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Developing Effective Professional Learning Communities at Target Elementary School

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DEVELOPING EFFECTIVE PROFESSIONAL LEARNING COMMUNITIES AT TARGET ELEMENTARY SCHOOL

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This dissertation was submitted by Bianca S. White-Jeffries under the direction of the persons listed below. It was submitted to the Gardner-Webb University College of Education and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Gardner-Webb University.

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Abstract

DEVELOPING EFFECTIVE PROFESSIONAL LEARNING COMMUNITIES AT TARGET ELEMENTARY SCHOOL. White-Jeffries, Bianca S., 2022: Dissertation, Gardner-Webb University.

This explanatory design was used to develop and implement effective Professional Learning Communities (PLCs) at Target Elementary School (TES). The theoretical framework for this study began with the assumption that there was a direct link between PLCs, student data, and self-efficacy of educator collaboration. It should be the goal of every educator to provide a quality education for each student. When educators collaborate to provide success in each classroom, various goals can be met within each site. Several instruments were used to develop and implement professional collaboration. Qualitative and quantitative data were collected to determine the effectiveness of the current PLCs. TES staff members were participants in the study. Data were collected through an initial survey and an open-ended questionnaire in order to triangulate the data to ensure validity and reliability. The information was analyzed using the explanatory methods design where quantitative data are collected through the survey and qualitative data are collected through an open-ended questionnaire to qualitatively present all data collected. These data were used to describe behaviors or views of a large group. Based on this study, PLCs are being implemented at TES. Based on teacher perceptions, PLCs are held regularly and appear to be effective. Based on the outcomes of the Professional Learning Communities Assessment-Revised (PLCA-R) and the PLC Questionnaire, some slight changes will increase student achievement data and the overall success of the school.

Keywords: professional learning communities, PLCs, effective PLCs implementation of PLCs, effectiveness of PLCs

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Chapter 1: Introduction

Built upon the research of Hall and Hord (2015), professional learning communities (PLCs) are commonly indicated as an approach for experienced personnel in schools to support and promote students. The shared vision, morals, and values of the personnel play a functional position in the execution of PLCs. When the school year begins, administrators, teachers, and support staff begin to cultivate student learning through the use of data. The facets of PLCs start with shared values and vision for the school which transform into a shared personal practice. Effective PLCs benefit students, the school, and the community. Lee et al. (1996) conducted a study and revealed their results on PLCs in numerous schools with a collaborative staff working to adjust the "classroom pedagogy."

Implementing the practice of PLCs has been recognized as a way to foster better relationships and create a healthy learning environment. When PLCs are implemented effectively, teachers gear their instruction around their students. Student achievement increases due to the teacher's ability to meet student needs. Graham and Ferriter (2010) explained the PLC as educators with a universal vision who collaborate to produce outcomes. Through PLCs, teachers are allowed an open space to collaborate and create new strategies for learning. DuFour (2004) detailed the PLC model is constructed on the principle that students should learn while they are being taught. With the creation of new strategies come student growth and achievement.

Professional learning is revered and vital for cultivating the value of education (Prenger et al., 2019). According to Prenger et al. (2019), educator collaboration in PLCs can positively influence the efficacy of professional development endeavors. The aim of

PLCs is to improve teacher knowledge, proficiency, and procedures used to improve student learning (Hairon et al., 2015). There has been a shift over the past decade from "within-school to between-school professional learning communities" (Prenger et al., 2019, p. 441); however, outcomes concerning the effectiveness of educators have been unpredictable.

PLCs are considered a strategy for building educator self-efficacy while increasing student growth and data (Hairon et al., 2015). PLCs encourage the advancement of professional development for educators, competencies, and views followed by enhancements of classroom teaching and learning, which adds significance to the outcomes of student learning (Hairon et al., 2015). The growth of educator competencies, views, and preparation can be reflected as arbitrating or prevailing variables (Hairon et al., 2015).

Collaboration in PLCs leads to enhanced learning for every student (Borko, 2004; Darling-Hammond & Richardson, 2009; Stoll et al., 2006; Vescio et al., 2008). PLCs usually involve the collaboration of educators with various school administrators (Lomos et al., 2011; Stoll et al., 2006). Teamwork among professionals and networks of educators can significantly influence constant school improvement (Sahlberg, 2011).

A History of Educational Reform

Secretary of Education Terrel H. Bell, employed under President Ronald Reagan in 1981, designed the National Commission on Excellence in Education (Park, 2004). The commission's intention was to analyze the condition of the public education system in the United States of America. The commission reported *A Nation at Risk* in 1983, crafting suggestions for enhancing public education. The report claimed that schools and

test scores were worsening, many Americans were uneducated, and educators had insufficient expertise with low pay. The United States of America was trailing the world in education and its educational system was believed to be subpar. The report's recommendations also included increased academic rigor in classrooms by generating innovative high-level, publicized, quantifiable standards; dedicating increased time to teaching educational standards; launching challenging preparatory curricula for educators; and linking achievement of students to educator pay (Park, 2004). The report became a stimulus for the initiatives for imminent school reform, and it became influential in defining the course for teaching and learning.

The No Child Left Behind Act (NCLB) was signed by President George W. Bush and established in 2002 around similar assumptions and approaches of A *Nation at Risk*, imitating the Elementary and Secondary Education Act of 1965, and advanced proposals to align curricula with standards and generate high-stakes testing, while enhancing accountability for educators, schools, and districts (Marsh & Willis, 2007). Specifically, the law guaranteed the most substantial quantity of federal funding offered for public education. It placed a precise concentration on achievement gaps in academics among particular categories of students, such as English Language Learners (ELL), students in particular programs, and students from underprivileged families based on economic status. The executed law required assessments in math and reading for students in Grades 3-8 to appraise adequate yearly progress. The new mandates also demanded educators be highly qualified and paraprofessionals, employed with funds from the federal government, and have completed 2 years of college. States were threatened with a loss of federal funds if they did not participate (Klein, 2015).

The Race to the Top initiative granted incentives to states striving toward the methodical restructuring of education during the administration of President Barack Obama. This educational reform encompassed a rigorous and relevant alignment of standards and expectations to college and career readiness goals, constructing high-quality assessments, enhancement of classroom educator effectiveness, and data analysis to manage school improvement (The White House, 2009). Race to the Top also stressed enticing and retaining superior educators, executing innovative methods to transform underachieving schools, and endorsing collaboration among stakeholders to increase the academic achievement of students (The White House, 2009).

The Every Student Succeeds Act was authorized by President Obama on December 10, 2015. The purpose of the Every Student Succeeds Act was to sustain equity for underprivileged students, utilize rigorous standards for preparation of postsecondary life, create accountability for state-wide testing, apply research-based interventions for students, encourage entry into high-quality preschool, and provide reconstructive efforts for underachieving schools ("Every Student Succeeds Act," n.d.). This act became the latest influential factor for rulings about the track of education.

As proposed by Hargreaves (1997), it is imperative to create relationships that build collaboration among educators within schools to develop a culture of educational change. DuFour and Eaker (1998) and Hall and Hord (2015) portrayed factors as influential for school improvement and how imperative it is for educators to collaborate, as learning organizations using a collegial organization, such as PLCs. The indication is that PLCs foster efficiency, convenience, common interests, relations, shared philosophies, and a solid culture. Ongoing efforts have been made to expand educational

opportunities for the nation's students. A first-class education remains an obligation for achievement in the present global economy. It is a necessity that all high school graduates are prepared to attend college or a career opportunity (The White House, 2009). PLCs are meant to build professional efficacy to increase student performance, which leads to student success through and beyond high school.

A Brief History of PLCs

A PLC engages in a nonstop process where experienced staff collaborate in periodic rotations of collective inquiry and action research to improve the outcomes for the students they serve (Miller, 2020). PLCs were illustrated by Borko (2004) as a multidimensional approach to assist with the success of teachers, incorporate high standards for teachers' classroom performance, student achievement, and persistent professional development to support teachers in meeting the requirements of new standards. Working in PLCs is an idea that has been around for numerous years. PLCs emphasize an educator's shared commitment to increasing student knowledge with decision-making and collaborative practice (Yendol-Hoppey, 2010). The work of the PLC urges reflective practice and support by "cultivating working relationships with other educators, being responsive to student needs and interests, and investigating the strengths and weaknesses of one's own practice" (Jones, 2010, p. 151). It is not required that PLCs be restricted to a single school and they should typically exist within grade levels or content teams.

Research has shown cross-district PLCs, which include superintendents, curriculum directors, and project coordinators "shared ideas and strategies, and explored the implications of developing more collaborative cultures in organizations that have long

been largely hierarchical" (Smith et al., 2010, p. 111). PLCs offer advantages on countless educational levels, particularly to improve student achievement.

W. Edwards Deming's philosophies and beliefs encouraged collaboration among educators and administrators who worked to achieve a common goal of student success ("Deming the man," n.d.). During the 1960s, *teaming* (the exercise of professional learning, or development, with collaboration) gained momentum as researchers pursued ways to move away from common practices of working in isolation across the United States (Drago-Severson, 2009).

Further examination of PLCs originated in the later years of the 1980s and the early years of the 1990s ("History of PLC," n.d.). The possible initiator, Shirley Hord (1997), brought attention to the use of the expression professional learning community. A PLC was identified as educators learning collectively and working toward the enhancement of learning for all students (Hord, 1997). In the 1980s and 1990s, Senge's five disciplines described this collaboration, and thereby the Coalition of Essential Schools formed Critical Friends Groups (Easton, 2011). The Coalition of Essential Schools was founded on 10 common principles; of the 10, seven have been supported by Hord and other researchers with regards to effective PLCs, including goals apply to all students, personalization, student-as-worker and teacher-as-coach, demonstration of mastery, commitment to the entire school, resources dedicated to teaching and learning, and democracy and equity. Senge's (1990) five disciplines are outlined as shared vision, assumptions, personal mastery, team learning, and systems thinking.

Shared vision includes answering the key vision question, "What do we want to create together?" This question should be addressed initially during the change process

with the conversations necessary to outline a genuinely shared vision. It is essential to building common perceptions and obligations and allowing people's ambitions, ideas, and hopes to flow freely.

Assumptions about the change and people initiating the change are essential. The key to the success of a change is developing deep-seated intellectual models (opinions, standards, mindsets, and assumptions) that determine people's thinking and actions. Acknowledging the consideration of change in the workplace, inspiring or simplifying assumptions, and motivating people to express themselves differently are imperative.

Personal mastery deals with self-awareness and answers the question of how much we know about ourselves and how our behavior impacts others. Personal mastery means sensitively managing change relationships; understanding that our personal beliefs and values may be contested; and guaranteeing our change interactions and behaviors are reliable, consistent, and honorable.

Team learning materializes when teams begin thinking collectively and sharing personal experiences, perceptions, knowledge, and abilities with each other and use them to make the organization better. Teams foster reflection, analysis, and collaboration skills to lead discussions concerning more skillful change within the team while establishing the basis for producing a shared vision of change and agreeing to put mutual commitments into action. PLCs benefit not only students; they also benefit the school and its community.

Systems thinking is the framework for focusing on more than one relationship with underlying intricate conditions and interactions, rather than unsophisticated. Linear cause-effect chains explain systems thinking. It provides the ability for teams to

dismantle the frequently hidden intricacies, impacts, influence, and planned/unplanned outcomes of change plans and programs. This leads to a comprehensive awareness of the connection affecting changing any system.

Lee et al. (1996) stated that during PLCs, teachers create various strategies for improving student learning and these strategies should be implemented during instruction, so students are able to apply the strategies in their learning and assist each other. Learning from each other builds student collaboration and teaches students how to be effective citizens within the school and the community (Lee et al., 1996). Investigations and shared findings on PLCs were introduced in numerous schools with a collaborative staff laboring collectively to change the pedagogy in classrooms (Lee et al., 1996).

Recently, Miller (2020) stated that schools can apply the idea of teacher learning as well; the answer is found in PLCs, which can be used to promote teacher collaboration that increases student achievement. However, Miller believed PLCs could suppress improvement if teachers do not balance risk-taking and teacher independence with shared expectations for student learning and achievement. Learning teams constantly engage in a progression of learning, data analysis, goal setting, and individual and collaborative learning while implementing and modifying practices to provide equity in education for all students (Miller, 2020). When structured well, PLCs can be teams that persistently learn collaboratively and drive to discover what is best for students while answering the fundamental questions, “What do we want students to learn” and “How will we know if they have learned it?” This process can be accomplished with prioritized standards using detailed principles and unpacking standards (Miller, 2020).

Collaboration among educators has a long-lasting concentration on learning for students and educators. Educators trust students who are capable academically and work to enforce an atmosphere for learning where students can achieve their ultimate aptitude (Hall & Hord, 2015). Hord (1997) explicitly stated, “sharing a vision is not just agreeing with a good idea; it is a particular mental image of what is important to an individual and to an organization” (p. 19). During PLCs, educators with shared values and vision establish and maintain norms, or rules, influencing their actions and choices about teaching and learning (Hipp & Huffman, 2010). Lee et al. (1996) revealed that in PLCs, educators collaborate and modify their intellectual approaches and classroom instruction, resulting in rigorous and relevant instruction resulting in academic growth for all students. Research confirms that PLCs have a positive influence on the success and sustainability of job-embedded, collaborative professional learning (Darling-Hammond & Richardson, 2009). Other studies concluded the implementation of PLCs has a positive effect on the growth and success of students (Berry et al., 2005; Phillips, 2003; Supovitz & Christman, 2003; Vescio et al., 2008).

The manuscripts of Becky and Rick DuFour communicate to educators how “real improvement in student learning happens best in the context of what became known as Professional Learning Communities” (Venables, 2010, p. 10). The PLC model is considerably influenced by the cognizance of educators and buy-in of collective, data-driven decision-making which influence the academic achievement of students. Recommendations for administrators and instructional leaders include using data to reinforce school PLCs with the purpose of supporting educators by classifying detailed interventions for students striving to achieve (Summers et al., 2016).

In *Professional Development Through PLCs: Methods for Measuring PLC Efficacy* (Smith et al., 2016), two crucial elements to productive PLC implementation are measuring results and fidelity of execution. Specific components are included in the most operative PLCs (Smith et al., 2016), such as (a) shared vision, (b) thoughtful discussion and investigation, and (c) the use of classroom data. The initial component, shared vision for an educational environment, and communal obligation for outcomes by a community are essential to success (DuFour, 2014; Vescio et al., 2008). The next key component of a PLC is thoughtful discussion and investigation amid PLC members, which permits recurrent investigation and discussion of expected educator practices (Darling-Hammond & Richardson, 2009). The third component is the significance of educator use of classroom formative and summative data that lead to collaborative work and professional dialogue about classroom practice (Smith et al., 2016; Strahan, 2003; Vescio et al., 2008; Williams, 2012).

