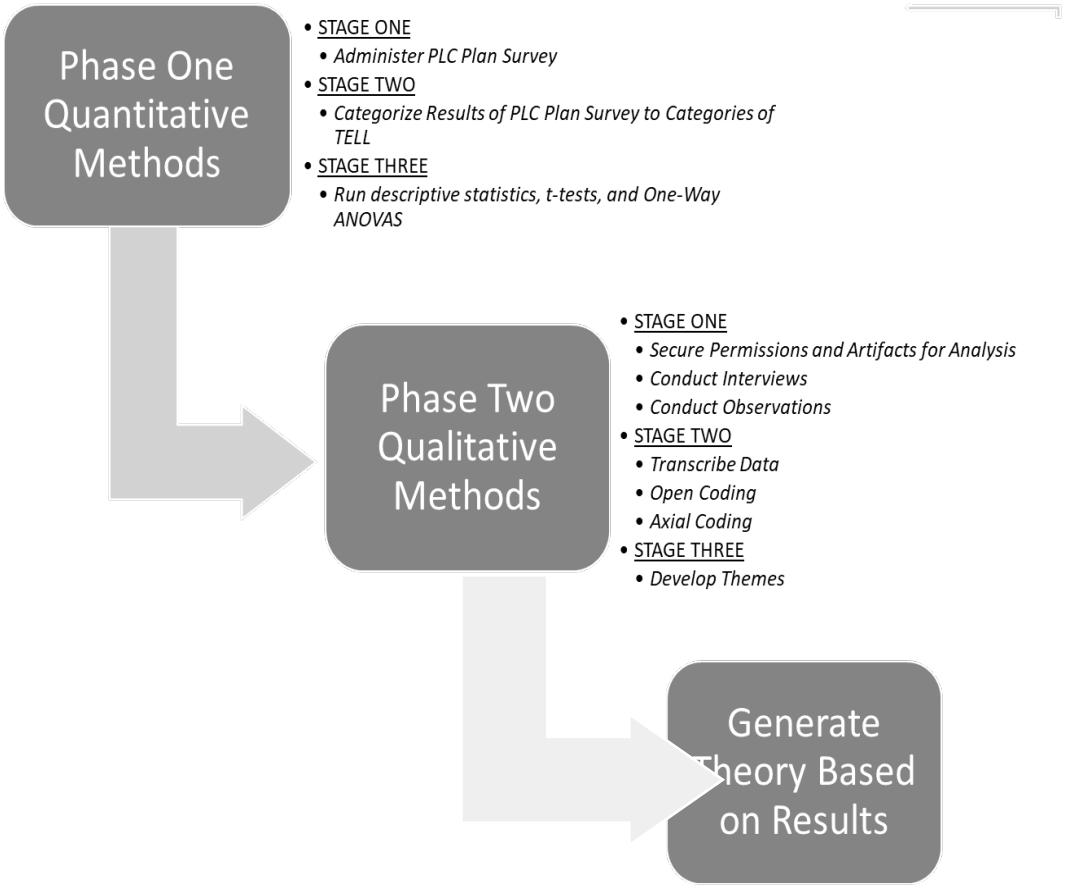

Figure 2. Research Design

Quantitative Design. The first phase of this study was the quantitative phase which employed a descriptive research design utilizing cross-sectional surveys to collect data from participants at one point in time. A descriptive research design was chosen for the quantitative portion of the study because of the ability afforded to the researcher to explore more inductive and deductive rationales when determining if several different variables had a relationship on the issue or topic (Check and Schutt, 2012).

Qualitative Design. The second phase of this study was the qualitative phase. The qualitative phase used a grounded theory design, which, as Creswell (2015) points out is, "a design of inquiry from sociology in which the researcher derives a general, abstract theory of a process, action, or interaction grounded in the views of participants" (p. 14). Table 8 provides elements that typically are present in a grounded theory design:

Table 8

Grounded Theory Elements

Action	Description
1. Formulating Questions	Designing research questions that address the study
2. Theoretical Sampling	Sampling based on emerging concepts with the aim of exploring a variety of conditions and possible scenarios
3. Interview transcribing and Contact summary	Recalling the interview from a recording to a typed format including the protected demographic data needed for categorizing interviews
4. Coding	Open Coding is the analytic process of identifying concepts and properties in data. Axial Coding is the process of relating categories to subcategories centered around properties and dimensions
5. Conceptual Categories	Relational areas that develop from rounds of coding. Those areas having things in common become categories.
6. Constant comparison	Ongoing analysis of the data as new categories emerge related to the study
7. Theory Development	Saturation of data causes no new properties, dimensions, or relationships emerge

(Patton, 2015; Corbin & Strauss, 2008)

Relationships discovered in the quantitative data analyzed allowed the researcher to focus on specific schools and groups during the qualitative phase of the study. The researcher was able to determine specific questions used during interviews for teachers and school leaders based on the areas identified during the quantitative phase. The researcher served as a school leader in the school district where research occurred so the potential for bias existed based on the researcher's prior knowledge and interactions with schools in the study. Therefore, triangulation of multiple data sources was utilized to recognize the potential of researcher bias and further validate the results of the study. Patton (2015) points out that, "triangulation within a qualitative inquiry strategy can be attained by combining both interviewing and observations, mixing different types of purposeful samples (e.g., both intensity and opportunity sampling), or examining how competing theoretical perspectives inform a particular analysis" (p. 316). Triangulation allowed the researcher to examine multiple data points to determine the validity of the phenomenon being studied while also providing additional layers of validity to the study (Ridenour and Newman, 2008, p. 88-89).

For the qualitative portion of this study, the researcher used interviews, direct observation, and physical artifacts. The interviewer chose these methods for convenience purposes due to the scope of the study as well as the timeline for completion. Interviews for this study occurred with school leaders and teacher leaders in each elementary school. Each interview was conducted individually, and questions were based on participant experience and perception around the PLC framework and school culture. Direct observation occurred in each elementary school at least once during the study and the researcher observed any combination of the following during site visits, (1) classroom

instruction, (2) collaborative team meetings, (3) school leader led professional learning, (4) teacher leader led professional learning. Physical artifacts gathered during this study included school mission and vision statements, collaborative team procedures, samples of student data notebooks, samples of student SMART goals, samples of adult SMART goals, and samples of formative assessments for at least one grade level.

Population and Sample.

The target population for this study were teachers and school leaders working at the ten elementary schools in Achilles Public Schools. This county was chosen for a variety of reasons including the researcher's role as an active school leader for the past ten years and the relatively large and diverse school system with schools in rural and suburban settings. This county was also chosen because it is in the third year of implementing the PLC framework at all schools.

Achilles Public Schools is composed of ten elementary schools, housing grades PK-4th; four middle schools, housing grades 5th-8th; three high schools, housing grades 9th-12th; three unit schools, housing grades PK-12th; and one alternative pathway school, serving as a behavior remediation school as well as high school graduation assistance program. The district serves over twelve thousand students and employees over one thousand six hundred staff. This study focused on the ten elementary schools in the district. The demographic information of these schools is presented in Table 9:

Table 9

School Demographic Information

School	# Students (pk-4)	# staff
School A	348	26
School B	314	26
School C	525	37
School D	538	43
School E	388	33
School F	632	44
School G	347	21
School H	644	46
School I	445	34
School J	556	42

For the first phase of this study, all elementary school teachers were given the opportunity to complete the PLC plan rubric survey. Each elementary school in NNSS also has one principal and one assistant principal. Both school leaders were given the opportunity to complete the PLC plan rubric as well. Data was separated by school as well as by principal and assistant principal.

For the second phase of this study school leaders and teacher leaders were interviewed separately. School leaders were chosen for these interviews because of the direct influence they had on the implementation of the PLC framework as well as school culture. Teacher leaders were chosen as each elementary school has been provided at least one PLC teacher leader as well as at least one PBL teacher leader. These positions were selected to aide school leaders in implementing the PLC framework or the PBL lesson design elements associated with project/problem-based learning. Either of these

positions can have a bearing on the school culture as well as the implementation of the PLC framework over time.

Instrumentation.

One survey instrument was utilized during the quantitative phase of this study, the PLC Plan Rubric (Appendix A). This instrument is a district designed tool that was created under advisement from a PLC expert, Bob Eaker. The PLC plan rubric addresses ten areas relative to the PLC framework and utilizes a modified Likert scale which allows participants to rate work as 0 which connotates no existence of evidence, 1 which connotates processes in place with the existence of confusion, and 2 which connotates processes in place with clear expectations and success criteria.

The PLC plan rubric was selected because it measures school mastery of ten areas relative to the PLC framework. The areas measured are:

1. Norms
2. Mission, Vision, Beliefs
3. Assessed Standards (Power Standards, Essential Learnings, etc.)
4. Student SMART goal setting
5. Teacher SMART goal setting
6. Grade Level SMART goal setting
7. Data Notebooks
8. Common Formative Assessments
9. Intervention and Acceleration
10. Collaborative meetings

Schools may elect to use the PLC plan rubric to self-evaluate mastery of each area and subsequently develop plans to improve performance in each area. The researcher selected this rubric because it is already being used by school leaders in the Achilles School District so they should be familiar with the content. The researcher had also utilized the PLC plan rubric in two prior pilot studies that had been conducted with Achilles schools. During these pilot studies the researcher was able to refine directions associated with completing the PLC plan rubric as well as develop an appropriate method for implementing qualitative methods around indicators measured on the PLC plan rubric. Making sure participants understand that evidence should accompany the marking of 1 or 2 on the PLC plan helped participants evaluate their school's progress on work related to the PLC framework more efficiently.

Data Collection Procedures

This study followed a sequential explanatory mixed methods design. In this design, data was collected in two separate phases. The first phase involved the collection of quantitative data while the second phase focused on the collection of qualitative data. To protect the confidentiality of participants all data collected was stored on the researcher's password protected computer. Also, the school system, all schools, and all participants in the study were given randomly assigned letters or numbers to protect the anonymity necessary for the study.