PLCs enabled educators to participate in collaborative discussions that "spawned possibility, inventiveness, and hope" (Whitford & Wood, 2010, p. 18) in the way educators consider student learning. PLCs diminished seclusion and created more devoted educators, which in turn increased academic advances for students (Hord, 2004). The execution of PLCs has proven to enhance relationships and create healthy learning environments. Further, Smith et al. (2010) suggested that successful PLCs are comprised of the following:

- making connections between collaborating adults and student learning
- establishing a distinct purpose/shared focus, compelling to the group members
- drawing on commendable, research-based resources applicable to the PLC

focus

- using a rotation of preparation, action, and reviewing the outcomes attached directly to the PLC focus
- providing sufficient time to do the work
- providing support from building and district administration

The theory of the PLC model implies students are not just to be taught; they should also learn (DuFour, 2004). An appraisal of other literature suggested comparable characteristics of PLCs. The components or elements of PLCs are vital for effectiveness and sustainability: shared vision, values, and goals; shared leadership; collaborative learning; supportive conditions; and shared personal practice (Blankstein, 2013; DuFour, DuFour, Eaker, & Many, 2006; DuFour & Fullan, 2013; Hall & Hord, 2015; Hipp & Huffman, 2010; Venables, 2011). These five aspects offered an all-inclusive view of how PLCs function and the approach administrators should initiate to encourage a culture of collaboration (Hipp & Huffman, 2010).

Statement of Problem and Purpose

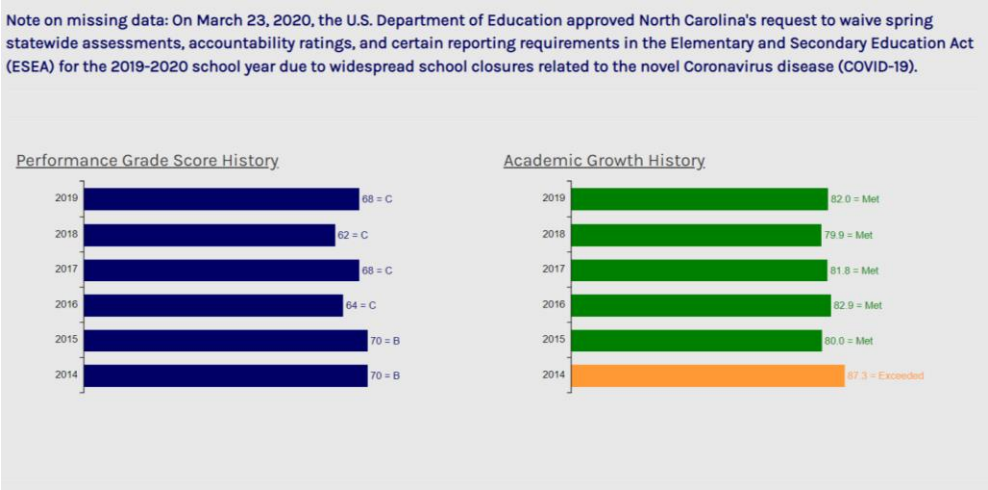
Current literature acknowledges several obstacles capable of harmful effects to the development of PLCs (Zhang et al., 2017). First, an unfavorable administrative structure and conventional culture of schools are capable of presenting opposition to the effective implementation of PLCs (Zhang et al., 2017). Insufficient amount of time for collaboration (Fernandez, 2002), tiered school structure (Hairon & Dimmock, 2012), robust restrictions for departments of core subjects (McLaughlin & Talbert, 2007), inadequate educational resources and practical provision (Talbert, 2010), and unreliable incentive devices (Lindahl, 2011) have the possibility of genuinely hindering the

establishment of PLCs. PLCs require a collaborative effort and communal trust of educators with respect to the culture of the school (Louis, 2006). Specialized seclusion of educators with insubordinate opinions regarding improvement (Nehring & Fitzsimons, 2011) can counterattack and overturn the school's alteration and modernization efforts (Lindahl, 2011; Wells & Feun, 2007).

Target Elementary School (TES), located in North Carolina, currently implementing PLCs, and the site selected for this study, received a grade of C on its North Carolina School Report Card for the year 2018-2019. The grade was based on 80% of the school's achievement score and 20% of student academic growth. A history of the school's previous report cards (Figure 1) shows student achievement data over 6 years.

Figure 1

TES's Report Card History



TES's Report Card history (Figure 1) suggested that students exceeded growth in 2014 and met growth in 2015. The school met growth in 2016, 2017, 2018, and 2019. Due to the impact of COVID-19, schools were exempt from testing in the 2019-2020 school year. Following the 2019-2020 school year, many end-of-grade tests had to be re-

normed to accommodate for possible learning loss.

Although students met or exceeded growth for 6 years, the school report card remained between a grade of B and C. This discrepancy in grades versus growth could be due to the overemphasis of proficiency scores over growth scores in the school report card formula (Blanton, 2020). This study sought to determine the effectiveness of PLCs at TES.

Research Questions

To better understand PLCs at TES, the following research question and guiding questions were answered.

Research Question: How do teachers perceive PLC implementation at TES?

Guiding Question 1: What are teacher perceptions of PLC training and support at TES?

Guiding Question 2: What are teacher perceptions of the impact of PLCs on teacher knowledge, skills, and practices at TES?

Guiding Question 3: What are teacher perceptions of the impact of PLCs on student achievement?

Conceptual Framework

This study was founded on the intersection of two different concepts: Graham and Ferriter's (2008) PLC implementation stages and Hall and Hord's (2015) change theory. Understanding the ways in which PLCs grow and develop, how people learn best through interaction with each other, and the essential components of the change process framed the findings of this study that sought to understand teacher perceptions of PLC implementation at TES.

Approaches, practices, and the delivery of interventions in everyday school and classroom settings frequently appear atypical of what was initially envisioned (Vaughan & Albers, 2017). Implementation strategies, including training and consistent teacher support, are worthy considerations in attempts to encourage positive student outcomes. Table 1 presents the three concepts and the key components of each of them. Each theory in the conceptual framework is further discussed in this chapter.

Table 1

Conceptual Frameworks – Implementation and Change Theory

Graham and Ferriter's (2008) seven steps of implementation	Change theory (Hall & Hord, 2015)
• Filling the time • Sharing personal practices • Planning, planning, planning • Developing common assessments • Analyze student learning • Differentiating follow-up • Reflecting on instruction	• Change is learning • Change is a process, not an event • The school is the primary organizational unit for change • Organizations adopt change, individuals implement change • Interventions are the key to the success of the change process • Appropriate interventions reduce resistance to change • District- and school-based leadership is essential to long-term change success • Facilitating change is a team effort • Mandates can work • Both internal and external factors greatly influence implementation success • Adopting, implementing, and sustaining are different phases of the change process • And finally, focus! Focus! Focus!

PLC Implementation Stages

Teachers were arranged into PLCs with the purpose of defining essential curriculum, developing common assessments, and analyzing student data (Graham & Ferriter, 2008). Their research led to the creation of the seven stages of implementation.

These stages were designed to move the work of PLCs from the concentration on teaching to a focus on educating students (Graham & Ferriter, 2008). Assisting teams with making advancements and highlighting effective conversation and reflection were essential elements in building and sustaining a PLC.

Graham and Ferriter (2008) provided seven steps for implementing PLCs (see Figure 2). As teachers explored collaboration, the meetings fluctuated from straining to fill time to wrestling too many tasks in an hour-long meeting. Filling time, the first stage, consisted of specific tasks that have been defined and combined with the use of agendas, assigned team roles, and a set of norms. Teachers may be truly interested in what their colleagues are doing, with hopes of obtaining new ideas (Graham & Ferriter, 2008).

Figure 2

Seven Stages of Implementation

Sharing personal practices is the second stage of PLCs, including reflection,

which results in teacher learning and improved instruction (Graham & Ferriter, 2008). School leaders may encourage meaningful work by expecting team members to reach decisions collaboratively with regard to "curriculum, assessment, or instruction" (Graham & Ferriter, 2008, p. 39). Teams may then produce shared mini-lessons for all teachers on a grade level to deliver, transferring the attention from personal efforts to a cooperative investigation of valuable instruction (Graham & Ferriter, 2008).

The third stage of Graham and Ferriter (2008) is simply to plan. Teams are frequently satisfied with shared planning and neglect to concentrate on results. Graham and Ferriter (2008) specified in order for school leaders to move teams forward effectively, they should arrange efforts to plan using student achievement data.

As a team, members of the PLC developed common assessments in Stage 4, which led to data points for students. Common assessments require teachers to outline exactly what is necessary for students to learn and the evidence necessary for authenticating success (Graham & Ferriter, 2008). Although beginning PLC teams may work to evade common assessments, these assessments are critical if teams are to shift their concentration from teaching to learning. Teams with positive working relationships flourish from the collaboration generated by intricate discussions, while teams wrestling with personalities need authentic support (Graham & Ferriter, 2008). Administrators should consider arbitrating challenging conversations and modeling approaches for mutual decision-making (Graham & Ferriter, 2008).

The fifth stage in Graham and Ferriter's (2008) implementation steps consists of the analysis of student learning and is perhaps the most challenging. At this stage, Graham and Ferriter (2008) believed professional learning teams should begin to transfer

their concentration from teaching to learning. This is also the stage that has been declared necessary for grade-level teams to receive the most technical and emotional support because teachers often require significant training on data analysis and interpretation. Based on the research of Graham and Ferriter (2008), common assessment data will uncover fluctuating levels of student achievement across classrooms, which may cause feelings of shame, failure, and defensiveness. They believed teachers are put in the fragile position of openly facing what they will inevitably consider personal successes and/or failures. Analysis of student learning can lead to powerful discussions surrounding effective instruction when conducted properly. On highly effective teams, Graham and Ferriter (2008) assumed mutual intelligence offers a lasting source of solutions for tackling shared challenges. Administrators are encouraged by Graham and Ferriter (2008) to establish safe environments where teachers can examine common assessments and model relaxed approaches to data.

In Stage 6 of Graham and Ferriter's (2008) implementation steps, administrators can guide teachers into the transition of responding instructionally to student data, differentiation, in two significant ways: by requesting teams reflect on the right questions and giving teams the necessary resources to construct suitable responses. At this stage in the process, teams are usually functioning at a high level, taking shared responsibility for student success rather than reacting as individuals. More importantly, Graham and Ferriter (2008) expressed that administrators must recognize specific ways to assist with differentiation, which also demands an obligation to nontraditional educational structures and procedures beyond the classroom. They encouraged schools to reconsider the functions of guidance counselors, paraprofessionals, teacher assistants, media specialists,

assistant principals, and instructional coaches to generate an assembly of human capital that can be used to target the challenges concerning differentiating learning for all students. Effective administrators, according to Graham and Ferriter (2008), reallocate all positions at the site, centering resources on students struggling to succeed.

Graham and Ferriter (2008) urged administrators to guide a team's capacity to explore the teaching-learning connection. As difficult as the route to building learning communities may be, students will benefit from this process (Graham & Ferriter, 2008). Teachers face significant challenges as well as administrators dedicated to reinforcing teacher collaboration. It is crucial for leaders to play multiple roles, periodically supporting the participants of a professional learning team and periodically leading slightly ahead and anticipating future turns in the road (Graham & Ferriter, 2008).

When executing an educational approach, ongoing support for teachers through coaching, professional development, and observation must be provided and has been shown to have a considerable impact on student performance and outcomes (Artman-Meeker et al., 2014; Clarke et al., 2014; Gray et al., 2015; Kam et al., 2003; Matsumura et al., 2010; Sarama et al., 2008). PLCs are imperative to the continuous development of teachers (Australian Institute for Teaching and School Leadership, 2017). The Carnegie Foundation's (2017) concept of networked improvement communities specifies how these can work. A networked improvement community should be

- concentrated on a well-defined common aim;
- steered by a profound consideration of the problem, the organization that constructs it, and a common working philosophy to enhance it;
- controlled by the procedures of improvement research to advance, examine,

and improve interventions; and,

- established to accelerate interventions into the field of education and effectively incorporate them into diverse educational situations.

This rationale is echoed as Hattie (2017) highlighted the points of providing an excellent diagnosis that identifies strengths and opportunities to improve PLCs, a focus on understanding what has led us to the current state of PLCs, and faculty and staff having a clear perspective on where we need to go to implement effective PLCs. Hattie also stated that we need moderate pressure; persistent, clear, and justifiable goals; and knowledge of educators who make a difference, while developing a profession based on this knowledge of educators.

Change Theory

A significant outcome of adding to the collective body of knowledge through educational research is that there is a wider understanding of what transpires when people and organizations are involved in change (Hall & Hord, 2015). Hall and Hord's (2015) 12 change principles are described to include learning and being involved in the process.

Change is Learning

Throughout Change Principle 1, we undergo a sequence of change cycles: change-improvement-learning + change-improvement-learning. In most situations, there are various change processes occurring at the same time, which translates into more opportunities for learning. The school is the primary organizational unit for change. It is also important for us to realize that organizations adopt change, while individuals implement the change (Change Principle 4; Hall & Hord, 2015).

Change is a Process, Not an Event

Hall and Hord (2015) stated in Change Principle 2 that change is not accomplished by having a one-time announcement by an administrator or a 2-day coaching workshop for teachers in August. Their research found that the greatest adjustments in education take 3 to 5 years to be fulfilled at a high level. The plan for implementation should be strategic in nature, if change is a process (Hall & Hord, 2015).

The School is the Primary Organizational Unit for Change

The staff and administration of the school will make or break the change effort, despite whether the change is initiated from the inside or the outside. It is necessary for teachers, administrators, and district personnel to understand how a school learns and progresses as the change develops (Hall & Hord, 2015).

While Organizations Adopt Change, Individuals Implement Change

Successful change begins and ends with the individuals of the organization. Schools are under heavy pressure to increase student achievement, so policymakers are placing a heavy emphasis on the end results. In order for change to be successful, an implementation bridge consisting of the adoption of new policies, practice, processes, and/or practice with a giant leap will lead to student outcomes (Hall & Hord, 2015).

Interventions Are the Key to the Success of the Change

The bridge intervention game plan seems to be a positive approach to implementing change. On the left side, approaching the bridge is the new policy, program, or initiative being implemented. Leading to the bridge, or the ground holding up the left side, are the current practices being implemented. The bridge itself represents implementation as systems take giant leaps. On the right side, exiting the bridge, are the

outcomes of sustaining the change. The ground holding the right side of the bridge represents the new practices and programs (Hall & Hord, 2015). The depiction of building a bridge to implement programs and policies leads me to believe that there are ways to conquer achievement gaps using strategies to build student outcomes.

Appropriate Interventions Reduce Resistance to the Change

Hall et al. (1984) defined intervention as "any action or event that influences the individual(s) involved or expected to be involved in the process of change is an intervention" (Hall & Hord, 2015, p. 27). Within this change initiative, interventions can be any created for teachers, or schools, who are having consistent issues in achievement. There are also interventions that can be used for educators who are having trouble with the implementation of programs. At any rate, the teachers and students will experience change during the process of implementing and sustaining new programs, processes, and practices.

District- and School-Based Leadership is Essential to Long-Term Change Success

Change Principle 7 advocates for change from the bottom up. The idea is that those closest to the action have excellent ideas of how to carry out the change. Each individual along the policy-to-practice continuum (Figure 3) has a responsibility, if the change is to be productive (Hall & Hord, 2015). Educators can create and implement new methods while administrators maintain and provide continuous learning; policymakers should design policies that legitimize changes in infrastructure and encourage continued use of the innovation (Hall & Hord, 2015).