Quantitative Data Collection Procedures. The researcher first gained permission from the Institutional Review Board (IRB) at Middle Tennessee State University as well as from the dissertation chair. Once permission was granted the researcher followed procedures in place with the school district to obtain permission and

access to conduct the study with all elementary schools in the system. Permission was also sought from each building level principal to conduct the study out of respect for their position even though this was not a requirement from the system. Once permissions were in place, the researcher followed these steps for the quantitative phase:

1. Each school leader was emailed a letter of appreciation along with all necessary approval paperwork for the study.
2. A date was set with each school leader for the researcher to attend a faculty meeting to speak with the staff about the purpose of the study.
3. All participants willing to participate were given a copy of IRB paperwork during the faculty meeting as well as a link to the online version of the PLC plan rubric available in Qualtrics.
4. Responses to the survey were collected in Qualtrics over a two-week period from the time of the faculty meeting.
5. All responses for the quantitative portion were collected by December 15, 2018.

Qualitative Data Collection Procedures. The qualitative portion of the study began the week of January 15, 2019. The researcher met with school leaders and teacher leaders and followed these steps for the qualitative portion of the study:

1. Participants were given a copy of all necessary IRB paperwork, including informed consent forms.
2. Interview times were scheduled with each participant.
3. Observation times were scheduled with each participant.

4. Artifacts were collected during initial meetings to allow the researcher time to review them before interviews occurred.

During interviews, participants were asked the following questions. These questions were recorded on the researcher's password protected computer and later transcribed by the interviewer. The questions were designed after analysis of the quantitative data as well as the artifacts collected during the first meeting. The questions guided the overall interviews, although participants were allowed to ask follow up questions or expand on answers as appropriate. The interview questions asked of all participants were:

1. How have the 4 big questions of a PLC relate to how you have organized specific things in your school?
2. What process did you use to develop or create your current mission and vision for your school?
3. How do teachers work with students on goals?
4. How do teachers work with other teachers on goals?
5. How do teachers and students display goals in your school?
6. How do you know what standards and skills your teachers and students are working on daily?
7. Do you require your teachers to turn in lesson plans?
    a. If not, what products can teachers produce to let you know they are working on the standards?
    b. If so, what do you do with the lesson plans when submitted?
8. Do your teachers meet together?
    a. If so, do you attend?
    b. If you do not attend, why? And how do you know what they are working on?
    c. If they do not collaborate, why do you think that is?
9. How often do your teachers give assessments?
    a. What types of assessments do they give?
    b. Are the assessments aligned to the standards?
    c. How do you know?
10. How would you define school culture?
11. What role do you feel the PLC framework serves in your School?
12. Can you list specific ways that your school celebrates the following groups?
    a. Students
    b. Adults

    c. Parents
    d. Other Groups/ Ways
13. How do you build relationships with the following groups?
    a. Teachers
    b. Administrators
    c. Students
    d. Parents
    e. Other Groups
14. What ways has your school experienced change over the last year?
15. How have specific groups responded to this change?
    a. You as school leader
    b. Teachers
    c. Students
    d. Parents
    e. Other Groups
16. Has the response to change occurred the way you hoped it would?
    a. If yes, why?
    b. If no, why not?
17. How does accountability function in your school in the following ways?
    a. Administrator to teacher
    b. Teacher to teacher
    c. Teacher to student
    d. Student to teacher
    e. Teacher to administrator
18. How do you cultivate leadership in others in your school?
19. How do you stay up to date with trends in leadership and educational reform?
20. Do you believe in the following concepts? If so, how do you introduce them in the elementary setting?
    a. Innovation
    b. Creativity
    c. Life Skills
21. What are you most proud of in your school?
22. What needs the most work in your school?
23. If you could do anything different with your school what would it be? Why?

All items were asked during the interview. The researcher transcribed the interviews within three days of recording and shared the transcription with individual participants to check for accuracy. All files were maintained on the researcher's password protected computer.

Site observations were conducted on scheduled dates set during the first meeting with participating schools. The researcher spent a minimum of one hour and maximum of two hours at each site during observations. Notes were kept in a reflexivity journal for each site visit and this journal was kept in a locked filing cabinet in the researcher's office. All site observations were completed by February 15, 2019.

Data Analysis Procedures

This study utilized an explanatory mixed methods design to capture both quantitative and qualitative data in understanding the variances in PLC implementation in multiple schools. The data collection occurred in two separate time periods, with the quantitative results informing the qualitative portion of the study, as is characteristic of this type of study (Creswell, 2014).

Quantitative data analysis occurred during the first phase of the study. The researcher utilized extant data from the TELL survey to categorize schools into specific groups of commitment to the PLC process. For this study twelve indicators were chosen that support the work of a PLC. Each indicator was assigned a value based on the percent scored on the TELL survey. Aggregate scores were then assigned to each school ranging from 12, lowest possible, to 36, highest possible. Aggregate scores were then used to determine what level of commitment to the PLC process schools showed. Table 10 captures aggregate ranges as compared to levels of commitment.

Table 10

School Levels of Commitment

TELL % score by indicator	School aggregate range	School level of commitment
0-50% = 1	0-12	Low Commitment
51-75% = 2	13-25	Average Commitment
76-100% = 3	26-36	High Commitment

To test each hypothesis, to determine if a statistically significant relationship exists between the dependent and independent variables, ANOVAs were conducted.

Qualitative analysis occurred during the second phase of the study. Each indicator of the null hypothesis was examined from the quantitative phase to determine where statistically significant differences existed among schools. As data began to be compiled in the second phase of the study, specific steps were taken by the researcher to capture emerging themes, relationships, and categories. Table 11 presents the steps taken during the second phase of the study:

Table 11

Qualitative Steps

Action	Result
Interviews with School Leaders	Transcription of interview Open Coding Axial Coding
Interviews with Teacher Leaders	Transcription of Interview Open Coding Axial Coding
Establish Emergent Categories/Themes	
Analysis of weekly collaborative meetings	Identify patterns in early categories
Analysis of artifacts	Identify patterns in early categories
Determine Final Theme or Theory	

Once data from both phases of the study had been analyzed separately, the data was analyzed collectively. This action allowed the researcher to triangulate findings from the entire study to strengthen the emergent theory from the data. The researcher examined the findings of the null hypothesis and examined the qualitative data to discover patterns and connections that explained the numerical data from the first phase. Once all indicators of the null hypothesis had been analyzed, the researcher viewed the finding to observe overall themes and patterns.

Null Hypothesis

The following null hypothesis will be tested during the quantitative phase of this study.

H_{01}: There is no statistically significant difference between schools' level of commitment to PLCs as measured through the TELL survey and their perceptions regarding PLC implementation as measured through the PLC Plan Survey.

Summary

This chapter discussed the rationale for conducting a mixed method design to address the research questions for this study. The population and sample for the study were also described as well as the instrument for the quantitative phase and the interview questions for the qualitative phase. The quantitative procedures as well as the qualitative procedures were discussed as well as how data will be analyzed in the next chapter.

CHAPTER IV:

PRESENTATION AND ANALYSIS OF DATA

Introduction

This chapter contains an analysis of the data collected from the ten elementary schools that participated in the study. Participants included the lead principal, assistant principal, PLC teacher leader, and problem/project-based learning teacher leaders for each campus. For the quantitative portion of the study, participants completed the PLC Plan Rubric Survey and results were compared to extant data from the Teaching-Empowering-Leading-Learning survey (TELL) to assess the null hypothesis of the study using a ONE-WAY ANOVA statistical test. The hypothesis for this study aided the researcher in determining which schools would be selected for the qualitative portion of the study. Three schools were chosen for the second phase of the study and the results of the qualitative portion functioned as the primary method to answer the three research questions. The research questions considered for this study were:

(4) What are teacher perceptions of the implementation of PLC practice in schools?

(5) What are school leader perceptions of the implementation of PLC practice in schools?

(6) What aspects of school culture, if any, are impacted by the implementation of the PLC framework?

Demographic Information and Survey Instruments

The ten elementary schools found in Achilles Public Schools participated in this study. Each school has a lead principal, one assistant principal, and is assigned one to two PLC and problem/project-based learning teacher leaders to support ongoing district

initiatives. Table 12 identifies how many participants each school contributed to the study:

Table 12

School Leadership Demographics and Participation

School	Administrators	PLC Leaders	PBL Leaders	Total	Response Total	Plan Response Rate
A	2	1	2	5	5	100%
B	2	1	1	4	4	100%
C	2	1	1	4	4	100%
D	2	3	1	6	5	83%
E	2	1	2	5	5	100%
F	2	1	3	6	5	83%
G	2	1	2	5	4	80%
H	2	1	1	4	2	50%
I	2	1	2	5	3	60%
J	2	1	2	5	2	40%

Response rates for the PLC Plan Rubric scoring ranged from forty percent participation to one hundred percent participation. Additionally, four of the schools only agreed to participate in the study if they could only take the anonymous survey and not be considered for the qualitative portion of the second phase.

The TELL survey is an anonymous, online survey that schools in the Achilles Public School District take annually. Teachers are asked to answer over one hundred questions related to school culture. All elementary schools had a response rate over 75% and schools scored relatively high on the data accessed from the TELL survey used by Achilles Public Schools. The researcher chose twelve survey items that relate to the

work of a PLC to determine school commitment to the PLC process. The twelve items chosen are presented in Table 13:

Table 13

TELL Survey Questions

2.1B Teachers have time available to collaborate with colleagues
6.1E The faculty has an effective process for making group decisions to solve problems
6.2A The faculty has an effective process for selecting instructional materials
6.2B The faculty has an effective process for devising teaching techniques
6.2D The faculty has an effective process for determining the content of in-service professional development programs
6.2H The faculty has an effective process for school improvement planning
7.1A Faculty and staff have a shared vision
7.1B There is an atmosphere of trust and mutual respect in this school
7.1F School leadership facilitates using data to improve student learning
7.1K The faculty are recognized for accomplishments
8.1C Teachers use assessment data to inform instruction
8.1E Teacher work in professional learning communities to develop and align instructional practice

Schools earn a percentage score based on staff response to survey items. For grouping schools as low commitment, moderate commitment, and high commitment to the PLC process, the researcher converted the percentage score for each question to a raw score whereby schools earned a one for 75% or less, a two for 76-85%, and a three for 86-100%. The scores of one, two, and three were then averaged for a final score for each school. These scores were used in the quantitative portion of the study to compare school commitment to responses and scores on the PLC plan rubric, which gave the researcher

data needed to test the hypothesis for this study. Table 14 captures the data for each school from the TELL and PLC plan results.

Table 14

School Scores

School	PLC Commitment Score based on TELL	PLC Plan total Scores
A	2 (moderate)	2 (moderate)
B	1 (low)	3 (high)
C	2 (moderate)	1 (low)
D	3 (high)	2 (moderate)
E	3 (high)	3 (high)
F	1 (low)	2 (moderate)
G	1 (low)	2 (moderate)
H	3 (high)	2 (moderate)
I	2 (moderate)	3 (high)
J	3 (high)	1 (low)

It is also interesting to note that schools scored themselves individually for each of the areas possible on the PLC plan rubric. The total scores presented in Table 14 present an average of these areas with total scores ranging 1-2.3 = 1, 2.4-2.75 = 2, and 2.76-3 =3.

Analysis of Quantitative Findings

A one-way ANOVA was conducted to determine if self-reported school scores on the PLC plan rubric were different for schools based on PLC commitment level determined from the TELL survey. Schools were classified into three groups: low commitment to the PLC framework (n = 2), moderate commitment to the PLC framework (n = 5), and high commitment to the PLC framework (n = 3). Data is presented as mean

+/- standard deviation and is displayed in Table 15. School scores on the PLC plan rubric decreased from the low commitment schools (n = 2, 2.5 ± .70), to moderate commitment schools (n = 5, 2.0 ± 1.0), to high commitment schools (n = 3, 2.0 ± 1.0) in that order.

Table 15

Descriptive Statistics

PLC Commitment Based on TELL

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1.00	2	2.50	.707	.500	-3.85	8.85	2	3
2.00	5	2.00	1.000	.447	.76	3.24	1	3
3.00	3	2.00	1.000	.577	-.48	4.48	1	3
Total	10	2.10	.876	.277	1.47	2.73	1	3

There were no outliers, as assessed by boxplot. Data was normally distributed for each group, as assessed by the Shapiro-Wilk test for low commitment (.093 > .05), moderate commitment (.625 > .05), and high commitment (.669 > .05). There was homogeneity of variances, as assessed by Levene's test for equality of variances (p = .737) with full results displayed in Table 16.

Table 16

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
PLC Commitment Based on TELL	Based on Mean	.318	2	7	.737
	Based on Median	.318	2	7	.737
	Based on Median and with adjusted df	.318	2	5.628	.740
	Based on trimmed mean	.318	2	7	.737

There were no statistically significant differences in school scores on the PLC plan rubric between different commitment levels to the PLC framework as measured by TELL, $F(2, 7) = .215$, $p = .811$ as presented in Table 17.

Table 17

ANOVA

PLC Commitment Based on TELL

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.400	2	.200	.215	.811
Within Groups	6.500	7	.929		
Total	6.900	9			

The group means were not statistically significant different ($p > .05$). Therefore, the researcher cannot reject the null hypothesis nor accept the alternate hypothesis.

Summary of Quantitative Findings

Results from the quantitative phase of the study revealed no statistically significant difference between school commitment to the PLC framework as measured by the TELL survey as compared to self-reported scores on the PLC plan rubric. The researcher found it interesting that even though the One-Way ANOVA test supported these findings the correlation between low, moderate, and high scores on both instruments did not seem to align.

Qualitative Data and Coding

The researcher chose three elementary schools to work with during the qualitative portion of the study. Knowing that there was not statistical significance resulting from the quantitative portion of the study the researcher wanted to better understand how the individual components of the PLC plan rubric occurred during typical operation at a low commitment school, a moderate commitment school, and a high commitment school. Additionally, the researcher was interested to learn if schools may or may not be marking themselves incorrectly on surveys.

School B, School C, and School E were chosen for the qualitative portion of the study. Each school had expressed willingness to participate in the second phase of the study and each school fell within one of the three categories of commitment. There was also some discrepancy in how School B and School C scored on the PLC plan survey as compared to TELL scores, whereas School E scored the same on both instruments. Table 18 captures school scores on both instruments.

Table 18

School Scores across Domains

School	B	C	E
PLC Commitment Score based on TELL	1	2	3
PLC Plan total Scores	3	1	3
Sub-Scores on PLC Plan			
Norms	3	3	3
Mission/Vision/Values/ Beliefs	3	3	3
Assessed Standards	3	2	3
Student SMART Goals	3	2	3
Teacher SMART Goals	3	2	3
Grade Level SMART Goals	1	2	3
Data Notebooks	3	1	3
Common Formative Assessments	3	2	3
Tier I Intervention/ Acceleration	2	1	2
Collaborative Meetings	3	3	3

Between January 7, 2019 and February 11, 2019, the researcher completed interviews and site visits with administration and teacher leaders at each school. The lead principal, assistant principal, PLC teacher leader, and PBL teacher leader were interviewed. The researcher also attended one collaborative team meeting at each school. Due to an unusual number of sick students resulting in the school system being closed four times during the research period and an inconvenience to participants resulting from multiple rescheduling of interviews, the first-round interviews were completed electronically with participants answering a series of guiding questions (found under Qualitative Data Collection Procedures in Chapter III). Responses were returned electronically in a Microsoft Word document. Second round interviews occurred with each lead principal in person the same day as direct observations. During these interviews the lead principals were asked three additional questions:

1. What has been your biggest frustration with the PLC process as a school leader?
2. Has the PLC process/ framework helped with work being done around STEM/ PBL/ Digital Integration?
3. If we were not required to utilize the PLC framework would you still do it?

Interviews occurred throughout this study and the researcher compiled all interview responses together to begin coding. As suggested by Corbin and Strauss (2008) open and axial coding occurred simultaneously to help the researcher categorize related patterns in participant responses. As categories emerged the researcher organized the categories into themes. As additional data were collected and analyzed theory began to emerge.

Documents

In order to establish trustworthiness of the data collected, the researcher secured documents and artifacts during site visits. During these visits the researcher attended at least one grade level collaborative meeting. During these meetings the researcher took notes in the researcher's field journal and took pictures of artifacts related to SMART goals, assessments, and evidence of celebrations. The researcher chose these three specific areas to focus on as they became the most prominent of the emergent themes from the initial data collected.

SMART Goals. Each school approached SMART goals in different ways. School B only allows students to set goals related to specific assessments and these goals are not celebrated in a public method. School C does not make SMART goals a requirement for teachers or students, so some classrooms set goals with students while others do not. School E has built a culture around SMART goals for students, teachers, and teams. Goals are displayed in classrooms, are celebrated with administration, and are

publicly displayed once achieved. The researcher photographed at least one example of student SMART goals in each school, while teacher SMART goals were only apparent in School E.

Assessments. The researcher asked each principal to submit at least one example of a common formative assessment that teachers use. For the purpose of the study and to look for common themes across one grade level across all schools, the researcher asked principals to submit an assessment from third grade. School B submitted a common formative assessment that teachers had created. Content of this assessment was aligned to assessed standards, however it was unclear how the assessment data might be used to influence instruction. School C submitted a common formative assessment that teachers had created as well. Again, content was aligned to assessed standards, however the content being covered in School C differed from School B and School E. School E also submitted a teacher created assessment aligned to assessed standards. This assessment also covered different content from School B and School C.

Celebrations. There was evidence of celebrations in all three schools. School B primarily focused on celebrations that supported their focus on social emotional learning. These celebrations allowed adults and students to provide positive and uplifting comments to one another throughout the school year but were not tied to academics or goals. School C focused celebrations on students as part of the school positive behavior support system but had no real celebrations in place for adults, parents or other stakeholders. School E had processes in place to celebrate students, adults, and stakeholders, although the most emphasis was placed on students and teachers.

Coding

School B. Initial coding for School B collected responses from the lead principal, assistant principal, PBL leader, and PLC leader in the school. Responses revealed two hundred and twenty-seven codes from four participants. An additional twenty-six codes were added after using the constant comparison method of additional data sources other than interviews. The total number of codes revealed for School B was two hundred and fifty-three. Codes were then sorted into twenty-seven categories for School B displayed in Figure 3.

School B—Categories from Code Collection

1. collaboration
2. teacher planning
3. team planning
4. student goals
5. school culture
6. ethnic differences
7. technology
8. professional jealousy
9. isolation
10. schedule conflicts
11. teacher bias
12. energized
13. lack of engagement
14. teaching style
15. lesson plans
16. assessments
17. understanding PLC
18. lack of trust
19. administrative support
20. parent involvement
21. teacher observations
22. feedback
27. fear

Figure 3. School B Categories from Code Collection

School C. Analysis of interviews for School C revealed an initial one hundred and forty-seven codes. The school principal, assistant principal, PBL leader, and PLC

leader were interviewed. After examining additional documents, another twenty-eight codes were revealed for School B, making a total of one hundred and seventy-five codes. These codes were sorted into fourteen categories displayed in Figure 4.

School C—Categories from Code Collection

1. school culture
2. administrative support
3. goals
4. assessments
5. technology in the classroom
6. teacher personality
7. collaboration
8. isolation
9. fear
10. assessments
11. lack of training
12. inconsistent implementation
13. understanding PLC process
14. teacher morale

Figure 4. School C Categories from Code Collection

School E. The principal, assistant principal, PBL leaders, and PLC leader were interviewed at School E. Initial coding revealed three hundred and thirty-two codes for School E. Review of additional documents and artifacts revealed an additional twenty-nine codes for School E for a total of three hundred and sixty-one codes. Codes for School E were then sorted into thirty categories as displayed in Figure 5.

School E—Categories from Code Collection

1. backward planning
2. schools in isolation
3. transformation involvement
4. alignment culture
5. innovation
6. common language
7. data
8. questions
9. teacher support
10. fear
11. celebrations
12. leadership
13. enthusiasm
14. weekly meetings
15. assessments
16. inconsistency across schools
17. funding
18. student goals
19. trust
20. embedded technology
21. school culture
22. PLC process in place
23. teacher goals
24. administrative support
25. engagement
26. collaboration
27. 4 C learning
28. direction
29. parent
30. classroom

Figure 5. School E Categories from Code Collection

All Schools. The researcher looked for trends in categories from each school as well as divergences across schools. This revealed a total of twelve categories between School B, School C, and School E that were common. These categories were compared with additional data collected from follow up interviews with the lead principal at each school as displayed in Figure 6.

All Schools—Categories from Code Collection

1. celebrations
2. PLC understanding
3. technology
4. SMART goals
5. collaboration
6. fear
7. inconsistency
8. lack of support/ training
9. leadership
10. administrative support
11. assessment
12. school culture

Figure 6. All Schools Categories from Collection

The twelve categories observed for all schools were further compared to data collected which led to the development of three main themes. Interview responses for the qualitative portion of this study were sorted into each of these areas to better understand the nuances and interdependence each area may hold. These themes also supported the emergent theory of this study, a theory of Nimble Leadership. Figure 7 displays the aspects of this theory.