Figure 3

Policy-to-Practice Continuum

Federal	State	District	School	Classroom
President Secretary of Education Congress	Governor Commissioner of Education Legislature	Superintendent Board of Education	Principal Instructional Leaders	Teacher

Facilitating Change is a Team Effort

Rooted in Change Principle 8 and in many of the principles is the primary idea that change is a team effort. Collaboration is necessary for those taking on the responsibility of leading and guiding the change effort. Team leadership for change ranges far beyond the school, and those individuals listed in the policy-to-practice continuum are the contributors to the success of the change (Hall & Hord, 2015). During the election season, voters choose the president and governor, while district leaders make important contributions to the efforts to move across the implementation bridge. When instructional leaders, teachers, and other individuals in the school responsible for educating students share triumphs and trials, implementation efforts can be more successful (Hall & Hord, 2015).

Mandates Can Work

A mandate is one type of strategy that is commonly used. With a mandate, the importance of the change is clear; and there is an expectation that the innovation will be implemented (Hall & Hord, 2015). The mandate approach fails when the change process is supported only at the time of the original announcement of the mandate. When the mandate is supplemented with continuing instruction, constant learning, on-site coaching, and time for implementation, it can work (Hall & Hord, 2015).

Both Internal and External Factors Greatly Influence Implementation Success

Change Principle 10 shares that both external and internal factors greatly influence the success of the implementation. Internal factors can be divided into two major sets: physical features and people. Physical features include setting, size, resources, spaces, technology, and schedules. Of these features, Hall and Hord (2015) stated that these could be a support or a hindrance. Factors in regard to people include beliefs, attitudes, values perceptions, and expertise. A staff that understands how important adult learning is and willingly reveals successes and failures will be more successful when implementing new approaches. The same staff understands Change Principle 11, that adopting, implementing, and sustaining are different phases of the change process (Hall & Hord, 2015).

Adopting, Implementing, and Sustaining are Different Phases of the Change Process

Supposing change by merely announcing decisions concerning adoption is bound to result in minimal success. In schools, it generally takes 3 to 5 years to completely implement a major innovation. In some cases, true transformational changes can take longer. Persistently using the new way with quality requires organizational changes as well as constant attention by both internal and external leaders (Hall & Hord, 2015).

And Finally, Focus! Focus! Focus!

Hall and Hord (2015) related the change effort to the fable of the Tortoise and the Hare by comparing the tortoise's focus on the goal of the race and unwavering determination to reach the end and win. The effort of implementing a change effort is to focus on the goal even when distractions or challenges occur (Hall & Hord, 2015).

Significance of the Study

The intention of this investigation was to learn more about teacher perceptions of the implementation and effectiveness of PLCs at TES. According to the findings of Hattie (2017), gentle pressure combined with the expertise of educators will make a difference in the development of the organization; therefore, this mixed methods explanatory design study implemented Graham and Ferriter's (2008) implementation steps and sought to understand teacher perceptions of PLC implementation at TES. The study focused on teacher perceptions of what was being done effectively and exposed what improvements need to be made.

The research of PLCs, data-driven decision-making, educator routine, and student achievement was particularly substantial in light of the school's recent underperformance. The study was intended to offer teachers and administrators an opportunity to study the implementation of PLCs and school-wide data collected to make research-based recommendations for continuous improvement. The study results were significant to TES but also added to the body of knowledge regarding PLC implementation for similar schools.

Definition of Terms

PLCs are also considered as "small groups of educators meeting regularly to engage in systematic peer critique and support by sharing their own professional practices as well as artifacts of student learning" (Whitford & Wood, 2010, p. 22).

This study incorporated the following terms based on these definitions.

Administrator

A person who plays a supervisory role or is in a lead position, such as a principal,

head man or woman, or the chief managerial officer of an educational establishment (Merriam-Webster, 2020a). In the context of this study, the administrators are the principal and assistant principal.

Authentic PLC

A PLC is said to be authentic when the culture of a school transfers from one educator working in seclusion and opposition to one where educators collaborate effectively and grow interdependent, refining their specific and collective influence on learning (Venables, 2011).

Classroom Teacher

An individual who teaches, especially one whose occupation is to instruct children within a classroom (Merriam-Webster, 2020b). In this study, a classroom teacher is one who teaches Grades K-5 at TES.

Collaboration

A methodical procedure describing people who work together to examine and influence professional habit to advance distinct and collective results (DuFour, DuFour, & Eaker 2006, p. 214).

Data-Driven Decision-Making

Incorporates making decisions reinforced by data rather than decisions based on observation alone (Techopedia, 2020).

Exceptional Children (EC)

The term “exceptional” describes students who learn and develop atypically from others or students who have exceptional learning techniques, exceptional gifts, or exceptional behaviors. Exceptional students mainly fall just short of what is considered

the normal range of development for their age group (Columbia College, 2019).

Instructional Leaders

Educators managing learning communities, where staff members convene on a consistent basis to discuss the work of those who work directly with students, cooperate to resolve problems, reflect on their experiences, and hold themselves accountable for what students learn (Jenkins, 2009).

PLCs

An association of people with a common vision who convene to make decisions (Graham & Ferriter, 2010). The PLC model is built on the viewpoint that students should learn and are not just to be taught (DuFour, 2004). On the other hand, a PLC was defined as an organizational structure consisting of a group of educators and school administrators involved in collaborative practices to ensure that educator and student learning is continuously improved (Hord et al., 2010).

Support Personnel

A wide range of professional, administrative, technical, and general staff working within an educational environment. These individuals can be teaching assistants, school nurses and psychologists, and bus drivers (Education International, 2017).

Conclusion

Chapter 1 provided an introduction to the foundation of this study. The background was intended to inform the reader of the need for this investigation. There are many theorists who provided a rationale based on their research. The idea of PLCs is not a new concept; however, it should be viewed as an integral part of school efforts towards continuous improvement. Upon review of various literary sources, Chapter 2 outlines

why PLCs are important and how they should be implemented within the organization of the school. Further, current studies regarding PLCs are described to inform this study's methodology.

Chapter 2: Literature Review

The function of PLCs was to extend educators and administrators the opportunity to work collaboratively, use research-based strategies, and improve professional learning at the site. PLCs were intended to operate as a group of colleagues working to evaluate the efficacy of the current professional learning and student achievement through data analysis. PLCs were created as a model for educator collaboration with a spoken outcome for educators to create a shared mission, focus, vision, and values; partake in collective analysis; employ collaborative teams; be achievement-oriented; and fixate on enhancement and results (McCarthy et al., 2011).

Teachers at TES participated in PLCs. The administration's goal was for teachers to collaborate, analyze data, and share teaching practices. In previous years, these goals and student achievement were met; however, the overall grade for the school dropped between the 2017-2018 and 2018-2019 school years. Through research, the conceptual framework of Graham and Ferriter's (2008) steps of implementation and Hall and Hord's (2015) change principles, I collected data to understand teacher perceptions of the current state of PLCs at TES. The goal was to develop new strategies to implement effective PLCs to improve collaboration and student achievement. In this chapter, best practices of PLC implementation are provided. Further, current research regarding PLC implementation and teacher perceptions is discussed.

Research Questions

To better understand PLCs at TES, the following research question and guiding questions were answered.

Research Question: How do teachers perceive PLC implementation at TES?

Guiding Question 1: What are teacher perceptions of PLC training and support at TES?

Guiding Question 2: What are teacher perceptions of the impact of PLCs on teacher knowledge, skills, and practices at TES?

Guiding Question 3: What are teacher perceptions of the impact of PLCs on student achievement?

Benefits of PLCs

A PLC is a representation of collaboration with an articulated product for educators to establish a shared mission, vision, and set of values, contribute in collective inquiry, and employ collaboration among teams; it is action-oriented and concentrates on enhancement and outcomes (McCarthy et al., 2011). In a model PLC, educators are collaborative in classroom data analysis, the development of instruction, common formative assessments and tasks, examination of student work, and the implementation of corrective action for intervention (Jones-Goods, 2018). Their current research supported the positive impacts of PLCs on a school's culture and student growth. Further, current research exists suggesting the positive impact collaboration has on schools.

One study surveyed the practices of educator collaboration in Miami-Dade Public Schools between 2010 and 2012 (Ronfeldt et al., 2015). Findings suggested that schools that are involved in quality collaboration have better advances in achievement in math and reading. Teacher data improve at higher rates when they work in schools with healthy collaboration (Ronfeldt et al., 2015).

Another study included more than 9,000 educators and also discovered educator collaboration has a positive impact on educators and their students (Jones-Goods, 2018).

The results support efforts to enhance student achievement by encouraging teacher collaboration about data and instruction in PLC teams. With a growing focus on the responsibility for student growth, many educators wrestle with obtaining time to collaborate to practice effective collaboration (Jones-Goods, 2018). Instructional leaders and administrators must promote buy-in while modeling support and cultivating educator collaboration by offering time, space, accountability for understanding, and data analysis to increase instruction (Jones-Goods, 2018). Williams (2010) confirmed this when she asserted for collaboration to gain momentum, principals must institute a sense of urgency for educators to cooperate to address the challenges of students. They must also obtain from educators the belief that student learning will increase because of what is being done in the classrooms.

Further research specified a positive association between the execution of PLCs in schools and enhanced educator learning, instructional practice, student learning, and academic achievement (Vescio et al., 2008). The initial search was in the U.S. research and publication links on the websites of places at the forefront of work with school-based learning communities (Vescio et al., 2008). More specific search was done on the websites of the Annenberg Institute for School Reform (2004), the National School Reform Faculty, the Coalition of Essential Schools, and the Wisconsin Center for Education Research (Vescio et al., 2008). Schools involved in implementing this reform began to transfer the structure of their efforts in professional development toward incorporating teacher learning into communities (Vescio et al., 2008). The objective was to meet the educational needs of their students through a collaborative examination of their day-to-day practice (Vescio et al., 2008). The benefits of executing PLCs

incorporate decreased seclusion of educators, educator increased knowledge about their practice, and academic enhancement for students ("Professional Learning Communities," n.d.). Additional benefits include a stronger collaborative culture; improved obligation to a distinct school mission; an enriched viewpoint of shared responsibility for student success; and increased indications of learning amid students, educators, and administrators (Wortham, 2018).

Educators acquire a greater understanding of subject matter, the curriculum, expectations for academic success, and strengthening their functions in supporting all students while helping them attain high standards of learning (Hord & Sommers, 2008). They determined educators were collaborative and altered classroom pedagogy resulting in academic gains in the core subjects of math, science, history, and reading (Hall & Hord, 2015). Other benefits documented by researchers include greater job satisfaction between educators and higher educator retention rates ("Learning to improve," 2012). Educators reported an amplified sense of trust due to their support system and a heightened sense of efficacy (Hall & Hord, 2015). These findings, along with others propose that implementation of effective PLCs is a powerful approach for refining educator effectiveness overall ("Learning to Improve," 2012, para. 2).

Characteristics of Effective PLCs

DuFour, DuFour, and Eaker (2006) updated his former list (DuFour & Eaker, 1998) and specified six significant characteristics that should be implemented in high functioning PLCs: (a) a concentration on learning, (b) a culture of collaboration with a concentration on learning for all, (c) collective inquiry into best practice and existing reality, (d) action orientation (learning by doing), (e) an obligation to constant

improvement, and (f) results orientation.

Concentration on Learning

The first characteristic, a concentration on learning, specifies an obligation to the learning of every student (DuFour, DuFour, & Eaker, 2006). There are indications of an association between PLCs and positive student academic growth (Rosenholtz, 1989). Similarly, students in schools where there were operative PLCs generated advanced levels of accomplishment (Louis & Marks, 1998). DuFour, DuFour, and Eaker (2006) offered the hypothesis that if educators operate as a PLC to become more effective in ensuring all students learn, it is a necessity that educators participate in limitless learning.

It is essential for a community of professionals to gain knowledge and cooperate effectively to develop morals, values, and beliefs (DuFour, DuFour, & Eaker, 2006). Following development of these skills, it is vital to build a level of trust before proceeding to guide the various groups. A trusting environment leads to increased collaboration, which leads to improved team and classroom situations (DuFour, DuFour, & Eaker, 2006). As the collaborative environment is built, educators will strengthen the quality of education. Collaboration leads to valuable instruction for all students served. Participants in PLCs benefit from the knowledge of a shared purpose; a mutual understanding of the site; collective societies that shift the school into the anticipated direction; and specific, measurable, attainable, results-oriented, and time-bound (SMART) goals to demonstrate their progress (Blankstein, 2013; DuFour, DuFour, Eaker, & Many, 2006; DuFour & Fullan, 2013; Hall & Hord, 2015; Hipp & Huffman, 2010; Hord, 1997; Venables, 2011).

Collaborative Teams Focused on Learning

The second characteristic of a PLC is a culture of collaboration concentrating on learning for every student (DuFour, DuFour, & Eaker, 2006). A PLC is organized into collaborative teams where members work interdependently to accomplish mutual goals associated with the determination of learning for all students and educators (DuFour, DuFour, & Eaker, 2006). Jessie (2007) stated that a PLC meeting is more than educators simply meeting to discuss data and more about educators who meet to accomplish mutual goals for the grade level they teach and the school. The educators account for the data, which leads to altering instructional practice. Collaboration during PLC meetings represents the process where educators work together to influence personal teaching practices that create optimistic academic achievement for classroom students (DuFour, DuFour, & Eaker, 2006).

Building the foundation for implementing successful strategies and the finest quality instructional curricula for students requires individuals to build relationships with others who live and work in the community. Five disciplines are related to the building and their ways of thinking (Senge, 1990). The disciplines embrace thinking systems, creating a shared vision, mastery of personal goals, intellectual models, and collective learning. Progression through the disciplines is essential and imperative to building a positive learning environment. Educators work interdependently in PLCs on specific teams to accomplish goals for which they are equally responsible. Organization of the school is related to ensuring teams obtain ample time and support necessary for adult learning.

Collective Inquiry

Collective inquiry into best practice and existing reality is recognized as the third characteristic of PLCs. Collective inquiry, or collegial inquiry, supports educators' understanding of what enlightens and guides their intelligence, actions, and methods to problem-solving along with how to adjust all of these so educators can completely participate in learning (Drago-Severson, 2009). Likewise, collective capacity is necessary to respond to taxing circumstances educators face (Fullan, 2001). When collective inquiry and reflection are present, educators are inspired by support, advice, and recommendations presented by peers; therefore, they are subject to change instructional practices to attempt innovative methods of teaching. Kafele (2017) warned that there are schools where collaboration among staff either does not exist or is minimal at best and believed this is especially troublesome because these schools consist of so many brilliant, extraordinary educators, both veteran and new. According to Kafele, when they store all their knowledge within themselves, no other staff members benefit from their presence, and each individual has their own unique experience in the classroom and in their preparation. Kafele encouraged that everyone in the organization has something unique to share.