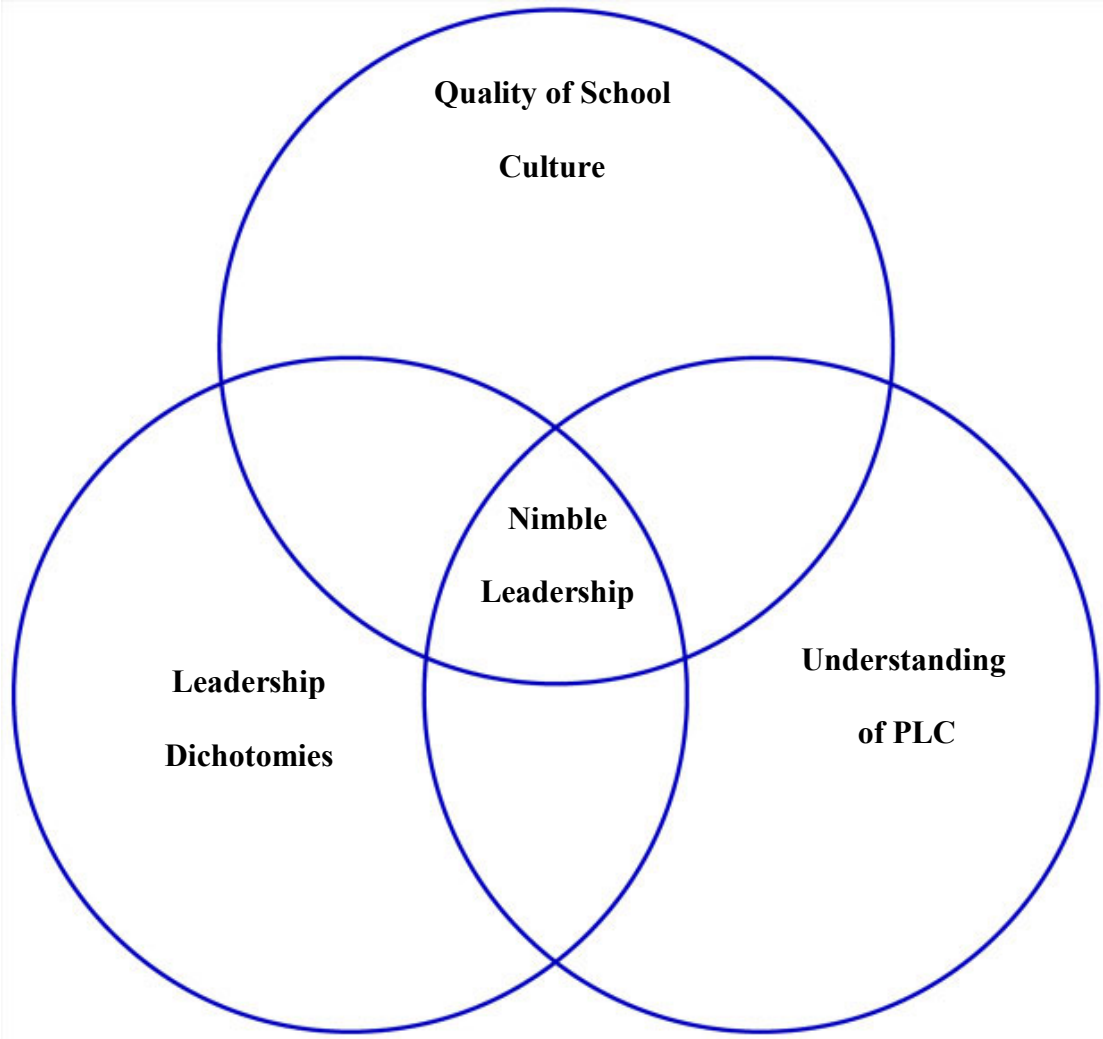

Figure 7: A theory of Nimble Leadership

Findings from this study suggest that if a strong interdependence exists between the quality of school culture, understanding of school reform models, and execution of leadership dichotomies, leadership can become nimble enough to carry out specific actions necessary to move schools forward during change. A weakness in any one of

these areas can also result in an inability of school leaders to shift or adjust decisions in a way that allow the school to adapt to changes as quickly or efficiently as possible.

Analysis of Qualitative Findings

The researcher organized responses from participants at each school that contributed to the qualitative portion of the study into four groups. Responses were categorized into PBL leader, PLC leader, Assistant Principal, and Lead Principal. Organizing the findings in this manner provides an understanding of responses across schools and groups.

Principals.

Principal, School B (Galahad)

Background

Galahad has worked in education for twenty-one years and has been in administration for nine years. He has been at his current school for two years and was a strong believer in innovation and STEM education for students but believed in finding flexible methods to get teachers on board with changes in classroom practice. Galahad seemed nervous and uncomfortable during the interview, often checking his watch and rushing through answers. He was most proud of how his teachers adapted to changes introduced from the district over the past year and felt that the biggest challenge was getting teachers to believe that all kids could learn.

Understanding of PLC

Galahad attended a two-day PLC institute separate from other administrators in the school district. When asked how the PLC framework relates to the work of his school, he responded, “It does what it says it should, you know? It’s like a frame at

home, it builds up the foundation of what you need to do so that you can move towards you goals and vision" (personal communication, January 17, 2019). Galahad further explained that the PLC work at his school is about student goals and what students need to be successful, that, "Goals give us something to shoot for and help us know what we are doing" (personal communication, January 17, 2019). Principal Galahad was asked to list the four big questions of a PLC but was not able to, however when asked if he would continue to utilize the framework if not required to by the district, he replied:

> Yes, I would still want to use it. I believe we have to work as a team in education. There are so many things going on that it helps to have common ideas and common goals in order to move forward. Working in isolation would be torture. (personal communication, January 17, 2019)

No additional information was shared from Principal Galahad to develop a better sense of understanding of his knowledge of the PLC framework.

Leadership

When asked to describe his leadership style, Principal Galahad felt that he was the type of leader that, "Doesn't stand on a hill and direct the troops what to do. I really get down in the trenches and work with them daily" (personal communication, January 17, 2019). This has helped his school to move forward with some challenges such as overcoming a complacent attitude about student learning as well as developing different ways to celebrate kids and adults. He also stated, "As a leader I feel like part of my job is to identify people who have special talents and build on them" (personal communication, January 17, 2019). He also felt that the PLC framework had helped his school advance in

PBL, STEM, and digital integration work as different teacher teams have been able to focus on the work needed to move forward collaboratively with these efforts.

School Culture

Celebrations and community involvement have been an important part of Principal Galahad's work. He has also made it a priority to develop relationships with different groups by spending time with them and modeling the work he expects to be done. These relationships have helped with the biggest frustration he has had: "Getting teachers to focus on the prioritized standards. Teachers still tend to want to teach all the standards and when doing so they lack the depth in which the standard is asking students to perform" (personal communication, January 17, 2019). As teachers got better at this, he felt his school could make better strides in understanding what kids needed.

Principal, School C (Leonidas)

Background

Leonidas has been in education for twenty-one years and has been an administrator for ten years. He has been at his current school for two years and expressed frustration with his teachers for focusing more on adult drama than student learning. He also stated:

> My teachers do not seem to understand what curriculum to use, although I cannot get mad at them when we have not been given a curriculum to follow. They have done the best they can with what they have, but I am not sure they buy in to the PLC work. (personal communication, January 18, 2019)

When asked to elaborate on this further, Leonidas declined, but said he would continue to push the PLC work because he felt it supported what is best for students and believed in

driving forward as a group. When asked about innovation and creativity, he stated, "Our first focus is getting students ready for State testing. All the other cute stuff comes after that" (personal communication, January 18, 2019). Overall, Principal Leonidas felt his school was making good progress in all areas and that he was getting comfortable as a leader.

Understanding of PLC

Principal Leonidas attended a three-day PLC institute and had experience with the PLC process from previous districts and Achilles Public Schools. His biggest frustration was: "How my teachers are handling the student goal making. Teachers do it for them, don't necessarily allow students to be part of the process and lead it, and therefore the students don't have ownership over their learning" (personal communication, January 18, 2019). He felt that celebrations were appropriate for teachers and staff and that staff morale had improved over his time as principal. He felt that the mission and vision for his school had been developed collaboratively and that teacher teams were collaborating at an appropriate pace during the school year.

Leadership

Leonidas expressed the importance of listening and building relationships when trying to establish trust among potential leaders and his leadership team. He also felt that being transparent was important to help staff learn and know they could trust him. He felt like he was a fair leader and did not push mandates too much and allowed teachers the flexibility needed to do what they needed to do in their classrooms.

School Culture

When asked what changes he had faced over the last year, Leonidas responded, "I hate that it came about the way it did, but the biggest change we have faced has been our mission and vision work and moving away from what is easy for teacher to what is best for students" (personal communication, January 18, 2019). Although the principal felt it was a collaborative effort, he expressed that his leadership team did a majority of the work. Additionally, student and teacher celebrations have been a priority that he has worked on implementing a variety of celebrations for students throughout the school year, including birthday recognitions, incentive carts, and positive behavior rewards.

Principal, School E (Beowulf)

Background

Beowulf has been in education for sixteen years and has been in administration for ten years. He has been to a three-day PLC institute and has experienced PLC work in other districts. When asked how the PLC framework has supported innovative practices in his school, he replied:

> Without the work of a PLC we would not be where we are with the digital integration and work around PBL we have done. Teachers understand what collaboration is and they are able to get past adult issues and focus on what is best for student learning. (personal communication, January 15, 2019)

He is most proud of the work his teachers have done to embrace change, trying new things and not being afraid to fail. He has found ways to support them in implementing these changes while also helping them to balance assessed content for testing.

Understanding of PLC

Beowulf felt that the PLC framework has given his teachers more focus than they had in the past, allowing them to understand what students need to know by the end of a grade level and backward plan to what needed to happen on a day to day basis. When asked how teachers work with students on goals he said:

> Teachers have established SMART goal walls in every classroom and have developed a way to make sure students work with them to establish their goals. Students are celebrated and goals are displayed in our main foyer areas for parents and other stakeholders to see. (personal communication, January 15, 2019)

Collaborative meetings occur weekly in his school and teacher teams have the flexibility to meet together daily if they choose to. Assessments are collected in place of lesson plans and teachers work together to plan instruction. When asked if he would continue the PLC process if not mandated by the district he said, "Yes, there is no way our school would not follow the PLC framework. The collaborative nature of our school is integral to student success and the SMART goal process is important in the work that students and teachers do daily" (personal communication, January 15, 2019).