Collective inquiry is an arrangement where members of a PLC combine to methodically examine their educational practices (Easton, 2008). Teams work collectively to make inquiries, elaborate on theories of action, establish action steps, and collect and analyze evidence to assess the impact of their actions (Easton, 2008). As noted, when members of PLCs collectively investigate challenges of practice, their perceptions of those challenges grow deeper and become more unified, practice becomes

more refined and influential, and the group acquires a stronger sense of common purpose and camaraderie (Supovitz & Christman, 2003). The result is teams construct a common understanding, share knowledge and experience, and create common goals (Supovitz & Christman, 2003). The ultimate goal of collective inquiry within PLCs is to encourage shared knowledge through the use of new methods of teaching and researching best practices. This allows new and experienced teachers to influence the decision-making process and exercise their own teaching style (Adams, 2020).

Action Orientation and Experimentation

Participants in PLCs understand learning develops when engagement is high and frequently transforms their learning and perceptions into action (Bailey, 2006). They recognize how imperative engagement and experience are in learning and in testing new ideas (Bailey, 2006). “They learn by doing” (Bailey, 2006, p. 1). Action orientation and experimentation consist of educators participating in PLCs to revolve their knowledge and perceptions into action repetitively (DuFour, DuFour, & Eaker, 2006). They differentiate between the importance of engagement and examining new ideas, which leads to learning. This concept puts learning into action (DuFour, DuFour, & Eaker, 2006).

Following these beliefs, participants in PLCs operate as facilitators of change within a school (DuFour et al., 2004). Teachers should be prepared to attempt new methods while performing on their existing beliefs and preserving a focus on student achievement (Hannaford, 2010). Hannaford (2010) clarified that PLCs offer a safe environment that promotes action and experimentation in the quest to improve student learning and achievement. Lezotte (2005) mentioned PLCs as a standard for effective

schools' research in action where teachers are willing to embrace school improvement to enhance student learning. Nurturing action orientation and experimentation offers the repetition teachers need as a foundation for collaborative dialog in PLCs to accomplish the desired results (Hord & Sommers, 2008). Hord and Sommers (2008) determined that it is not the primary experience considered to be the learning point. Alternatively, it is the reflection and dialog succeeding the experience that cultivate the most learning.

Collaborative educators intrinsically improve their personal competence while simultaneously supporting their colleagues' competence (Jones-Goods, 2018). Collaboration is defined as a relationship that is freely entered into by the members of the PLC (Peter-Koop, 2003). It encompasses sharing leadership and control over decisions concerning group members and how and to what degree they will contribute to leadership and decision-making while working towards a goal everyone sees as important and worthwhile (Peter-Koop, 2003). Authentic PLCs have educators who collaborate, participate in collective inquiry, and become stimuli for engagement (DuFour, DuFour, & Eaker, 2006).

Commitment to Continuous Improvement

An obligation to constant improvement is the fifth characteristic of PLCs (DuFour, DuFour, & Eaker, 2006). Constant improvement denotes a relentless pursuit by educators for an improved method of attaining goals and achieving the function of the PLC (DuFour, DuFour, & Eaker, 2006). When executed with fidelity, PLCs are a continuous-improvement representation that results in elevated stages of learning for all students (Kramer, 2015). The representation of continuous improvement entails a constant sequence of assembling data for verification of the existing reality of student

learning, acquiring approaches and instructional methods to foster strengths and concentrate on weaknesses in student learning, executing the strategies and methods, examining the influence of the variations to establish effectiveness and ineffectiveness, and utilizing innovative knowledge in the subsequent sequence of continuous improvement (DuFour, DuFour, & Eaker, 2006).

Being unhappy with traditional methods will present opportunities for the participants of a PLC to engage in improved practices to attain mutual goals and fulfill the greatest intention of successful teaching and learning for every student (DuFour, DuFour, & Eaker, 2006). All teams are engaged in an ongoing cycle in the commitment to make improvements. In collecting indications of existing levels of student learning, teachers may review student learning data to determine what students know and can do before determining instructional next steps (DuFour, DuFour, & Eaker, 2006). Educators should use emerging approaches to educate students and build concepts on the strengths of students while addressing the weaknesses in the learning. They should also choose and execute various instructional strategies and new ideas. While executing these strategies, teachers investigate the impact of the adjustments made during instruction to determine effectiveness or a lack thereof. Teachers employ additional knowledge in each cycle of continuous improvement to ensure the various stages are being implemented effectively and efficiently (DuFour, DuFour, & Eaker, 2006).

Results Orientation

The concluding characteristic of a PLC is results orientation (DuFour, DuFour, & Eaker, 2006). A concentration on results strongly suggests educators change conventional practices and apply data and emphasis on the accomplishments of students. In effective

PLCs, educators contemplate the results of their actions, and constant assessment is present and includes crucial common formative assessment (Jessie, 2007). Outcomes are quantifiable and a result of the collaborative work of the PLC (Jessie, 2007). Outcomes are more significant than intentions (Jessie, 2007). The discrepancy between intentions and results is referred to as the knowing-doing disparity in education (Hord & Sommers, 2008). It is necessary for educators to reflect, collaborate, and monitor the actual results with the intended results to close this gap (Hord & Sommers, 2008). To close this gap, it is essential for the work of a PLC team to focus on collaboratively searching for answers to the questions regarding levels of learning for all students and educators (Eaker & Keating, 2007). According to DuFour, DuFour, and Eaker (2006), educators should use four questions to steer the purpose of participating in PLCs:

- What information and ability should students acquire as a result of instruction?
- How will we determine when each student has attained the essential knowledge and ability?
- How will we respond when all students are successful?
- How will we respond when students have achieved the anticipated results?

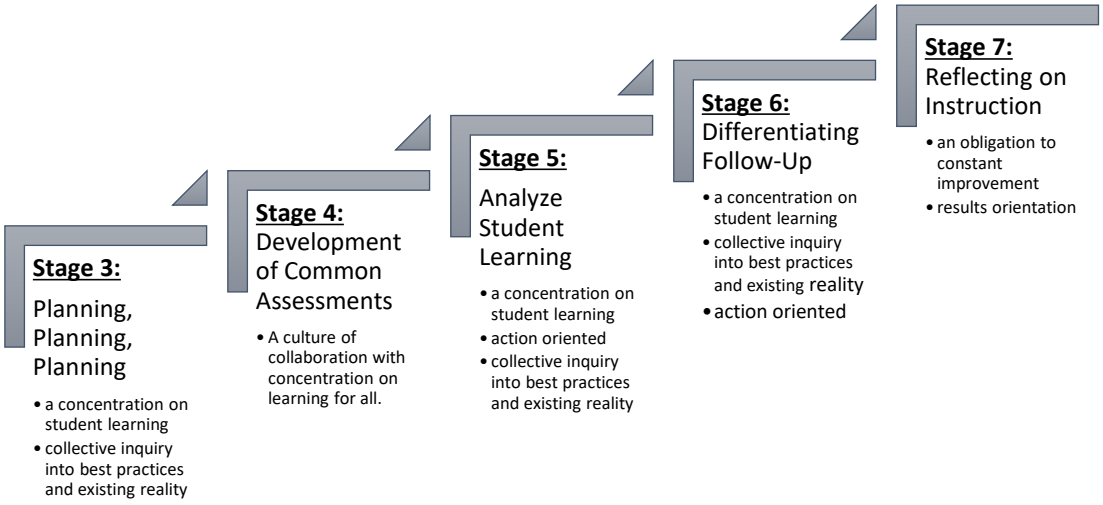
These questions encourage collective knowledge among educators, which provides a guide for introducing school improvement (DuFour, 2004). Every educator should know the answers to these questions (Soehner & Ryan, 2011). When administrators and educators execute PLCs and participate in collective inquiry based on these vital questions, the focus is on learning, and academic excellence will be the result (Soehner & Ryan, 2011).

Alignment of Implementation Stages and Characteristics of PLCs

DuFour, DuFour, and Eaker's (2006) characteristics of effective PLCs align with the last four stages of Graham and Ferriter's (2008) stage of PLC development that was used as part of this study's conceptual framework. Figure 4 shows a crosswalk between the developmental stages and the characteristics of effective PLCs.

Figure 4

Cross-Walking Effective PLC Characteristics and the Stages of Development



Filling the time is the first stage in Graham and Ferriter's (2008) stages of implementation that is part of this study's conceptual framework. This step in PLC development along with Stage 2, sharing personal practices, is key to early PLC development but does not align with DuFour, DuFour, and Eaker's (2006) characteristics of effective PLCs. District- and school-based leadership are vital to the success of long-term change (Hall & Hord, 2015). This misalignment is important to note because just meeting together and sharing ideas is not indicative of effective PLCs on their own unless the focus is on student learning. The best way for teams to move quickly out of this stage is to establish clear expectations during this time (Graham & Ferriter, 2008). Sharing

personal practices is a way to fill the time and move towards a focus on learning but is not effective alone. Inevitably, change occurs during PLC development, both collectively and individually for teachers and schools.

During Stages 3-7, change theory principles from the conceptual framework become evident. Change is a team effort (Hall & Hord, 2015). With the school being the primary organizational unit for change, it is up to the school's staff and administration whether the change effort will be positive or negative (Hall & Hord, 2015). Change is a multifaceted, energetic, and resource-consuming venture (Hall & Hord, 2015). Because organizations, like schools, are under heavy pressure to increase performance, change efforts are inevitable (Hall & Hord, 2015). If effective PLCs have not been implemented, this could be seen in end-of-grade testing (Hall & Hord, 2015). An implicit assumption to the testing approach is that schools will incorporate the necessary changes to make test scores go up (Hall & Hord, 2015). With the assumption, little support is made available to schools to implement the changes (Hall & Hord, 2015). Schools use Graham and Ferriter's (2008) stages of implementation and DuFour, DuFour, and Eaker's (2006) characteristics to implement PLCs as a change effort.

Planning, planning, planning is the third stage of Graham and Ferriter's (2008) stages of implementation. Teachers should ask themselves, "What should we be teaching, and how can we lighten the load?" (Graham & Ferriter, 2008, p. 39). Collective inquiry into best practice and existing reality is the goal during this stage (DuFour, DuFour, & Eaker, 2006). Change Principle 4 states that organizations adopt change and individuals implement change (Hall & Hord, 2015). School systems adopt curriculum in which interventions must be done with and for individuals, teachers, and students (Hall & Hord,

2015). Change in outcomes is impossible until individuals implement new practice (Hall & Hord, 2015). Teachers should use collective inquiry to acquire new skills, approaches, and knowledge (DuFour, DuFour, & Eaker, 2006). During this stage, there should be a clear and consistent focus on student learning (Newmann, 1996).

Development of common assessments is the fourth stage in Graham and Ferriter's (2008) stages of implementation. Teachers should ask, "What does mastery look like?" (Graham & Ferriter, 2008, p. 39); revealed, the answer to this question can initiate controversy by tapping into teachers' personal philosophies. In connection with mastery, teachers should uphold a continuous emphasis on outcomes (DuFour, DuFour, & Eaker, 2006). Figure 4 shows the connections between characteristics of PLCs, a culture of collaboration with concentration on learning for all, and the development of common assessments stage of implementation. The connection between the characteristics of PLCs and the stages of development shows how DuFour, DuFour, and Eaker's (2006) and Graham and Ferriter's (2008) beliefs work together to improve the culture of collaboration between teachers and instructional leaders.

Analyze student learning is the fifth stage of Graham and Ferriter's (2008) stages of implementation. During this stage, teachers should ask themselves "Are students learning what they are supposed to be learning?" (p. 41). This is the stage where we see action orientation or learning by doing (DuFour, DuFour, & Eaker, 2006). Teachers often require meaningful instruction on analyzing and interpreting data (Graham & Ferriter, 2008). Effective use of data is not an intuitive procedure; it remains an area where most teachers lack experience and expertise (Graham & Ferriter, 2008). Administrators who use instructional results orientation, drive leaders, and provide support and tools for

effective data analysis are compensated with highly ambitious, results-driven teams (Graham & Ferriter, 2008). Figure 4 represents the connections between characteristics of PLCs (a concentration on student learning, action oriented, and collective inquiry into best practices and existing reality) and the analyze student learning stage of implementation. This connection between the two theorists shows their belief in how student data influence instruction and how analyzing student data helps teachers relate instruction to particular students.

Differentiating follow-up is the sixth stage in Graham and Ferriter's (2008) stages of implementation. This stage forces teachers to ask: (a) "Which instructional practices are the most effective across your team?" (b) "What concepts do your students struggle with?" and (c) "Are your students able to apply knowledge to novel problems?" (p. 42). The desire to be action oriented and inspire nonstop improvement is the goal of this stage (DuFour, DuFour, & Eaker, 2006). Administrators must identify concrete techniques to support differentiation (Graham & Ferriter's, 2008). The most significant interventions are the minute ones most leaders forget to do, while the quantity of the little things is what makes the final difference (Hall & Hord, 2015). Reflective dialogue, as described by Newmann (1996), that leads to significant and persistent conversations among teachers about student development, curriculum, and instruction is necessary in this stage. Interventions are fundamental to the achievement of the change process (Hall & Hord, 2015). Figure 4 provides the connections between characteristics of PLCs (a concentration on student learning, action oriented, and collective inquiry into best practices and existing reality), and the differentiating follow-up stages of implementation. The connection between these theorists encourages teachers to plan for various strategies

for student learning to offer effective personal strategies for each student based on their individual needs.

Reflecting on instruction is the final stage of Graham and Ferriter's (2008) stages of implementation. Graham and Ferriter (2008) urged teams performing at a high level to ask one final question: "Which practices are most effective with our students" (p. 42), which brings the process of the development of a professional learning team full circle, relating learning back to teaching. Change is learning and professional learning is a critical component imbedded in the change process (Hall & Hord, 2015). Research concentrating on the change process and professional development exposes parallel findings which identify the necessity of learning in order to use advanced curricula, procedures, and routines (Hall & Hord, 2015). Graham and Ferriter (2008) urged teams to engage in deep reflection, undertaking "innovative projects such as action research or lesson studies" (p. 42). Incorporating the conceptual framework of Graham and Ferriter's (2008) implementation stages with the characteristics of the PLC will provide reinforcement for building and sustaining effective implementation of PLCs. Making teaching public and concentrating on collaboration are the last two characteristics described by Newmann (1996). Figure 4 shows the connections between characteristics of PLCs (an obligation to constant improvement and results orientation) and the reflecting on instruction stage of implementation. The connection between these theorists inspires a culture of collaboration among teachers and students to discover what works and what improvements should be made for further instruction.

Adopting, implementing, and sustaining happens at different phases of the change process (Hall & Hord, 2015). The adoption of PLCs is a cycle in which there appears to

be less appreciation for the extent of time it takes implementers to progress across the bridge (Hall & Hord, 2015). While researchers have a wealth of information on how to facilitate implementers, little is known about how to support use of the new way (Hall & Hord, 2015). Remaining across the implementation bridge and continuing to use the innovation, PLCs, with fidelity, require changes in the structure as well as constant attention by internal and external leaders (Hall & Hord, 2015).