Leadership

Beowulf had a very specific structure for developing teacher leaders in his school. He stated that:

> As I recognize leadership potential in teachers, I provide opportunities for them to grow in different capacities as well as meet with them individually or in small groups to debrief decisions or outcomes and think about different ways situations might have been approached. (personal communication, January 15, 2019)

He also attended conferences and trainings on leadership on a regular basis to stay current with new trends.

School Culture

Principal Beowulf viewed school culture as the ceremonies and rituals present in a school that reveal what the people in the building value. In the past year he stated:

> The hardest change we have faced is knowing if what we are doing is correct. There are lots of misconceptions around the PLC framework and what I see modeled at district meetings is not what we are doing in our collaborative meetings so sometimes I doubt myself and that doubt comes back to my teachers sometimes. They feel that frustration as well, but we try to stay focused on the students. (personal communication, January 15, 2019)

He expressed pride in how his teachers had responded to innovation and explored different ways to incorporate technology into daily lessons. Celebrations occur regularly for teachers and students and community relationships drive much of the work being done throughout the school.

Assistant Principals.

Assistant Principal, School B (Miss Muffat)

Background

Miss Muffat has been an administrator for one year and has been in education for twenty-six years. She believes that innovative practices occur at her school but did not expand on her personal beliefs around innovation and creativity. She is most proud of her teachers for being problem solvers but feels teaching and learning is not happening at the rates necessary for students to achieve optimal growth in academics.

Understanding of PLC

Ms. Muffat has not attended a PLC institute and has only had training provided by the district. When asked how the PLC framework has supported her school, she replied that, "Tier one instruction lets us know what students can do based on assessments and anecdotal notes. RTI for academics takes care of the kids that can't do it based on skills" (personal communication, January 17, 2019). She also expressed that the mission and vision had been in place prior to her arrival at the school in her new position and that different teams approach SMART goals in different ways. Goals were primarily tied to different types of assessments and the overall work of teams was collaborative in her opinion.

Leadership

Ms. Muffat did not speak directly to how teacher leaders are coached in her school. When asked how she cultivates leaders she replied, "There are many opportunities for leadership in our school. We have three coaches—PLC, data, and PBL. We have a literacy coach and a social-emotional learning coach. We have a lead mentor who works with our newest teachers" (personal communication, January 17, 2019). However, no further details were given to how administration works with or grooms these individuals for growth.

School Culture

Ms. Muffat felt that overall school culture in her school was positive and that staff morale was high. She felt that celebrations primarily supported the social emotional learning initiatives in her building and expressed desire to see more done around

academic celebrations. Adult celebrations did not seem to be as much of a focus for her as students.

Assistant Principal, School C (Mother Goose)

Background

Mother Goose has been an administrator for eight years of their twenty-three-year career. She has not attended a PLC institute but felt they had read enough blogs to understand the process and purpose. She was most proud of student growth on state tests but felt teachers were not planning together collaboratively. She also felt that her school needed more support to meet the demands of RTI academics. When asked about innovation, creativity, and life skills being taught in elementary school she responded with, "Effective innovation should be able to demonstrate the benefits of the new practice, while creativity often has difficulty in implementation" (personal communication, January 18, 2019). She also made it clear that character education is important but that mission and visions for the school should be arrived at as a group decision, collaboratively.

Understanding of PLC

Overall, Mother Goose agreed that the PLC framework had strengthened her school. She felt teams had sufficient time to plan collaboratively and could use assessment results to determine what was best for students. She was not sure if all teams planned collaboratively or to what degree personality conflicts and teacher disagreements in best practice got in the way of focusing on student learning. She expressed concern that not all teachers posted SMART goals and that trust issues among adults often got in the way of the school functioning as successfully as possible as a PLC.

Leadership

When asked how she cultivates leaders in her school, Mother Goose replied, "Leadership is cultivated by extending opportunity and directives to complete jobs. Once clear objectives are communicated, teachers and assistants need to be given the freedom and room to complete the tasks" (personal communication, January 18, 2019). Further discussion around leadership did not occur with Mother Goose.

School Culture

Mother Goose felt that school culture was the direction a school goes and how they get there. She also felt that the biggest change her school had faced was moving towards common planning and giving assessments. She felt that most teachers had gotten adjust to this with little issue, though she did not feel all teachers had really bought in to the concept.

Assistant Principal, School E (Goldie-Locks)

Background

Goldie-Locks was most proud of the collaborative nature of her teachers and how they worked together to problem solve and find ways to ensure all students learned at the highest rates possible. She has taught for twenty-two years and been in administration for six years. She felt like some teachers needed help getting on board with the mission and vision of the school and when asked what she might do differently she replied:

> I would increase positive home-school relations. We have parents that I think have defense mechanisms that cause the home-school relationship to be not as positive as it could. We also have a large number of our parents that cannot communicate as effectively due to language barriers. I believe if we could

> address this, student achievement would benefit. (personal communication, January 15, 2019)

It was very apparent that she was very proud of the work her school has done to move forward with many of the innovative practices in the district and expressed the importance of teachers having the flexibility to make mistakes without experiencing severe reactions from school leadership.

Understanding of PLC

Goldie-Locks has not attended a PLC institute but has participated in book studies and optional training provided by her principal. She felt that her school has worked very hard to align assessed standards, stating, "At our school, we have done extensive work determining which of the standards should garner the most attention in the classroom to ensure students are prepared to transition to the next grade level" (personal communication, January 15, 2019). She also made it clear that goals are developed collaboratively with students around academic needs and expectations, are displayed in classrooms and publicly and that students and teachers are both celebrated in a variety of ways throughout the academic year.

Leadership

Teacher leaders were given a variety of supports and opportunities to grow in her school while she felt most of her work focused around helping teacher leaders problem solve issues that came up from lack of clear direction from district staff.

School Culture

The way the staff works together is how Goldie-Locks defined school culture. She also pointed out that how the teachers collaborated impacted how students and other

stakeholders were celebrated. She felt that the biggest change revolved around staff, stating:

> We have at least one new faculty member per grade level in our school which has caused me to be more intentional in seeking those individuals out to check in on them and how they are progressing and handling new information that may come up. (personal communication, January 15, 2019)

Ensuring teachers had adequate support helped them feel like they were part of the school and also helped existing staff manage adjusting to new personalities easier.

PLC Leaders.

PLC Leader, School B (Maui)

Background

Maui was very passionate about how students are exposed to innovation, creativity, and life skills at the elementary level. He expressed that in the eight years he has been teaching he has never seen students as engaged as they were over the last two years at his school. He also expressed pride in the work students do daily but felt overall school culture was in need of improvement. Maui has served as the PLC leader at his school for the last three years and stated, "I am proud of the work our teachers have done in moving forward in the PLC process" (personal communication, January 17, 2019).

Understanding of PLC

Overall, Maui felt the knowledge gained at a three-day PLC institute helped him move his school forward as the PLC leader. He felt that all things are student centered and that narrowing down and unpacking standards has become easier for teachers. Maui also expressed that the PLC framework has helped teacher progress with STEM and PBL

work while also working more collaboratively to learn how to incorporate technology into the classroom to support instruction. He stated, "Teachers use SMART goals for many things in our school including social emotional learning-based strategies, setting daily goals with students who are in tier two or three behavior interventions" (personal communication, January 17, 2019). He felt that collaboration among teachers was a strength and that assessments given were aligned to assessed content which helped students know where they are academically.

Leadership

As a teacher leader, Maui felt that it was difficult to build momentum to get all other teachers on board and moving in the same direction, but he had experienced success in helping different teams collaborate regularly.

School Culture

Maui defined school culture as a reaction of stakeholders to expectation set by administration. And though celebrations were frequent and for students and teachers alike, change was a major obstacle his school had faced over the last year. He stated:

> We have had a large faculty turnover, which has sparked a lot of change. We have also approached discipline in a social emotional way. These changes have caused me to have to do a lot of team building and problem solving with grade levels. (personal communication, January 17, 2019)

He also felt that accountability from administration focused more on student discipline and office referrals instead of academics and content.

PLC Leader, School C (Eric)

Background

Eric has taught for eleven years and been a teacher leader for one year and expressed an immediate concern of being unfit for the teacher leader position he had been placed in. Eric was chosen for the position by his principal after the first PLC leader for his school did not have success meeting administrative expectations. He had not attended a PLC institute and did not feel like grade levels were functioning like a team in his school but was proud of the work the teachers and other adults in the building were completing. Eric did believe that students should be introduced to innovation, creativity, and life skills in elementary school but was not clear that he felt the PLC process helped with these things.

Understanding of PLC

Eric expressed concern at discussing things related to PLC work in his school. He felt that he had not had time or training that was needed to introduce teachers to SMART goals and was not sure the PLC framework had had any influence on PBL, STEM, or digital work in his school. Furthermore, he was not clear if the latter even occurred in his school.

Leadership

Again, Eric expressed hesitation in answering questions related to work as a teacher leader and was not sure that appropriate training had been provided or that he was sure where to start. He was clear that his commitment was to student learning, stating that, “To be honest, I’m just a few months into this role, and teaching my kids is still my top priority. I do lots of reading though, and plan to continue to do so” (personal

communication, January 18, 2019). It was unclear if Eric felt that he could reach out to his administration for support.

School Culture

When describing School culture Eric continued to stress, he was new to the teacher leader position and knew that everyone was happy which meant that the culture had to be good. He did not feel that his school had experienced any change over the last year and he did not understand what accountability measures were in place for different groups. Overall Eric seemed very nervous to complete an interview around any of the topics for this study.

PLC Leader, School E (Gaston)

Background

Gaston has taught for five years at the same school and has been the PLC leader for the last three years. He felt very confident in the work his school was doing as a PLC, primarily because of the support and guidance he had received from administration over the years. He was most proud of the work his school had done around integrating PBL, STEM, and technology into classrooms to support instruction and how those tools and strategies had been more successful because of the PLC framework and the collaborative energy that had become second nature to teachers as a result. He did feel that some teachers were still not on board and the physical space could be more kid friendly.