Connections in Research

Throughout my reading of the literature, there were many connections that can be made (Table 2). DuFour and Eaker (1998); DuFour, DuFour, and Eaker (2006); Vescio et al. (2008); McCarthy et al. (2011); and Graham and Ferriter (2008) all agreed that PLCs should enable teachers to improve teaching and learning, analyzing data, and collaboration to improve student growth and achievement. Through these recurring themes, PLCs should be used to improve teaching, learning, and student achievement.

Table 2

Connections in Research

Researchers	Connections in Literature
DuFour and Eaker (1998)	• Share a common mission, vision, values, and goals • Consider learning (of educators and students) as top priority during groups collaboration • Use collective inquiry to acquire new skills, approaches, and knowledge • Desire action orientation, inspire nonstop improvement • Uphold a continuous emphasis on outcomes
DuFour, DuFour, and Eaker (2006)	• A concentration on learning • A culture of collaboration • Collective inquiry into best practice and existing reality • Action orientation • An obligation to constant improvement • Results orientation
Vescio et al. (2008)	• Educator learning • Instructional practice • Student learning • Academic achievement
McCarthy et al. (2011)	• Establish a shared mission, vision, and set of values • Contribute in collective inquiry • Employ collaboration among teams • Action oriented • Concentrates on enhancement and outcomes
Graham and Ferriter (2008)	• Filling the time • Sharing personal practices • Planning, planning, planning • Developing common assessments • Analyze student learning • Differentiating follow-up • Reflecting on instruction

As I looked at the connections of various researchers, I found they all had the same ideas in mind–improving teaching and learning–and how to accomplish this goal. In order to implement and sustain effective PLCs, it was imperative to use the findings of

DuFour and Eaker (1998); DuFour, DuFour, and Eaker (2006); Vescio et al. (2008); McCarthy et al. (2011); and Graham and Ferriter (2008), as they have all provided the stepping-stones to increased student growth and achievement. This connection of the literature brought into perspective the steps necessary for a culture of collaboration.

School Culture and Climate**

Hall and Hord (2015) stated there are a number of factors that affect how successful each school will be in implementing change. The evaluation of the culture of the school was necessary to gain teacher perceptions of collaboration. Teacher perceptions of the school culture could have a positive or negative effect on the implementation of PLCs.

The main purpose of a school culture is to get members to adopt anticipated behaviors and a shared psychological model (Gruenert & Whitaker, 2015). The effectiveness of an innovative culture is contingent upon the strength of the people behind the change and the power of the preexisting culture. The school's climate is a combination of a view into its culture and an acquired response that the culture teaches new members. Culture and climate are often confused as synonyms, but they are actually different. Culture is the personality of the group, whereas the climate is the attitude of the group. Culture provides an inadequate way of thinking; climate produces a state of mind. Culture is based on ethics and principles; climate is based on views and insights (Gruenert & Whitaker, 2015).

Without agreement among staff concerning the mission of the school, efforts for improvement may drift around common assumptions rather than strong, shared principles (Gruenert & Whitaker, 2015). Consensus among teachers is crucial (Gruenert &

Whitaker, 2015). Deliberating the purpose of education can require several meetings and may take a long time (Gruenert & Whitaker, 2015). During PLCs, DuFour, DuFour, and Eaker (2006) mentioned the sharing of goals and missions among teachers. Graham and Ferriter (2008) applied the sharing of personal practices. A positive school culture would be essential to implement and sustain effective PLCs based on the combined research of DuFour, DuFour, and Eaker (2006); Graham and Ferriter (2008); and Gruenert & Whitaker (2015).

Impact of PLCs

Darling-Hammond and McLaughlin (1995) noted that assisting teachers with rethinking their practices is necessary for professional development, and it involves teachers in the dual positions of both teaching and learning. This effort also produces new visions of what, when, and how teachers must learn. The model of a PLC is based on a principle from the business world involving the ability of organizations to learn (Vescio et al., 2008). Modified to suit the realm of education, the notion of a learning organization developed into that of a learning community with the attempt to improve collaborative work cultures for teachers (Thompson et al., 2004). Schools interested in implementing PLCs began to modify the organization and makeup of their efforts toward integrating teacher learning and professional development into communities of practice with the goal of addressing the educational needs of their students through collaboratively analyzing their day-to-day practice (Vescio et al., 2008).

The core concept of a PLC is dependent on the basis of improving student learning and achievement with the improvement of teaching practice (Vescio et al., 2008). Because of this, it is necessary to look particularly at what the research

communicates about how teaching practice is transformed (Vescio et al., 2008). Dunne et al. (2000) documented the results of a 2-year study on critical friends groups appointed by the Annenberg Institute for School Reform. This study included interview and observation data to find the parallels in the practices of non-participants of critical friends groups to the practices of teachers who participated in the groups (Vescio et al., 2008). It was concluded that the habits of the participants became more student-centered. The authors stated that the participants of the group enhanced the use of methods such as added flexibility seating and modifications in pacing during instruction to accommodate various levels of content mastery among students (Vescio et al., 2008). The researchers declined to provide data about the practices at the beginning of the study. This decreased the power of the reported findings (Vescio et al., 2008).

Strahan's (2003) case study consisted of an elementary school where all teachers participated in learning communities in an attempt to improve student learning and achievement in reading. This case study did not document particular teaching practices preceding the attempted modifications (Vescio et al., 2008). It did, however, present data from the principal's interview concerning the initial negative attitudes of teachers relating to student learning. Teachers worked collaboratively during the change process to cultivate a shared school mission centered around four guiding principles that included excellence, integrity, discipline, and respect. At the conclusion of the study, the author deduced that the collaboration led to the progress of stronger instructional norms and caused teachers to be receptive to working with a curriculum facilitator in the curriculum areas, changing practices for guided reading, writing, and self-selected reading.

Vescio et al. (2008) revealed many of the studies cited from this article failed to

clarify detailed changes in pedagogy. It does, however, refer to the changes made in the professional culture of each site as a significant finding. The efforts made were meant to prove that creating a PLC supports a fundamental shift in the state of mind teachers convey to their daily work in the classroom. The studies cited experimental data alluding to the change in the professional culture of the school.

PLCs have the means to improve teaching, learning, and student growth and achievement (Vescio et al., 2008). Teacher perceptions indicated show PLCs as a move administrators and teachers support and value. There is limited evidence that the effect is measurable outside of teacher perceptions. As identified by Vescio et al. (2008), participation in learning communities influenced teaching practice as teachers convert to more student-centered instruction. Additionally, the culture of the site improved for teachers because learning communities increase collaboration, concentrate on student learning, provide teachers authority or empowerment, and encourage continuous learning. Further acknowledged by Vescio et al., when teachers contribute to a learning community, there are benefits for students as well, which is specified by improved student achievement scores over time.

Pfeffer and Sutton (2000) wrote interdependence is the foundation of organizations. “Productivity, performance, and innovation result from joint action, not just individual efforts and behavior” (Pfeffer & Sutton, 2000, p. 97). This declaration echoes the significance of a team mindset during the progression of a PLC in the school (Bennett, 2017). It focuses on the importance for a group to maintain the school’s vision and mission as their top priority. The concept of a PLC relies on the assertion that improving student learning results from cultivating effective teaching practices (Bennett,

2017). Although initial teaching routines were vaguely described, Hollins et al. (2004) conducted a study related to the outcomes of educational practice based on involvement in PLCs. They examined how the initial meetings of 12 teachers concentrated on the challenges of attempting to teach low-achieving Black students successfully. This study specified that by the 10th meeting among the teachers, their focus shifted to being more strategic, as they created an innovative approach to language arts instruction (Bennett, 2017). Team members who communicate effectively and share ideas during collective inquiry create a synergy that will transfer to the students and produce a positive impact on the school's climate and expectations (Bennett, 2017).

This study surveyed all teachers employed at High School A in January 2017 (Bennett, 2017). Forty-three percent of teachers chose to participate and ranged in classroom experience from 0-5 years to more than 26 years. The survey results suggested that most teachers agreed that their participation in a PLC had a promising impact on student achievement (Bennett, 2017). Of the respondents surveyed, 44, or half, revealed the PLC they participated in offered a model atmosphere for keeping the promise that all students can learn (Bennett, 2017), which reiterated DuFour, DuFour, and Eaker's (2006) first characteristic of effective PLCs, a focus on learning. Of the 87 teachers surveyed, 57% answered they have delivered organized, timely, and specific interventions when students were unsuccessful academically (Bennett, 2017).

Advocates of PLCs

On Common Ground: The Power of Professional Learning Communities (Dufour & Eaker, 2005), was written by chief researchers who are the editors to a multitude of renowned educators and researchers of education and present insight relating to PLCs. In

this book, advocates of PLCs include these educators: Roland Barth, Michael Fullan, Lawrence Lezotte, Douglas Reeves, Jonathon Saphier, Mike Schmoker, Dennis Sparks, and Rick Stiggins. The list of outstanding advocates of PLCs resumes in the book *Revisiting Professional Learning Communities at Work: New Insights for Improving Schools* (DuFour et al., 2008). This text incorporated perceptions from Robert Marzano, Thomas Many, Tom Sergiovanni, Linda Darling-Hammond, Charlotte Danielson, and Dylan Wiliam. These are just a few of the many "system thinkers in action" who impact the composition of this text (Fullan, 2005).

Benefits and Barriers of PLCs

A study in West Virginia concentrating on the research of implementation and effectiveness on PLCs in low-performing schools focused on one school district and merged all schools within the district despite calculated academic progress (Brucker, 2013). East (2015) revealed this study focused on the results of implementing best practice in the lowest-performing schools in West Virginia. The data acquired in the study, along with other research on PLCs are essential to examine continuous best practices in schools (East, 2015). It is important to take the information gained and apply it to low-performing schools in this district in the state of West Virginia to appraise the development and effects of implementing PLCs in these environments (East, 2015). Brucker (2013) found that generally teachers in these schools understood PLCs to be operational and suggested that PLCs occurred in their school "some of the time" or "most of the time" (East, 2015, p. 25). Teachers indicated that PLCs in their schools were "somewhat effective" and "effective" (East, 2015, p. 25). The study further suggested barriers to PLCs "included time, pre-decided content, training, and interpersonal

relationships" (East, 2015, p. 25).

Effective PLCs possess the ability to provide advantages for teachers and students (Many, 2008). Benefits to teachers incorporate shared responsibility for student achievement, enhanced significance and comprehension of the curriculum, increased morale, decreased absences, and an obligation to making changes systemic (DuFour et al., 2008). Benefits for students incorporate minimal dropouts, decreased absences, increased academic achievement, and reduced gaps in student achievement between diverse subgroups (DuFour et al., 2008; Hord, 1997). Richard DuFour, Rebecca DuFour, and Robert Eaker paved the way for other educators to study and successfully implement PLCs.

Benefits

Hannaford (2010) determined productive implementation of PLCs offers numerous benefits to participating educators and school systems. The advantages include opportunities for teacher leadership, positive effects on school culture through reinforcing connections among teachers within the school or district, and additional assistance for adult learning (Brucker, 2013). Additional benefits included increased attendance, support of efforts for school improvement, reduced feelings of separation among staff, strengthened job fulfillment, enhanced confidence, shared accountability for student performance and achievement, and solid commitment to the school. Research has progressively supported assertions that PLCs are significant elements in the improvement of instruction and school reforms; therefore, implementation of PLCs in low-performing schools is essential to improve the school (Little, 2002).

Researchers discovered that in schools, demonstrating a true feeling of

community and an emergent sense of job satisfaction led to improved work efficacy and a more profound collective responsibility for student learning and achievement (Louis et al., 1996). The most common benefit deliberated in the literature is the collegiality that inspires teachers to do their job efficiently (East, 2015).

It has been discovered that PLCs are a powerful tool used to increase student learning and achievement (East, 2015). The immense body of research on PLCs has summarized the characteristics of PLCs, the benefits of PLCs, the barriers of PLCs, and the attributes of successful PLCs. Research has maintained the use of PLCs as best practice in schools across the nation. The purpose of this study is to grow the current body of research and to provide information in connection with the implementation of PLCs as a valuable instrument for school improvement.

Barriers

As PLCs become more prevalent in school districts, further confirmation of hurdles to attain successful implementation of PLCs is evident (East, 2015). Lujan (2009) ascertained various barriers affecting the implementation of PLCs: insufficient time, lack of knowledge and understanding of what a PLC is and its effectiveness, and negative teacher attitudes. Time and teacher involvement (buy-in) are two of the most familiar hindrances to flourishing implementation (East, 2015). Valuable leadership plays a vital role in defeating these obstacles for implementing and later sustaining PLCs (Dove & Freeley, 2011). The Annenberg Institute of School Reform (2004) recorded various limitations to favorable PLC success include teacher uncertainty to share, absence of leadership, undocumented achievement, and concerns over trust and quality of teachers. Implementing and sustaining PLCs creates a challenge for educators as well as

administrators (Fullan, 2005). Various schools maintain the implementation of PLCs as a type of professional development (East, 2015).

Often, schools decline to create and preserve a school culture in which PLCs are treasured (East, 2015). The taxing daily schedules of educators and administrators prompt them to value their time (East, 2015). It is a must that schools regard any attempts to obtain additional responsibilities as a high precedence for them to prioritize their time and acknowledge any occasion for professional growth to embrace and encourage the school culture (DuFour & Eaker, 2005). Lack of ample time to conduct PLCs was frequently alluded to as a barrier to the implementation of PLCs (Lujan & Day, 2010; Marley, 2010; Maslow, 2008; Sutor, 2010).

Teachers are repeatedly immersed with an abundance of responsibilities that cause exhaustion (East, 2015). Teachers believe collaboration is vital although they have minimal time or energy to successfully contribute to the practice of PLCs (Maslow, 2008). Hughes-Hassell et al. (2012) reiterated inadequate amounts of time and intensifying lists of responsibilities have a detrimental effect on the successful implementation of PLCs. An important concern that should be addressed is that of teacher turnover and new teachers (East, 2015). It is a necessity for this critical issue to be addressed in all schools, specifically in low-performing schools where high turnover percentages exceed high-performing schools (East, 2015). Fostering relationships and making positive connections among PLC members take time (Reynolds, 2008).

Participants acknowledged recommendations to improve their experience with PLCs and obstacles that hindered the implementation of PLCs (East, 2015). The perceptions of educators display high levels of implementation and effectiveness of PLCs

in schools with low student achievement. This may drastically increase the value of PLCs as a key component of the school improvement process (East, 2015). The perceptions of high levels of PLC implementation and effectiveness endorse this method of school reform and have significance to the individuals who trust that PLC implementation is an effective tool to utilize to improve student learning (East, 2015).

Elements Affecting the Development of PLCs in Schools

Schaap and de Bruijn (2018) focused on developing PLCs, or communities within schools comprised of teachers, facilitated by instructional leaders with an explicit task to accomplish as part of a greater improvement project. Four PLCs were examined over 3 years using surveys and teachers participating in research (Schaap & de Bruijn, 2018). The surveys discovered that PLCs varied in the characteristics of each group, mutual learning processes, and results (Schaap & de Bruijn, 2018). DuFour, DuFour, and Eaker (2006) shared the essential characteristics of PLCs which include collaborative teams concentrating on student and teacher learning. Through participatory research, there are seven components influencing the development of PLCs, specifically, perceptions of task, composition of group, tensions among roles, alignment beliefs, reflective conversations, explored socialization, and ownership (Schaap & de Bruijn, 2018). Action orientation and experimentation allow teachers to turn their insights into action (DuFour, DuFour, & Eaker, 2006). Alignment beliefs, explored ownership, and socialization had a satisfactory impact on PLC development (Schaap & de Bruijn, 2018). Action orientation and experimentation allow teachers to turn their insights into action (DuFour, DuFour, & Eaker, 2006).

This study was site-based and was used to disclose the components affecting PLC

development in schools and how these components are perhaps consistent and may change over time (Schaap & de Bruijn, 2018). The PLCs were part of an innovation project in which their school took part. Each PLC had similar aims, methods, and time to execute its task. Developing a shared mission and values is the first step based on DuFour, DuFour, and Eaker's (2006) characteristics of effective PLCs. Volunteer teachers of four schools participated in a PLC where the mission and attention corresponded with the purpose of the innovation project. For example, some participants were teachers, overseers of student teachers, and developers of the pre-vocational curriculum (Schaap & de Bruijn, 2018).

Teachers in the PLCs were knowledgeable with regard to the goals of the research and the dual responsibility of the participating researchers, as implementers and promoters of PLCs in the initial year, along with researchers who needed to monitor, analyze, and chronicle discoveries in the second and third years (Schaap & de Bruijn, 2018). The teachers were aware of executing a dedication to continuous improvement (DuFour, DuFour, & Eaker, 2006). They also attended meetings. PLC members had various times each year with the school principal to either organize the PLC meeting or deliberate the activities of the PLC (Schaap & de Bruijn, 2018).

The findings from this study built further on newly available research (Schaap & de Bruijn, 2018). Hubers et al. (2016) concluded that awareness is generated when members participate in meaningful conversations about both beliefs and characteristics. The results display meaningful conversations have internal and external bearing concerning activities within PLCs and activities between members of PLCs and colleagues in the schools (Schaap & de Bruijn, 2018). The members of the four PLCs

clearly communicated experiences, personal knowledge, and beliefs (Schaap & de Bruijn, 2018). Being results oriented became the common goal of the four PLCs (DuFour, DuFour, & Eaker, 2006).

Best Policies to Support Teacher Leadership Through PLCs

School restructuring efforts, including implementing PLCs, operate within the environment of current state, district, and school policies (Rasberry & Mahajan, 2008). For teacher leadership to be sustained through PLCs, guidelines must be present on all levels of the educational system to reassure collective decision-making and foster collaboration between administrators and teachers (Rasberry & Mahajan, 2008). Graham and Ferriter's (2008) steps of implementation similarly refer to this stage as filling the time or creating agendas and planning effective meetings.

State Policies

School boards and the state's department of education can influence change in many ways at the state level (Rasberry & Mahajan, 2008). They can assist with revamping requirements for school administrators, starting with preparation programs. While some schools have welcomed the concept of DuFour, DuFour, and Eaker's (2006) shared leadership, others still encourage additional top-down philosophies for the school administration, with an emphasis on management and supervision according to Rasberry and Mahajan (2008). Shared leadership and collaborative conversations build on the effectiveness of PLCs. On the other hand, with the increasing demands in schools, effective administrators cannot single-handedly execute the complete scope of leadership tasks. PLCs offer one setting for teachers to embrace more involvement in leadership. Unfortunately, several future leaders continue to be instructed using old-fashioned and

insufficient representations of school leadership that refuse to completely tap the abundant resource of accomplished, knowledgeable educators based on the findings of Rasberry and Mahajan. Change Principle 7 explains that district- and school-based leadership are critical to the success of long-term change (Hall & Hord, 2015).

Solid school performance is contingent on shared leadership activating the collective action of educators to generate excellent teaching and learning (Rasberry & Mahajan, 2008). Many implementers assume they do not need any involvement from within or above them (Hall & Hord, 2015). Valuable leaders who recognize the benefits of dispersed leadership maintain high expectations; offer pertinent, continuing professional development for teachers; and guarantee suitable environments are present to sustain their efforts. Similarly, Change Principle 8 informs us that change is a team effort. In conjunction with the change theory, Rasberry and Mahajan (2008) expressed the necessity for beginning administrators to learn how to accomplish making change a team effort by shifting outside of outdated leadership models to guide and cultivate their teachers to become knowledgeable decision makers to improve performance in the classroom.

It is essential for principals currently working in schools who have fulfilled administrator preparation programs to be able to access continuous training and support (Rasberry & Mahajan, 2008). Interventions are critical to the achievement of the change process according to Hall and Hord (2015). Just as there is a need for continued professional development for teachers, there is also a need for principals to be provided professional learning opportunities. School leadership programs, established at the state level, could couple principals and teacher leaders to learn the ins and outs of forming

PLCs and sustaining teacher leadership (Rasberry & Mahajan, 2008).

State guidelines can assist these efforts by

- requiring administrator preparation programs to include training and education on the implementation of PLCs and encourage teacher leadership;
- improving courses for professional development through the state department of education for district leaders involved in creating PLCs;
- distributing additional funds to school systems for acquiring teachers who will serve in leadership positions as Teachers on Special Assignments in schools or district offices; and
- assessing administrators on their competence to share leadership and establish collaborative cultures (Rasberry & Mahajan, 2008).

District Policies

Effective administrators trust teachers to make sensible choices that support the success of students (Rasberry & Mahajan, 2008). This study showed how administrators who go above and beyond to provide support for teachers recognize the diversity among professional learning teams as diverse groups work synchronously to attain an assortment of professional goals. DuFour et al. (2006) referred to this as being results-oriented. School leaders realize goals for PLCs can be achieved in various ways, so they nurture teacher leadership by authorizing teachers to set personal goals for their success and plan the process for reaching those goals. They also recognize the importance of a consistent time scheduled within the school day for teachers to collaborate and plan for instruction (Rasberry & Mahajan, 2008). Providing time is addressed in Graham and Ferriter's (2008) steps of implementation as shared personal practice and planning.

Even the most operative school administrator can wrestle to preserve concentration, if district leaders do not validate the efforts of teachers (Rasberry & Mahajan, 2008). Genuine PLCs inspire a more complete assessment of teaching practices and their relationship to students' intellectual and social development. Analyzing student learning and differentiating follow-ups provide teams with the chance to assess their teaching practices (Graham & Ferriter, 2008). Many teachers convey that behavioral concerns and home/community influences impact teaching and learning. An important initial step to identifying areas of improvement is collecting and analyzing student achievement data; however, becoming preoccupied with numbers alone does not solve the problem (Rasberry & Mahajan, 2008). Being results-oriented is one of the ways DuFour, DuFour, and Eaker (2006) described placing emphasis on student learning and achievement.

When teachers are faced with an abundance of requirements from district administrators, they strive to obtain stability in the classrooms (Rasberry & Mahajan, 2008). Innumerable professional development programs may even communicate contradictory approaches, which makes it more complicated for teachers to determine best practices for them and their students, which is the important factor. DuFour et al. (2006) stated the commitment to continuous learning is essential to teaching and learning. Being involved in so many projects simultaneously does not permit teachers to genuinely participate in the work of PLCs. Graham and Ferriter (2008) suggested observing peer lessons and the facilitation of cross-team conversations. By maintaining the professional requirements of their teachers, districts can offer the assistance necessary for successful PLCs (Rasberry & Mahajan, 2008).

Many school districts regularly forget to differentiate the professional development opportunities for their teaching staff when they plan workshops or in-service trainings (Rasberry & Mahajan, 2008). Graham and Ferriter (2008) stated differentiating follow-ups allow teachers to respond instructionally to student data. A huge basis of frustration among accomplished teachers is when their expertise and abilities to help their colleagues is not recognized by district leadership. Districts should admire the wisdom and abilities of accomplished teachers (such as National Board-certified teachers) and encourage teacher leadership by recognizing and supporting individuals who can offer professional development to their peers, face-to-face or virtually, while developing hybrid teaching and district coaching roles (Rasberry & Mahajan, 2008).

District guidelines can help support these approaches by

- distributing models for innovative scheduling to principals and their school leadership teams so teachers are able to apply larger quantities of time to collaborating across grade levels and content areas;
- reducing the number of new initiatives presented in the district so teachers are not exhausted and have the time necessary to comprehend one improvement and its elements before engaging in a new one;
- respecting the intelligence and abilities of accomplished teachers and encouraging innovation by improving hybrid teaching and district coaching tasks; and
- constructing district-wide PLCs, face-to-face and virtual, for collaboration of teachers across schools (Rasberry & Mahajan, 2008).

School Policies

The district should make the empowerment of teachers the nucleus of their guidelines by supporting PLCs, and school-based administrators should emphasize the idea by encouraging teacher leadership (Rasberry & Mahajan, 2008). Action from district leaders and school administration beyond the classroom is essential to maintaining a PLC's momentum (Graham & Ferriter, 2008). Change Principle 9 stated that mandates can work (Hall & Hord, 2015). Developing school guidelines that permit teachers to choose their areas for professional development within PLCs helps school administrators sustain teacher leadership through a bottom-up technique. Principals and teachers should operate collaboratively to attain shared understanding and encourage constant, articulate, and accurately aligned goals (Rasberry & Mahajan, 2008). When goals have been explained, further support, or funding, is necessary for teachers to foster their intelligence and abilities. Allen (2013) indicated that teacher groups are more concerned with the practice of community collaboration than with a precise outlook of the conclusion. Without the supplies and resources necessary to do so, district or school leaders should not expect teachers to increase their learning (Rasberry & Mahajan, 2008).

Generally, administrators have held exclusive responsibility for establishing the vision and appraising the success of the school (Rasberry & Mahajan, 2008).

School policies can encourage teacher leadership through PLCs by

- coaching and allowing all teachers to make decisions about their needs for professional learning;
- supplying funding and support for teachers to pursue their needs (through professional development, book clubs, etc.); and

- imploring feedback based on evaluation of PLCs and then sharing "lessons learned" (Rasberry & Mahajan, 2008, p. 8) with parents, fellow administrators, and district leaders.

How to Organize PLCs

To accurately accomplish PLCs in the manner intended, structured organization is mandatory (Rasberry & Mahajan, 2008). Both DuFour, DuFour, and Eaker (2006) and Graham and Ferriter (2008) agreed that having a shared vision and goals while planning and focusing on student learning positively affects student growth and achievement. Teachers may be dedicated to refining student learning through their PLCs. If their efforts for cooperative inquiry and decision-making are not flawlessly integrated into their full workday, PLC meetings merely become one more thing to check off their "to do" lists (Rasberry & Mahajan, 2008, p. 9). During planning and collective inquiry, teachers seek new methods of teaching and learning (DuFour, DuFour, & Eaker, 2006). For teachers to capitalize on their efforts in both the long- and short-term academic interventions of PLCs, there must be a deliberate approach to address the issues of time, member roles, and behavior. Change Principle 4 reassured us that organizations, or schools, adopt change; individuals, or teachers and instructional leaders, implement change (Hall & Hord, 2015).

By integrating PLCs into the school schedule, as opposed to forcing them in on random occurrences, school administrators allow their teachers to concentrate on collaborative and reflective tradition consistently (Rasberry & Mahajan, 2008). Defining explicit responsibilities, such as recognizing important objectives or creating common assessments, provides direction to a confusing and overwhelming process (Graham &

Ferriter, 2008). School leaders should be cautious not to overwhelm teachers by demanding numerous and repetitive meetings. Participants of each PLC should be able to decide how frequently they meet during the school day, within a scope of satisfactory guidelines. To increase efficiency of the teams and safeguard professional development for all members, PLC participants should take a moment to establish their own schedules that work best for their goals and anticipations (Rasberry & Mahajan, 2008).

Creating a set of flexible norms and regular agendas is beneficial to developing teams (Graham & Ferriter, 2008). After establishing a time for PLCs, the expectation should be for participants to create agendas describing how the time will be spent (Rasberry & Mahajan, 2008). Effective PLCs encourage the contribution and leadership of all their members. Creating a reliable set of norms for PLC participation requires time and dedication from each member. Participants are made aware of their professional expectations through clearly expressed norms (Rasberry & Mahajan, 2008).

With these philosophies in mind, teacher leaders from ASSET Online suggest the pursual of best practices for creating shared goals for teaching and learning:

- working from the bottom-up to form school goals and permitting teachers to create their own standards for teaching and learning
- inspiring and requiring teachers to discover research-based best practices
- assessing the development of PLCs toward goals several times during the year
- concentrating on PLC conversations related to teaching and learning
- identifying the worth and significance all teachers possess in influencing student success
- supporting teachers interested in completing peer observations and school-

wide learning walkthroughs (Rasberry & Mahajan, 2008).

Conclusion

Chapter 2 provided an overview of research conducted about best practices and key characteristics of effective PLCs. This review of the literature showed the foundation that has been laid by theorists and researchers regarding the need for a collaborative professional environment. The correlation between Graham and Ferriter's (2008) stages of implementation, Hall and Hord's (2015) change theory, and the compelling researchers in the area of PLCs was evident and important in implementing effective PLCs. These concepts have been combined with the research to show how PLCs were to be implemented and sustained. Based on the conceptual framework and literature review, PLCs were vital to the school community to build relationships, encourage collaboration, and improve student learning and achievement. Chapter 3 describes the school site for the 2020-2021 school year, the explanatory design method, and how the data were collected and analyzed.

Chapter 3: Methodology

The purpose of this study was to evaluate the current state of PLCs and provide recommendations for sustaining effective PLCs. This study evaluated teacher perceptions and helped develop and sustain effective PLCs. This study evaluated the effectiveness of the current PLCs at TES in hopes of sustaining effective ways of educating teachers and students. When PLCs are effectively implemented, research has shown that student data will increase (DuFour & Reeves, 2016).

Research Questions

To better understand PLCs at TES, the following research question and guiding questions were answered.

Research Question: How do teachers perceive PLC implementation at TES?

Guiding Question 1: What are teacher perceptions of PLC training and support at TES?

Guiding Question 2: What are teacher perceptions of the impact of PLCs on teacher knowledge, skills, and practices at TES?

Guiding Question 3: What are teacher perceptions of the impact of PLCs on student achievement?

Setting

At the time of research, TES was placed in the top 50% of all schools in North Carolina for overall test scores (math proficiency is in the top 50%, and reading proficiency is in the bottom 50%) for the 2018-2019 school year. There were 30 faculty and staff members presently serving children, 28 of them being classroom educators or assistants.