Understanding of PLC

Gaston had attended a three-day PLC institute and met weekly with administration to discuss how teams were progressing on a variety of school goals, including student data notebooks, common formative assessments, and student

recognitions. The collaborative meetings at his school made Gaston feel like the PLC framework helped all teachers help each other. He stated, "The PLC process has helped those who are comfortable or uncomfortable collaborate to integrate PBL/STEM/Digital work" (personal communication, January 15, 2019). Goal setting was also a priority in his school as he pointed out:

> The PLC framework serves an important role in our school in order to help ensure that every child is successful as well as helping teachers align their individual goals to the grade level to help the team reach the goal they have set. (personal communication, January 15, 2019)

Leadership

Gaston felt that his biggest success was working collaboratively with teams to implement student data notebooks and student led conferences while it was still frustrating to work with those teachers resistant to change. Building trust and establishing respect was also important to him as a teacher leader when working with others to move students forward.

School Culture

Gaston connected school beliefs, attitudes, and perceptions as those things that created culture. At his school he felt that celebrations helped different groups build relationships though student celebrations were stronger than adult celebrations in most instances. He also felt change had been a major factor in his school with staff changes, district not providing materials and resources, and the loss of funding all impacting adult focus. He did not feel the changes had adversely impacted his school but rather, had strengthen the work being done.

PBL Leaders.

PBL Leader, School B (Aurora)

Background

Aurora is in her fourth year at her school but has been in education for eight years. This is her second year serving as the PBL leader for her school and she is most proud of how her school works together to do what is best for students but felt that overall school culture and morale needed improvement. When asked if she believes in innovation, creativity, and teaching life skills at the elementary level she remarked, "Innovation is important to PBL thinking and way classrooms are run. Students need to be able to think and problem solve, and the way classroom environments are set up can help this happen" (personal communication, January 17, 2019). Academics were supported by goals and she felt her school did a good job working together to move forward in achieving those goals set for students.

Understanding of PLC

Aurora felt that the PLC framework supported all the work of her school. The four big questions of a PLC were used to drive collaborative meetings and supported advancement of PBL and STEM work in her school. The collaborative development of her school's mission and vision statement helped all teachers know what they needed to be working towards and she stated, "The purpose of the meetings varies by day, but most grade levels will take extra days or after school to allow more time for collaborative planning" (personal communication, January 17, 2019). Weekly assessments also help teachers stay focused on student learning and she felt the PLC framework gave her school

a common language to follow to ensure student learning is the focus with time being maximized around that goal.

Leadership

Aurora's biggest frustration as a teacher leader was being caught in the middle of being a teacher and a leader which made it difficult for her peers to know where certain boundaries were. Her biggest celebration was the leadership opportunities she has experienced from the position. She stated that, "She always gets out and tries things before asking someone else to try them. Being real and honest with teachers goes a long way" (personal communication, January 17, 2019).

School Culture

When asked to explain more how she builds relationships with other teachers it became clear that determining ways to help teachers find resources and other needed means helps more than anything. This has also helped with the changes her school has experienced over the past year, especially in staff turnover. She stated, "Our school changes as the district changes, which is frequently" (personal communication, January 17, 2019). This frequent change has made it difficult to establish long standing relationships with staff and build momentum as staff changes so much. She also stated:

> There are specific grade levels and teachers that have experienced more change and they seem to be the ones that struggle the most. It's difficult to form a bond with your grade level when there are changes and it seems hard for the remainder of the faculty to feel united. (personal communication, January 17, 2019)

PBL Leader, School C (Merida)

Background

Merida has been in education for sixteen years and worked at their current school for fifteen years. This is Merida's third year serving as a PBL leader working under the same administration. When asked about her belief in the concepts of innovation, creativity and life skill development in school she responded:

> Yes, students should be exposed to these concepts and I have been working with students on having a growth mindset with challenges, exploring new ideas, I Wonders, etc. and have been implementing Makerspace, STEM challenges, Design challenges, etc. and I strongly believe in the 4 C's of STEM, working with others, communication, presenting skills, etc. (personal communication, January 18, 2019)

Merida was most proud of the effort's students were putting forth in their school but felt that more consistent expectations across the school could help teachers exhibit the same levels of effort that students did.

Understanding of PLC

Merida has never attended a PLC institute and was unsure of how the PLC framework related directly to classroom instruction and teaching. When asked if the PLC process has helped with integrating PBL/STEM/ Digital work in the school setting she stated, "Not that I know of" (personal communication, January 18, 2019). Additional responses to questions revealed that she had no knowledge of how SMART goals were being used in her school, how teacher teams were planning assessments aligned to

assessed standards, or how the school mission and vision were developed. When asked if teachers meet together, she said:

> All grade levels meet. Some meet more frequently and have more meaningful conversations and planning with one another. Personality and teaching style differences become a hindrance to collaboration, but they have to meet together to know what topics they are working on. (personal communication, January 18, 2019)

The PLC process only helps teachers focus on the why of teaching, in her opinion.

Leadership

As a teacher leader it was apparent that Merida was proud of the work she had done to help teachers learn more about technology, tools, and strategies that could be implemented in the classroom. When asked her biggest celebration as a teacher leader, she replied, "Having teachers come back to me and say they tried something new or something I provided to them and it worked" (personal communication, January 18, 2019). While her biggest frustration was, "Some teachers lack of desire to work harder and grow" (personal communication, January 118, 2019). Additional work she has done to cultivate leadership in her building has been to build teams to provide opportunities for teachers to step into leadership positions while also staying current in leadership trends through reading, social media outlets and additional work in pursuing a masters.

School Culture

Change has been a part of School C over the past year as new staff have come on board and has resulted in low energy throughout the school. When asked to define School Culture, Merida responded, "The feeling and way that the teachers, admin,

students (all stakeholders) work together and support one another for student success" (personal communication, January 18, 2019). From her perspective administration has shifted to an accountability method focused heavily on preparation for State assessments with attention to deadlines outweighing staff celebrations or acknowledgement.

PBL Leader, School E (Belle)

Background

Belle has worked in education for six years at the same school but has never attended a PLC institute. She is most proud of the students in her school and how they work to overcome the adversity they may face at home to find success in academics and show resilience when faced with new challenges. She believes in innovation, creativity, and teaching life skills in elementary grades, stating:

> Students are naturally innovative and creative, we just need to allow the students to have opportunities to show and grow their innovation and creativity. We should discuss with students what they need to know and then they can come up with a way to show the mastery of skills. (personal communication, January 15, 2019)

When asked to elaborate more about why these concepts are important for students, she stated, "When students are problem solving during the day, they are learning life skills. When students fail, they are learning how to fail, how to learn from failure, and how to keep moving forward (personal communication, January 115, 2019). Belle felt nothing needed to change at her school because she was encouraged to seek out innovative opportunities, collaborate with others, and adjust instruction as needed to meet the needs of all of her students.

Understanding of PLC

Belle felt the PLC framework has helped her school accelerate in exploring work around STEM, PBL, and digital integration because teachers are encouraged to collaborate around multiple facets important to each student. She felt that the focus on personalized learning helped teachers focus on goals, stating:

> Goal setting begins with a discussion with each child. We discuss what their personal goals are and what the expectations are for our grade level. Each child has a data notebook that contains graphs, grade level standards, and student work. If goals are met, we celebrate, and if the student does not meet the goal, we reset the date and see what needs to be done to help them get there. (personal communication, January 15, 2019)

Backwards planning is important to her school and teacher teams participate in grade level collaborative planning meetings weekly as well as vertical teams one time per month. These opportunities to focus on student learning and instructional practices have helped her see the value in the PLC process stating, "The PLC framework is what we use to ensure that each child receives the individual education that they need" (personal communication, January 15, 2019).

Leadership

As a teacher leader, Belle stressed the importance of building trust with her peers and administrators. She also worked hard to find ways to encourage them which she found provided opportunity to have hard conversations in a little less confrontational manner. Her biggest frustration as a teacher leader has been to motivate those teachers

not on board with district changes while her biggest celebration was seeing how much her school grew over the last year.

School Culture

Celebrations were an important part of Belle's school. She was able to cite multiple ways that students, teachers, parents, and stakeholders are celebrated in her building. She also commented that the collaborative nature of her school made it easier for teachers to adjust to the changes they had dealt with over the past year. She stated, "Working collaboratively to achieve monthly goals and setting SMART goals helped support students while celebrating them when they met SMART goals helped keep everyone focused on what matters" (personal communication, January 15, 2019). She felt that school culture was fueled by the school leader and that his presence in classrooms, leaving authentic feedback, participating in collaborative meetings, and working with teachers to find ways to expose students to authentic and new ways of learning was important.

Interpretation of Qualitative Findings

The qualitative methodology used in this study indicated that there were discrepancies among the three schools studied and their implementation and understanding of the PLC process. School E was consistent in how participants perceived the PLC process which is also reflected in how scores were reported for both the TELL and PLC plan rubric scores. Schools B and C both revealed inconsistencies of how teachers and administrators perceived the PLC process to be implemented which is also reflected in school scores for the TELL and PLC plan rubric scores. All schools suggested that implementation of the PLC process had helped in moving forward

initiatives with PBL, STEM, or digital work in the buildings. As the PLC framework is a district initiative for Achilles Public Schools it was surprising to discover through the interview process that most participants did not speak in depth about practices occurring in their buildings tied to the work of a PLC. Also, responses from Principal Galahad at School B revealed a misunderstanding of most of the PLC components as well as discrepancy between how administration and teacher leaders interpret staff morale to be. Responses from teacher leaders and administration at School C revealed an obvious disconnect between perceptions of how celebrations and collaborative planning are occurring. School E had the most consistent responses between administration and teacher leaders which suggests that the practices occurring at that school may be following the PLC framework closet of the three schools that participated in this study.

Summary of Qualitative Findings

The concepts "understanding of PLC," "Leadership," and "School Culture" emerged from the coding processes of raw data collected during this study. These themes were found across schools and captured the nuances of the PLC framework from both teacher leader and school administrator perspectives in a manner that allowed the researcher to better understand how a district initiative could break down or be successful at the school level. Although each school was unique in its own context, the variance in responses suggest that schools B and C were struggling with what direction they should be moving as a PLC while School E was experiencing some success in implementing the PLC framework. These themes also led to the emergent theory of the study, a theory of Nimble Leadership.