The enrollment for the 2020-2021 school year was 328 children. Of the 328, one was Native American, 24 were Asian, 22 were Black/African American, 204 were White, 40 were Hispanic/Latino, and 37 were Two or More Races. Of the students at TES, 58% were female and 48% were male. The goal of TES was, “To provide a safe environment where students can become critical thinkers and life-long learners with self-confidence and the ability to work cooperatively towards a productive life.” Due to the COVID-19 pandemic and in accordance with Governor Cooper’s Executive Order No. 117 (2020), technology was incorporated daily for students to build proficiencies and gain access to grade-level content through Canvas, Google Classroom, and various educational websites. The research site had access to Freckle, DreamBox, and Lexia to assist in teaching math and English language arts standards and they are also used for assessment. The learning management system of the school consisted of Canvas for students and educators as well as PowerSchool for educators.

Faculty Demographics

There were 33 faculty and staff members at TES. Of the 33, 30 of them were teachers; one is a White male, one is a Hmong female, and all others were White females. There were 28 classroom teachers. TES had 90% of licensed faculty members who were highly qualified according to NCLB standards.

The administrative team at TES consisted of one principal. The principal led the school with several years of teaching experience at the elementary and middle school levels. She was a White female with an elementary education degree from the University of North Carolina Greensboro and a master of education degree from North Carolina State. She has also obtained her administrative licensure.

Staff Demographics

Various staff worked to support teachers and children at TES. Of the support staff, there was one data manager, one bookkeeper, and seven educator assistants. TES had one full-time guidance counselor, one Title I reading teacher, and three pullout teachers (teachers who serve children one-on-one or in small groups to teach skills they have not mastered). There were two teachers of Exceptional Children (EC), one teacher of ELL, one speech pathologist, one speech pathologist assistant, and one Title I coordinator. There were two kindergarten teachers, two first-grade teachers, one kindergarten/first-grade combination teacher, two second-grade teachers, two third-grade teachers, one second/third-grade combination teacher, two fourth-grade teachers, and two fifth-grade teachers. Of these staff members, 30 teachers were invited to participate in the study.

Purpose of the Study

The intention of this study was to determine the current status of PLCs by gaining insight into teacher perceptions of PLCs at TES. I initially considered conducting a program evaluation of PLCs at this school; however, due to the changes in instructional and assessment practices during the COVID-19 pandemic, teacher perceptions, implementation, and effectiveness of their PLC became more of the focus. Under the current circumstances, I thought it would be difficult to comparatively evaluate the effectiveness of a program when instructional and assessment practices have changed so dramatically since March 2020. However, PLCs remained in effect at TES; and I was curious about the ways in which PLCs were working or have adapted during this time of change. Further, the closing of schools due to the COVID-19 pandemic, according to

Governor Cooper's Executive Order No. 117 (2020), changed the way PLCs occur. The collaboration among teachers, the data used to determine student learning and growth, and the relevance of the data analysis regarding the PLCs had an impact on how PLCs were implemented. Data collected from this study worked to improve PLCs, which have been known to increase student learning and help build a collaborative environment for effective PLCs, even in uncommon times (DuFour & Reeves, 2016).

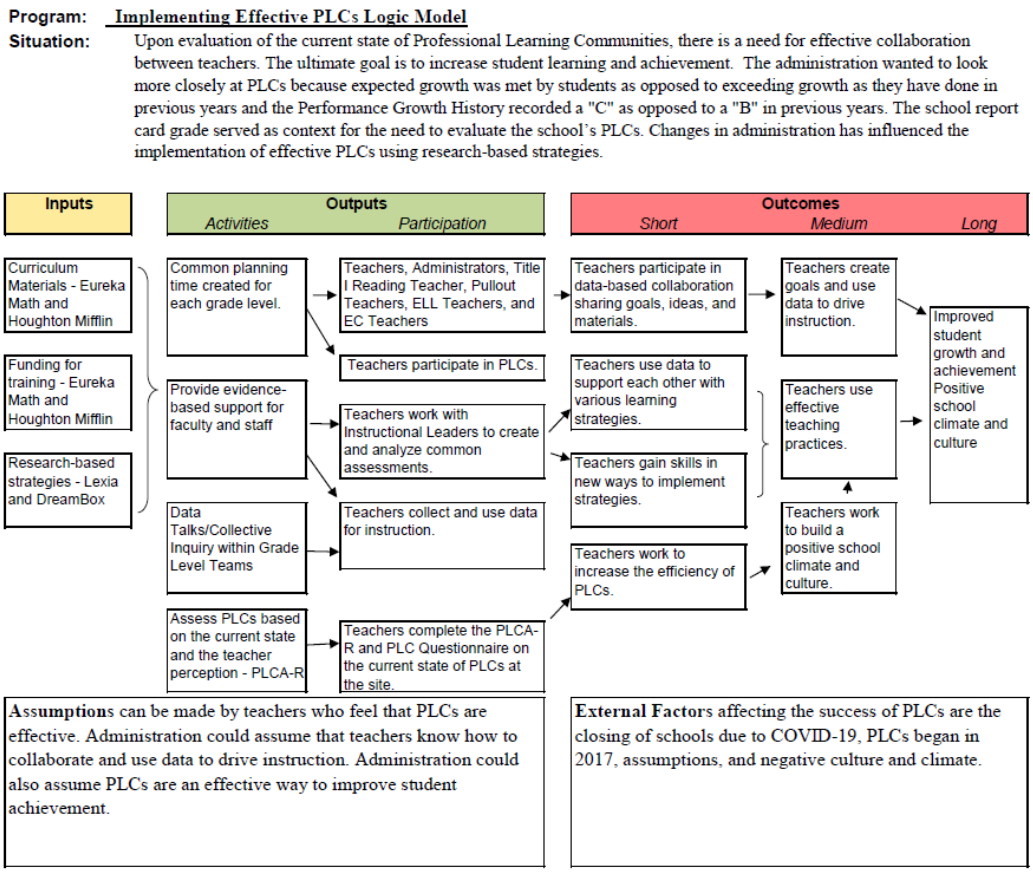
PLCs at TES

Logic models were used to plan, describe, and evaluate this program. Creation of the logic model for implementing effective PLCs (Figure 1) included consideration of the current situation, implementation activities, and goals for effective PLCs at TES. The logic model was created to guide the collection and analysis of data during the study. The logic model was used to describe PLC implementation at TES.

I asked the principal for information regarding the beginning of PLCs under her leadership. The principal was able to provide a description of how PLCs were initiated at the school in 2017. The administration was interested in increasing and maintaining student learning and teacher collaboration. Figure 5 is a logic model created to visually represent the current PLC implementation at TES.

Figure 5

Logic Model for Implementing Effective PLCs



Situation

Upon evaluation of the current performance grade score history, there was a need for effective collaboration between teachers. The administration decided to look more closely at PLCs because even though expected growth was met based on the North Carolina School Report Card, the performance grade score has remained in the 60s since 2016. The report card grade served as context for the need to evaluate the school's PLCs. With the release of the school report card in North Carolina, schools look to make improvements to enhance teaching and learning at the site. The ultimate goal of PLCs is

to increase student learning and achievement.

Inputs

Inputs included the staff, faculty, instructional leaders, and administration. Each of these positions played an important role in the implementation of effective PLCs at TES. The administration and instructional leadership team shared expectations with faculty and staff based on the needs of students, data gathered, and planning individualized instruction to address achievement gaps.

The district adopted research-based curriculums for both math and reading instruction. At the time of this study, the math curriculum was Eureka, supported by Dreambox and Freckle, along with Houghton Mifflin, supported by Lexia as the language arts curriculum. With these curriculums, resources were provided to teach using district funds. There were district-mandated trainings, and coaches met with teachers and instructional leaders monthly. Additional resources included but were not limited to websites and instructional videos for students.

Outputs

Outputs of PLC implementation included the creation of common planning time for each grade level provided by the administration during the daily schedule. During the study, each grade level had 45 minutes each day for common planning time, while students were in specials (e.g., music and PE). During this time, teachers planned for daily instruction and shared strategies for teaching and learning. Weekly, teachers and specialists met with instructional leaders, including the Title I reading teacher and pullout teachers such as EC and ELL teachers, to collaborate and discuss the data collected for the week. The information for data collection and analysis was dispersed by the

administration and supported through conversations offered for data analysis of student learning.

Instructional leaders provided support for teachers that included data talks, collective inquiry for teacher strategies, and collaborative planning throughout the grade levels. During data talks, teachers discussed the most recent data with instructional leaders. Gains and losses, strategies for improvement, and instructional next steps were also discussed. Collective inquiry included sharing strategies for teaching and learning with other teachers on the grade level, EC teachers, and the ELL teacher. Collaborative planning begins with the teachers on the grade level. Higher order thinking and discussion of the upcoming lessons in the curriculum occurred also during this time.

Short-Term Outcomes

The short-term intended outcomes included teachers participating in PLCs with fidelity. All teachers at TES participated in data-based collaboration sharing goals, ideas, and materials. During these meetings, the short-term goal was for teachers to use data to support each other with various learning strategies. The instructional leaders' goal was to provide additional support for their colleagues so teachers could gain or improve their skills for implementing strategies and plan differentiated lessons for their students. In addition, teachers worked to increase self-efficacy through PLCs to become confident in their abilities. They were also able to share student data to increase student learning across grade levels.

Medium-Term Outcomes

The medium outcomes focused on teachers creating goals and using data to drive instruction. By using an ongoing analysis of student learning data, it was expected that

teachers use the data to identify appropriate ways to teach new strategies. As the year progressed and support was given, the medium-term goal was for teachers to use the resources gained in PLCs to plan effective lessons. In doing so, teachers would analyze learning data throughout the year to improve student outcomes. Through a level of trust, teachers would be more comfortable having tough discussions about data and student achievement, the climate would improve, and students would be provided with improved data-based instruction. Teachers at TES have been working on building a positive school climate and culture through collaboration and collective inquiry. Collaboration between teachers can influence student collaboration and learning through inquiry. It was the goal that everyone worked together to have a positive influence on student learning and eventually student achievement. These outcomes could not only affect student success but also hold teachers accountable for their own learning.

Long-Term Outcomes

The long-term outcomes were the ultimate goals of effective PLCs. The long-term outcome focuses simply on the teachers building a culture of collaboration in which teachers regularly examine student learning data and share plans for instruction and resources. As a result, student learning would improve. As teachers gained skills for implementing strategies with confidence, student growth and achievement would improve classroom assessments, district benchmark assessments, and end-of-grade state assessments. Based on past school report cards, student achievement declined in 2016 and 2018. When I looked at past school report cards and student achievement, the goal was to build a collaborative environment for students and teachers where growth and development moved in a positive direction. With collaboration among all learners,

students and teachers could learn and grow together.

Assumptions

By implementing PLCs at TES, certain assumptions were made by administrators, teachers, and me. It was assumed that there was teacher buy-in and teachers felt PLCs are an effective way to improve student achievement; however, it was understood that some teachers may not share this same belief at this time. An additional assumption was that teachers knew how to collaborate and use data to drive instruction after engaging in the trainings provided by the school and district. These assumptions could have affected the effectiveness of PLCs if the staff was not trained or held accountable for the implementation of PLCs with fidelity.

External Factors

There are external factors that may have an impact on the outcomes of PLC implementation at TES. Teachers may not have experienced effective PLCs in the past and therefore may or may not have been aware of what effective PLCs entailed. The administration began PLCs in 2017. There may have been a lack of knowledge and understanding at that time. In addition, there may have been some pushback from veteran teachers.

Another significant external factor that had an impact on PLC implementation at TES is schools having to provide remote instruction according to Governor Cooper's Executive Order No. 117 (2020). With the COVID-19 pandemic, school buildings were closed, and teachers were tasked with teaching remotely. PLCs were affected, along with the data used for analysis and the relevance of the data used as a result of moving to remote learning during this unprecedented time. Although this external factor was beyond

the control of the school system, school leaders were adamant about conducting PLCs and offering support for teachers. Teachers were questioning the relevance of the data collected because students were home with parents and guardians, students may or may not have been learning as they would face to face, and there were a number of students not participating in remote learning. These attitudes and beliefs may have caused an impact on PLC implementation during this time.

Sampling

Purposeful sampling was used to invite educators to participate in this study. This method applied in research was selected in order to choose participants with specific attributes (Johnson & Christenson, 2014). In single-stage sampling, names of the contributors are obtainable and can be directly communicated with by the researcher (Creswell, 2015). This purposeful sampling practice permitted inclusion of all educators who contributed to PLCs at TES. Educators were required by administration to participate in PLCs; therefore, all educators who participated in the study were invited to participate. Thirty educators at TES were invited to participate in the PLCA-R survey (Phase 1). Then, participants were invited to participate in interviews and/or focus groups (Phase 2). It was my goal to have at least one representative from each grade level participate in the interviews to learn more about PLC implementation. Further, I hoped also to include additional grade-level representatives in the focus groups to elaborate on the school's culture. However, due to a lack of voluntary participation for interviews and focus groups, I decided to revise my Phase 2 plan and send out an open-ended questionnaire instead. The questionnaire was sent out to the same 30 teachers who received the PLCA-R survey. More information about the questionnaire is provided in

the instrumentation section of Chapter 3.

Privacy and Considerations

Educators completed and signed an informed consent form prior to participating in the study. Participation was voluntary and participants were assured that discontinuation may occur at any time. Pseudonyms were used as a reference to the district and school. Participants were referred to as educator and a corresponding numeral. No participant was awarded monetarily or given any other compensation for participation in the study. Survey responses and interview transcripts were not shared with anyone including other participants in the study. An explanation of data collection and analysis processes and approaches was provided for all participants. Data collected remained anonymous and stored and then was shredded at the conclusion of the study.

Methods

I used multiple sources of data to design a thorough study. A mixed methods case study with an explanatory sequential research design (Figure 6) is one in which I conducted quantitative research first, then analyzed the results prior to continuing with qualitative data collection and analysis (Creswell & Creswell, 2018). The research was considered explanatory because the quantitative data results were explained further using qualitative data. This design often attracts quantitative researchers because it begins with a solid quantitative orientation (Creswell & Creswell, 2018).

Figure 6

Explanatory Sequential Design

Cook and Kamalodeen (2018) explained that case studies can use mixed methods designs and are not two separate entities. They can be used together to better understand single cases that are best investigated using qualitative and quantitative measures. Cook and Kamalodeen further noted Simons's definition of a case study to include an "in-depth exploration from multiple perspectives of the complexity and uniqueness of a particular project, policy, institution, programme, or system in a real-life context…the primary purpose is to generate an in-depth understanding of a specific topic" (p. 9). An explanatory sequential design was still a viable methodological option in a case study according to Cook and Kamalodeen and fit the needs of this study's goals as well because the focus was to learn more about PLC implementation at TES.

The explanatory sequential mixed methods approach appeals to researchers with a strong quantitative background or from fields relatively new to qualitative approaches (Creswell & Creswell, 2018). This study involved two phases of data collection in which I collected quantitative data (Phase 1), analyzed the results, and used the results to plan in the qualitative, Phase 2. The intent of this design was to have the qualitative data

facilitate an explanation with more details in the initial quantitative results (Creswell & Creswell, 2018).