Overall Summary

The mixed methods procedures followed revealed that there was no statistical significance between how schools scored on the TELL survey and PLC plan rubric in regard to being low, moderate, or high commitment to the PLC process. School scores did not reflect observed practice in School B, as self-reported scores for the PLC plan rubric suggested a high level of PLC implementation which was not revealed during interviews. Scores were more closely aligned with School C and E as School C scored low on the self-reported scores for the PLC plan rubric which was revealed to be consistent with interviews. School E scored high on the PLC plan rubric suggesting a high level of implementation of PLC processes which was revealed to be true during interviews for the second part of the study. The implications of the findings of this study are discussed in detail in Chapter V along with recommendations for future research.

CHAPTER V:

DISCUSSION AND CONCLUSIONS

Introduction

This mixed methods study sought to reveal school implementation of the PLC framework across elementary schools in one school system. The study examined the perceptions of teacher leaders as compared to perceptions of school leaders to determine if there were specific actions occurring in those schools experiencing higher levels of commitment to the PLC process as compared to those schools experiencing lower levels of commitment. Using quantitative and qualitative research methods, the researcher found that there were key differences between schools implementing the PLC framework within the same district and that the school with consistent high commitment scores did implement specific strategies that the other schools studied did not.

Findings

Quantitative data for this study was gathered first by the researcher. Extant data from the TELL survey was accessed by the researcher with each elementary school being assigned a level of commitment to the PLC process based on aggregate scores from twelve items. These scores were then compared to school self-reported scores on the PLC plan rubric to determine if there was statistical significance between the two measures. Teacher leaders and school administrators from all ten elementary schools were asked to participate in the quantitative portion.

Qualitative data was gathered for three schools during the second phase of the study. The researcher chose one school representative of three different categories so that

a total of three schools participated in the qualitative portion of the research. Teacher leaders and school administrators were interviewed, site visits occurred, and physical artifacts were studied to complete this portion of the study.

Question 1**:** What are teacher perceptions of the implementation of PLC practice in schools?

Quantitative findings for the study revealed that teachers are somewhat split on how well PLC practice is being implemented in schools. When looking at the TELL survey results, three schools scored in the low commitment range, three schools scored in the moderate commitment range, and four schools scored in the high commitment range. Inconsistencies among school scores also occurred when analyzing self-report scores for the PLC Plan Rubric, as two schools scored low, five schools scored moderate, and three schools scored high. Discrepancies also occurred across schools as only two schools scored within the same range between the two instruments.

Qualitative findings also reveal discrepancies among schools implementing the PLC framework within the same district. Two of the three broad topics identified from the research expose teacher perceptions of how the work of a PLC is being completed in schools: understanding of PLC and leadership. Understanding of PLC practice was not consistent between the three schools studied during the qualitative portion. Two of the PLC leaders interviewed had attended a three-day PLC institute while one of the leaders had not. Observations conducted while on site at all three schools revealed discrepancies with how each school was utilizing SMART goals, meeting collaboratively, administering common formative assessments, and analyzing student data to influence instructional practice.

Teacher leadership practices to support the work of a PLC also varied among the three schools. One school implemented shared leadership and coaching where the teacher leaders and school administration met and worked collaboratively weekly on specific goals tied to PLC work or STEM/PBL work. Teacher leaders at another school felt lost and unsupported by school administration. Being unsure of what the school mission/ vision/ goals were, the teacher leaders felt abandoned to problem solve and come up with the best solution possible, never knowing if their work would be correct or not. Teachers at another school felt supported but did not feel that they could voice disagreement with administration without heavy repercussions.

Celebrations and the importance of these to school culture was consistent among school. Teachers felt students and other teachers needed to feel important and that celebrating accomplishments weekly helped achieve this goal. Attendance, academics, good citizenship, personal growth, and behavior were common areas celebrated among all three schools, with frequency of celebrations varying from daily to monthly at all campuses. Teachers at two schools also felt the collaborative environment in their buildings had helped them accelerate in learning about and implementing instructional shifts for PBL and STEM in their individual classrooms.

Based on these finding, the researcher believes teacher perceptions of how the PLC process is implemented in schools is inconsistent across all schools as well as within some schools studied.

Question 2: What are school leader perceptions of the implementation of PLC practice in schools?

The qualitative portion of this study revealed that leaders at all buildings felt their schools and teams were implementing the PLC framework at high levels of fidelity and success, though understanding of what a PLC is or does was somewhat skewed based on responses and site visits during the study. Principal Galahad from School B was not able to identify specific aspects pertinent to the work of a PLC. Although he could speak in general terms, such as goals, there was no evidence SMART goals were being implemented when visiting his school. Time spent with one collaborative team at School B also revealed agendas were not used, minutes were not taken, and teachers did not have individual or team SMART goals. Additionally, Principal Galahad did attend the meeting with teachers, however, his presence resulted in a total of six distractions during the meeting, derailing any progress teachers made towards potentially discussing student data or progress. Principal Galahad's assistant principal, Ms. Muffat shared similar beliefs as to the purpose of the PLC framework and how teachers were progressing with the work that needed to be done, however, when questioned about specific nuances of the PLC framework, she was also unable to identify key terms or practices. Administration in School B was not in sync with teacher opinion about the PLC process which revealed a common theme among two schools with discrepancies existing between administrative and teacher leader opinion.

Principal Leonidas of School C had had training in the PLC process and was aware of what should occur during collaborative meetings as well as what structures should be in place for a school to be a PLC. Discrepancies also appeared in School C between the principal and assistant principal as Leonidas felt teachers were planning together in a collaborative nature efficiently while Mother Goose, his assistant principal,

did not feel like teachers were collaborating to the extent they should be for their school to be an efficient PLC. Additionally, after completing a site visit, it was apparent that SMART goals for students or teachers was not an important part of School C's culture. No goals were posted anywhere in the building and conversation initiated during the collaborative team meeting observed began with a discussion of what standards were being covered and was promptly interrupted by Mother Goose to begin discussing students and their level of progress on a skills-based assessment. No agenda was available, and minutes were not taken during this meeting.

Principal Beowulf, of School E was very proud of the work his students had completed around SMART goals. There was evidence throughout the building of how teachers and students used the SMART goal process to drive instruction and decisions. His assistant principal, Goldie-Locks, also spoke to the importance of the SMART goal process and was able to provide the current goals she was working on to keep her focused-on areas she needed to improve. The collaborative team visited during the site visit to School E followed an agenda with team members assigned specific roles. The conversation was around student progress on fractions and teachers discussed specific strategies they had utilized when students showed frustration or struggle with the current standard around least common denominator. The team did not meet the goal set for the meeting observed and decided to reset the date students should master the content, agreeing on a specific strategy to implement moving forward. The teacher leaders and administration of School E were in sync, with regular collaborative meetings occurring weekly to check in on progress towards goals related to PLC implementation, STEM and PBL. Minutes from the meeting, as well as all other meetings, were accessible

electronically and could be reviewed by anyone given access. Student data notebooks were also available for the researcher to review and students were able to explain their learning and use of this tool.

Based on these findings, the researcher believes that school leaders believe the PLC process is being implemented successfully within schools, however, one of three schools studied was able to provide consistent and reliable evidence of the PLC framework being implemented. This further supports the inconsistent implementation of PLC processes within and across schools in the school system.

Question 3**:** Do high commitment schools experiencing success with the PLC process exhibit specific traits related to school culture that are different to those schools with low commitment to the PLC process?

The researcher answered this question by comparing School E to School B and C. School E was the only school that scored high commitment to the PLC process on both instruments used in this study. School B and School C were inconsistent in their scoring on instruments used in the study, therefore the researcher concluded that School E must exhibit specific traits unique to its school culture as compared to Schools B and C. The emergent theory for this study also suggests that School E must be implementing the three key areas identified with more fidelity than School B or School C.

Administrators and teacher leaders at School B all felt that celebrations and community involvement were critical components of their existing school culture, however there was some discrepancy in acknowledging how staff turnover had affected morale and the momentum of initiatives in the building.

School C administrators and teachers were not consistent with how they felt about their school culture. Administration expressed concern for the number of changes and that expectations and consequences might be too rigid for teachers to experience success. Teachers were not aware many changes had occurred and felt expectations were not consistent from group to group. Celebrations were not mentioned as important or existing by either group in School C although community involvement was important to all groups interviewed for the study.

School E also focused on the importance of celebrations specifically providing examples of how students and teachers are celebrated. Additionally, teachers commented on how administration in School E provides the flexibility they need to experiment and try new things, only stepping in if they move too far away from connecting back to assessed content. Administration seemed to also appreciate how teachers were transparent in dialogue around leadership practices that might impinge on teacher autonomy when providing instruction. Administrators and teachers tied their goals back to assessed content and the schools' strategic plan.

All three schools exhibited the traits of communication, collaboration, celebration, and data management. These trends were primarily observed during the collaborative meetings attended at each school. School B and School C did not utilize formal agendas or other organizational tools to facilitate purposeful discussion during these meetings which resulted in the quality of conversation varying between schools and teams. School E had a more formal structure for collaborative team meetings which supported teachers focusing on student data and areas of success and opportunity. DuFour, DuFour, and Eaker (2008) discuss the necessity of the collaborative team process being essential to the

successful function of an organization as a professional learning community (p. 178-180). School E did exhibit traits that the other schools did not. These traits were transparency, action plans, strategic purpose, and group vs. individual dynamics. Teacher teams at School E appeared to be able to function at higher levels than School B or School C because administration was present, teams' SMART goals drove conversations, and teachers were able to discuss individual successes around student data, all essential functions of high performing teams (DuFour, DuFour, and Eaker, 2008, p. 189-195).

Conclusions

All schools appeared to be balancing some leadership dichotomies as well as establishing routines and rituals that impacted the over quality of the school culture in positive ways. The major discrepancies observed between schools seemed to derive from the lack of fidelity of implementing the PLC framework. Therefore, the conclusions for this study are: (1) School and district leaders need to understand the structure of the PLC framework and that this structure goes beyond collaboration for a consistent implementation of the framework to occur at high levels across schools in a district as well as within individual schools. (2) School leaders should consider implementing key strategies for sustaining a school culture that will thrive during paradigm shifts without losing momentum for learning. (3) The PLC framework has the potential to accelerate change initiatives at the district or school level if school leaders fully understand the framework and can implement with fidelity.

Understanding the PLC Framework

Both quantitative and qualitative findings for this study showed an inconsistent level of implementation of the PLC framework across schools in the district studied.

Teacher leaders and administrators shared conflicting perceptions of what was going on in their buildings and also were not always able to showcase specific evidence tied back to the four key pillars of a PLC. Scores on the measures used also suggested a misalignment among most schools in the district. Many school leaders stated that there was some confusion because the types of meetings modeled at the district level were not in sync with the type of meetings they had read about in available literature. Eaker and Keating (2012) stress the importance of district leadership understanding and modeling what a professional learning community looks like, especially for building level principals (p. 10-11). DuFour, DuFour, and Eaker (2008) suggest four key functions district leadership teams can implement to help all schools know and carry out the district mission and vision as well as what the district will be loose and tight about in work aligned to student learning. These functions are listed in Table 19.

Table 19

District Leadership Action for Implementing the PLC Framework

Key One: Use every aspect of an effective change process and present a compelling rationale for moving forward.
Key Two: Communicate priorities effectively, consistently, and with one voice.
Key Three: Limit initiatives to allow for the sustained focus essential to a change initiative.
Key Four: Help teachers and principals build their collective capacity to raise student achievement by embedding ongoing professional development in the routine work of every educator.

Once building level administrators can participate in highly successful PLC teams with their peers, they are able to take the learning back to their schools and implement the core elements of the PLC framework with more fidelity. Building consistent language around the process, common templates for data management, and steady expectations at the district level also helps building level administrators implement the PLC framework with more fidelity as all schools have a clear vision of what should be occurring. Understanding what the district is tight about in the work of a PLC lets building level leaders know what they are accountable for in implementing the PLC frameworks.

School Culture

During the qualitative portion of this study key characteristics stood out at School E that either were not present or as apparent at School B or School C. These characteristics seemed to form the core values of the school's culture and helped administration and teacher leaders move forward with implementing the PLC framework and other initiatives. These characteristics are listed below with a brief description of each as identified from data collected during the study.

Build Relationships: Follow up discussion with principal Beowulf helped the researcher understand the importance of focusing on the interconnectedness between specific groups. Work had been completed at School E to ensure specific and actionable strategies were in place between various groups including, teacher to student, teacher to teacher, student to student, teacher to parent, school leader to teacher, school leader to student, and school leader to parent. Cultivating relationships and connecting with those in your building in ways beyond strictly an academic focus is important to the health of the organization and eases tensions that arise during time of change or transition.

Celebrate: Each principal and teacher leader mentioned the importance of celebrations at some level during the study. Celebrations help build relationships between groups as well as show all stakeholders what is valued and important to the organization. Celebrations can be as simple as verbal affirmation or as complex as school wide assemblies. The school will need to determine what its core focuses are and how to utilize celebrations to enhance and support these focuses to ensure that the group is aware of what is important.

Share the Load: Principal Beowulf discussed the importance of building up leaders within the organization to ensure that leadership occurs on multiple levels and does not fall solely to the building level principal. Effective school leaders find ways to build capacity among staff and students, placing them in opportunities that will allow them to excel and grow. Creating a system where conversation and action develops skills and learning necessary to enhance leadership is also crucial to the health of a school.

Be Transparent: Transparency was a key characteristic evident during the collaborative team visited at School E. Teachers were open during dialogue around student work samples which helped the team problem solve an existing issue around student writing. Principal Beowulf also spoke to the importance of being open and honest with teachers about what is going on when mistakes occur, or initiatives take longer than expected.

Develop a consistent means of communication: Principal Beowulf explained the the need for determining what method of communication works for your group and the need to use it consistently. School E had developed multiple forms of communication tools for different groups.

Initiate Change Strategically: Change is inevitable, however, schools can be creative in finding ways to introduce the change in a manner that is not demeaning to teachers. Using change to empower good practice already existing in the culture of a building can help the change be received more successfully. Effective leaders are also able to make sure individuals understand the purpose of the change prior to making the change an aspect of the culture.

Change Initiatives

All PBL teacher leaders interviewed during the qualitative portion of the study felt that the PLC process had helped them to work with their peers to find ways to implement elements of PBL, STEM, and technology integration into daily lessons in classrooms. Additionally, building level leaders expressed that the collaborative aspect of a PLC seemed to make teachers more willing to work together to explore new teaching methods and tools. If schools understand the PLC framework and consistently implement the tenants with fidelity, work around change initiatives can be completed more successfully.

DuFour and DuFour (2010) identify three ways that the PLC framework will align with future educational shifts; including 21st century learning skills in the work of a PLC, using technology to support and accelerate the PLC process and expand the concept of community, and aligning the PLC concept with the teaching profession (p. 84-87). As schools focus on what students need to learn, set assessments to measure mastery, and make plans to adjust for those kids not getting it and those kids that are, alignment to new ways of teaching and learning are very possible if the structure of a PLC permeates throughout a school's culture. Collaborative meetings can focus on adult learning goals,

introducing students to 21st century learning skills, or continuing focus on student mastery of assessed content. As long as teams know what they want students to know and be able to do, the pattern exists within a PLC to ensure that the learning occurs at the highest rates possible.

Implications for Schools and School Systems

It is important that district leadership understands the workings of the loose tight structure of a professional learning community. There are specific actions that must occur for district and school culture to change and it is imperative that all leaders at all levels know what these actions are for the changes to be successful. This study has revealed implications for schools and districts that may be useful if they are considering becoming a professional learning community or are already functioning as one.

The success of a district or school being able to operate as a professional learning community begins with the leader of the organization. The leader bears the responsibility of ensuring all members of the organization understand the components of a PLC so if they have not received appropriate training and coaching the organization will not be able to successfully implement the changes necessary. Training can occur in a variety of ways, especially in districts already embracing 21st century learning. Networking across social media, utilizing virtual meetings or campus visits, and participating in book studies using online databases are several ways districts or schools can learn from other schools anywhere in the world that are successfully implementing the PLC framework. Regardless the method of training chosen, new leaders to the district should be expected to participate in an induction program that consists of learning around what a PLC is,

how a PLC works, as well as the three big ideas and six principles of a PLC as defined by DuFour, DuFour, & Eaker (2008).

New teachers to the school should also undergo a similar induction program led by the school leadership and existing teachers in the school. This collaborative training would ensure that all stakeholders in the school are exposed to the same learning and are operating under the same expectations. School level programs should be in line with district expectations and should ensure teachers understand key competencies around assessed standards, SMART goal processes, common formative assessments, the school mission, vision, and values, and other specific areas unique to each school. This program should be ongoing and accessible to any teacher in a building and should allow for common language to be used as professional work towards the common goal of ensuring students learn at the highest rates possible.

Finally, accountability structures must be in place to ensure that administrators are adhering to the PLC process. Ensuring that leadership understands the core values of district expectations gives the district leeway to include adhering to the PLC process as part of administrative evaluations, contractual language, or unannounced site visits to attend meetings or see artifacts. Likewise, building level leaders should hold teachers and teams accountable for adhering to the PLC process in their building. If accountability measures are not in place, the building or district will never function as successfully as possible as a PLC.

Recommendations for Future Studies

Future studies should extend from this study and would be beneficial to the body of research available. Further quantitative analysis should occur at the middle and high

school levels to determine if similar trends exist as found at the elementary level. Qualitative exploration should also extend to the middle and high school levels to determine if leaders at any level share similar experiences. Research might also extend to student achievement in levels in schools experiencing varying levels of commitment to the PLC process. Also, a comparison of districts new to the PLC process to those districts experienced in the framework might reveal new traits important to school culture or navigating change. A study of PLC commitment across grade levels within buildings or across a district might also reveal trends in implementing the PLC process not seen in this study. Studies might also be conducted with a larger sample size to further expand the theory of nimble leadership to determine the credibility of this theory. Finally, a study should be completed to determine how the PLC framework helps a school or district focused on implementing 21st century learning experience success as compared to a school or district not using the PLC process.

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APPENDICES

Appendix A

PLC Plan Rubric

	0	1	2
Norms	The are no meetings set to establish Norms	There are plans to establish Norms but the timeline is confusing	Meetings to establish Norms are clearly stated in the plan
Mission, Vision, Beliefs	There is no plan to establish MVBs	There is a plan to establish MVBs but the timeline is confusing	Meetings to establish MVBs are clearly stated in the plan and are collaborative
Assessed Standards (Power Standards, Essential Learning, etc.)	There are no plans to address assessed standards learning for students.	There is a plan to address assessed standards learning for students but the timeline is confusing	There is a clear plan to address assessed standards learning for students with clear expectations
Student SMART Goal Setting	There is no plan to establish student SMART goal setting	There is a plan to establish student SMART goal setting but it detracts from implementation	There is a clear plan to establish student SMART goal setting with clear expectations
Teacher SMART Goal Setting	There is no plan to establish teacher SMART goal setting	There is a plan to establish teacher SMART goal setting but it detracts from implementation	There is a clear plan to establish teacher SMART goal setting with clear expectations
Grade Level SMART Goal Setting	There is no plan to establish grade level SMART goal setting	There is a plan to establish grade level SMART goal setting but it detracts from implementation	There is a clear plan to establish grade level SMART goal setting with clear expectations
Data Notebooks	There is no plan to establish data notebooks	There is a plan to data notebooks but it detracts from implementation	There is a clear plan to establish data notebooks with clear expectations

Common Formative Assessments	There is no plan to establish CFAs	There is a plan to establish CFAs but it is confusing	There is a clear plan to establish CFAs
Intervention & Acceleration	There is no plan to establish daily Tier I Intervention and Acceleration	There is a plan to establish daily Tier I Intervention and Acceleration but the plan is unclear	There is a clear plan to establish daily Tier I Intervention and Acceleration into the master calendar
Collaborative Meetings	There is no plan to establish weekly collaborative meetings with principal involvement	There is a plan to establish weekly collaborative meetings with principal involvement	There is a clear plan to establish weekly collaborative meetings with principal involvement

Appendix B

TELL Survey Questions

2.1B Teachers have time available to collaborate with colleagues
6.1E The faculty has an effective process for making group decisions to solve problems
6.2A The faculty has an effective process for selecting instructional materials
6.2B The faculty has an effective process for devising teaching techniques
6.2D The faculty has an effective process for determining the content of in-service professional development programs
6.2H The faculty has an effective process for school improvement planning
7.1A Faculty and staff have a shared vision
7.1B There is an atmosphere of trust and mutual respect in this school
7.1F School leadership facilitates using data to improve student learning
7.1K The faculty are recognized for accomplishments
8.1C Teachers use assessment data to inform instruction
8.1E Teacher work in professional learning communities to develop and align instructional practice