Creswell (2015) referred to the explanatory design as the most straightforward of the mixed methods designs. The benefits of this design included its two-phase configuration which makes it straightforward to implement. I managed the two methods in distinct phases while collecting only one type of data at a time (Creswell, 2015). Single researchers can conduct this design; therefore, a team of researchers is not required to execute the design. At the time of the research, the final report was written straightforwardly, in two phases, providing a clear description for readers. This design offered a multiphase investigation and single mixed methods studies (Creswell, 2015).

While an explanatory design is straightforward, there were still challenges specific to this design. This design requires a substantial amount of time for implementing both phases. Adequate time was created for both the quantitative and qualitative phases. For the qualitative phase, the decision was made regarding which quantitative results needed further explanation, and new questions were generated based on those data. This part of the research plan could not be established until after completion of the quantitative phase.

Data Collection

The data collection was completed in two separate phases, quantitative then qualitative (Creswell & Creswell, 2018). The main idea was that the collection of qualitative data built directly on the quantitative results. The qualitative data were derived from the participants who participated in the quantitative phase because the goal of the design was to follow up the quantitative results and explore those results in more depth

(Creswell & Creswell, 2018).

A survey, grade-level chair interviews, and two small focus groups were initially planned to serve as the primary data collection instruments. True to a mixed methods explanatory sequential design, the survey data were collected and analyzed first; however, the plan was changed after Phase 1 data collection due to lack of voluntary participation in the interviews or focus groups. Therefore, an open-ended questionnaire replaced the interviews and focus groups (Phase 2). Initial questions were asked that broadly covered PLC implementation, and more specific questions were asked based on survey results to dig deeper and gain clarification as needed.

Instrumentation

In Rasberry and Mahajan's (2008) study, data revealed that effective administrators rely on their teachers for information for an accurate depiction of the school's improvement as well as to acquire ideas on how to improve functionality. In this study, data were collected using two primary instruments to learn more about those perceptions: (a) the PLCA-R survey and (b) an open-ended questionnaire.

PLCA-R

The PLCA-R is a paper/pencil or online assessment generated to evaluate classroom and school-level procedures concerning shared and supportive leadership, shared values and vision, collective learning/application, shared personal practice, and supportive conditions. The initial step in the study included administering a survey using the online assessment option. At the time of the research, an online survey was an efficient method for disseminating and gathering data. The survey instrument has been authenticated in other studies by Wortham (2018) and Hipp and Huffman (2010).

This survey identified educator perceptions involving the elements of a PLC, specifically shared and supportive leadership, shared values and vision, collective learning/application, shared personal practice, and supportive conditions (Hipp & Huffman, 2010). The PLCA-R was preferred due to its widespread use across the United States (Wortham, 2018). The survey also allowed for an evaluation of the dimensions of internal consistency and has been administered in many schools while supporting educators in determining educator perceptions of school procedures related to PLCs (Hipp & Huffman, 2010). This online instrument provided ease of use and viewing data is simple to disperse to authorized participants. The survey was free for participants, with the cost for online administration averaging $2.00 per survey respondent. The cost of the survey was paid for by me.

The PLCA-R survey used a 4-point Likert scale ranging from 1-4 (strongly disagree to strongly agree). The survey contained six sections that are based on the research of Hipp and Huffman (2010) and comprise the characteristics of effective PLCs of DuFour, DuFour, and Eaker (2006). The six sections included shared and supportive leadership, shared values and vision, collective learning and application, shared personal practice, supportive conditions–relationships, and supportive conditions–structures. The results helped to establish the strengths and weaknesses of PLC practices at the site (Hipp & Huffman, 2010). The PLCA-R website reported results to me when all surveys were completed, and I associated the outcomes with the corresponding research questions (Table 3).

Table 3

Alignment of Research Questions to PLCA-R

Research questions	PLCA-R dimension
Research Question: How do teachers perceive PLC implementation at TES?	Shared values and vision Supportive conditions–structures
Guiding Question 1: What are teacher perceptions of PLC training and support at TES?	Shared and supportive Leadership
Guiding Question 2: What are teacher perceptions of the impact of PLCs on teacher knowledge and skills at TES?	Shared personal practice Collective learning and application
Guiding Question 3: What are teacher perceptions of the impact of PLCs on student achievement?	Supportive conditions–relationships

Urdan (2017) defined reliability as Cronbach's alpha analysis. Reliability referred to the internal consistency of a set of items (Urdan, 2017). Additionally, it revealed to us the degree to which the results can be replicated when the research is recurrent under the same conditions (Middleton, 2020). Also, reliability is assessed by examining the consistency of results over time, with different observers, and through parts of the test itself (Middleton, 2020). This survey assessed the perceptions about the principal, staff, and stakeholders based on the dimensions of a PLC and attributes associated with PLCs. It was important for the survey results to be reliable in order to collect the necessary data for the effective implementation of PLCs. This survey contained statements about practices occurring in some schools. The subsequent coefficient of reliability ranged from 0 to 1 in providing the assessment of a measure's reliability (The University of Virginia Library, 2020). If all items of the survey were completely independent of one another, then the coefficient is 0 (The University of Virginia Library, 2020). If all items had high

covariances, then the coefficient would approach 1 (The University of Virginia Library, 2020). The most current examination of this diagnostic tool confirmed internal consistency resulting in the following Cronbach alpha reliability coefficients for factored subscales (n=1,209):

- shared and supportive leadership (.94)
- shared values and vision (.92)
- collective learning and application (.91)
- shared personal practice (.87)
- supportive conditions-relationships (.82)
- supportive conditions-structures (.88)
- a one-factor solution (.97; PLC Associates, 2020)

In order to conduct and analyze the data for the study, an alignment had to be made between the research questions and the PLCA-R dimensions (Table 3). The dimensions are directly related to the research question and the three guiding questions.

The research question asked, “How do teachers perceive PLC implementation at TES?” The PLCA-R addressed shared values and vision and supportive conditions–structures, including statements in these sections that provided answers to support the research question. A few of the statements addressed the collaborative process, shared visions for school improvement, and stakeholder involvement. For example, one statement on the PLCA-R indicated, “Decision-making takes place through committees and communication across grade and subject areas” (Hipp & Huffman, 2010, p. 2). This statement attempted to gain perceptions on decision-making and leadership.

Guiding Question 1 asked, “What are teacher perceptions of PLC training and

support at TES?" The PLCA-R addressed shared and supportive leadership and shared personal practice, including items that provided answers to support the first guiding question. The PLCA-R addressed the staff members being involved in discussing and making decisions about most school issues, the principal sharing responsibility and rewarding innovative actions, opportunities for staff members to observe peers and offer encouragement, and staff members sharing ideas and suggestions for improving student learning. For example, one statement on the PLCA-R indicated, "Leadership is promoted and nurtured among staff members" (Hipp & Huffman, 2010, p. 2). This statement looked to gain teacher perceptions on how the administration promotes leadership among teachers in the building.

Guiding Question 2 asked, "What are teacher perceptions of the impact of PLCs on teacher knowledge and skills at TES?" The PLCA-R addressed collective learning and application–communication which included items that provided answers to support the second guiding question. The PLCA-R addressed staff members planning and working together for solutions to concentrate on diverse student needs, professional development focusing on teaching and learning, and staff members analyzing several sources of data to assess the effectiveness of instructional practices. For example, one statement on the PLCA-R indicated, "Professional development focuses on teaching and learning" (Hipp & Huffman, 2010, p. 4). This question asked teachers their perceptions of how relevant professional development is for student development.

Guiding Question 3 asked, "What are teacher perceptions of the impact of PLCs on student achievement?" The PLCA-R addressed supportive conditions–relationships which included items that provided answers to support the third guiding question. A few

of the statements addressed a culture of trust and respect, taking risks, and school staff and stakeholders exhibiting a sustained and unified effort to embed change into the culture of the school. Professional development focused on teaching and learning. For example, one statement on the PLCA-R indicated, “Staff members informally share ideas and suggestions for improving student learning” (Hipp & Huffman, 2010, p. 5). Another item was, “Staff members regularly share student work to guide overall school improvement” (Hipp & Huffman, 2010, p. 5). These statements considered teacher perceptions on the use of data to drive instruction.

Open-Ended Questionnaire

I created an open-ended questionnaire that included items from the originally planned interview as well as new questions that helped me understand the data collected from the PLCA-R Survey. The interview questions would have been as follows:

- What do PLCs at TES entail?
- What would you say is similar and different as a result of PLC implementation?
- How is student learning being affected by their teachers working in PLCs?

Therefore, the new questionnaire included the above questions plus the following based on the survey data analysis:

- What training and support have you received for the implementation of PLCs? (Guiding Question 1)
- What suggestions do you have for training and support that your school could benefit from to improve PLCs? (Guiding Question 1)
- According to the survey, your school has built trust and has caring

relationships. How do trust and relationships have an impact on PLCs at the site? (Guiding Question 2)

- According to the survey, many teachers indicated that sharing personal practices happens at your school. How or when does that occur? (Guiding Question 2)
- What would you say has improved as a result of PLC implementation at your school? (Guiding Question 2)
- According to the survey, teachers believe that they do not get to receive feedback from peers often. How would peer observations or feedback benefit student learning at your school? (Guiding Question 3)
- How is the student learning data used to drive instruction and increase student achievement? (Guiding Question 3)

Data Analysis

Using the mixed methods explanatory sequential design, the quantitative and qualitative data were analyzed individually (Creswell & Creswell, 2018); first the quantitative and then the qualitative. The quantitative results were later used to develop the qualitative follow-up. A vital area of this design was that quantitative results not only inform the sampling procedure but also pointed toward the types of qualitative questions to ask participants in the second phase (Creswell & Creswell, 2018).

The purpose of the design was to have the qualitative data provide more depth and insight into the quantitative results. After presenting the general quantitative and then the qualitative results (Table 3), an interpretation of how the qualitative results worked collectively to expand the explanation of the quantitative results will follow (Creswell &

Creswell, 2018).

A mixed method study was chosen based on the PLCA-R, which is a survey that uses a Likert scale. The Likert scale used a 4-point range (1-4) to determine teacher perceptions of PLCs at TES during Phase 1 of the study. When these data were analyzed, I used them to determine additional questions for the PLC Questionnaire. By the conclusion of the study, all the data collected were summarized and reported qualitatively.

An explanation of the procedures that were conducted throughout both phases of the study was explained (Table 4). During Phase 1, teachers who have given consent completed the PLCA-R survey. The survey data were analyzed through the website and provided using descriptive statistics based on the responses provided by teachers. In the transition between Phases 1 and 2, additional questions were created based on the responses provided in the survey.

Table 4

Method and Procedure for Sequential Explanatory Design

Phase	Procedure	Product
Phase 1 survey data collection	PLCA-R survey distributed to teachers	Numeric data on a Likert scale
Phase 1 survey data analysis	Survey analysis provided by the creators.	Descriptive statistics Comparison of survey data
Connecting Phase 1 and Phase 2 components	Using the PLCA-R to create the PLC Questionnaire	PLCA-R results Completed PLC Questionnaire
Phase 2 PLC Questionnaire data collection	Questionnaire distributed to teachers by the administration	PLC Questionnaire
Phase 2 PLC Questionnaire data analysis	Coding and thematic analysis	Codes and themes from the results of the PLC Questionnaire

During Phase 2, I was tasked with creating an open-ended questionnaire. Teachers at TES did not volunteer to participate in the focus groups or grade-level chair interviews when the invitation was extended to them. Because this study used an explanatory sequential mixed methods approach, a qualitative phase was needed. Using the results from the PLCA-R, I created the PLC Questionnaire, comprised of open-ended items, for teachers to complete for the qualitative phase of the study.

Quantitative Data Analysis

This study collected survey data and substantiated the findings using the PLC Questionnaire data. Data from the PLCA-R were analyzed and organized manually through an online survey. The data collected through the survey were translated into

categories using the Likert scale, rankings 1-4 with one being the lowest and four being the highest. To initially understand this particular set of data, I examined, summarized, and studied it for trends. The method of concentrating on examining, summarizing, or studying data was recognized as descriptive statistics (Johnson & Christensen, 2014). Descriptive statistics simply described the data. The data collected from the survey provided me with the opportunity to review the dimensions for internal consistency (PLC Associates, 2020). The reports provided included the mean score for each item and an overall score for the PLC elements individually (PLC Associates, 2020).

The PLCA-R items explained school-level habits (PLC Associates, 2020). Analysis of the measure integrated a review of specific items to determine the strengths and weaknesses of vital practices within a PLC (PLC Associates, 2020). PLC Associates (2020) provided steps for interpreting the data. The attributes were viewed individually to determine the highest and lowest scores (PLC Associates, 2020). Next, the focus was on the dimension sections to determine the dimensions with a majority of high or low scoring attributes (PLC Associates, 2020). There was a focus on the overall outcomes at the dimension levels to conclude if there is a pattern of high or low scores (PLC Associates, 2020). A score of 3 or higher indicated universal agreement with the attribute (PLC Associates, 2020). These scores were used to better understand teacher perceptions of PLCs at TES.

Qualitative Data Analysis

Phase 2 of this study involved an open-ended questionnaire created for the teachers at TES. I used the results from the PLCA-R to create the PLC Questionnaire to collect qualitative data from the teachers about PLC implementation at TES. It was my

hope that teachers would be more apt to participate in an anonymous questionnaire in lieu of the interviews and focus groups since they were willing to participate in the PLCA-R survey. The PLC Questionnaire was completed by 18 of the 30 eligible teachers at TES. Table 5 provides an overview of the data analysis plan as it relates to my research question and guiding questions.

Table 5

Alignment of Research Questions and Data

Research questions	Data collection	Data analysis
Research Question: How do teachers perceive PLC implementation at TES?	PLC Questionnaire	Inductive coding Alignment with PLC developmental stages
Guiding Question 1: What are teacher perceptions of PLC training and support at TES?	PLC Questionnaire PLCA-R	Inductive coding Mean scores Graphical representations
Guiding Question 2: What are teacher perceptions of the impact of PLCs on teacher knowledge and skills at TES?	PLC Questionnaire PLCA-R	Inductive coding Mean scores Graphical representations
Guiding Question 3: What are teacher perceptions of the impact of PLCs on student achievement?	PLC Questionnaire PLCA-R	Inductive coding Mean scores Graphical representations

In an effort to be intentional with the information presented and gathered, each instrument used in the study was aligned to collect the most effective data. The PLCA-R survey provided an initial understanding of teacher perceptions at TES. Through the results of the data collected, I was able to look further into teacher perceptions with specific questions in the PLC Questionnaire. Participant responses led to a deeper understanding of the implementation of PLCs.

The PLC Questionnaire was created to answer the research question and guiding questions. Participants were very specific in their responses to the questions and provided insight into teacher perceptions. In Phase 2, the qualitative phase of the study, participants provided responses for the questions related to how effective they felt PLCs were at the site. The goal of the PLC Questionnaire was to discover how well teachers collaborated, when they collaborated, and how often they were able to meet to discuss student data and plan with their teammates or colleagues on other grade levels. It was my goal to gain further insight into teacher perceptions based on their individual responses to the PLC Questionnaire.

Participants

There were 33 faculty and staff members at TES; of the 33, 30 were eligible participants for the study. One participant was a White male, one was a Hmong female, and all others were White females. There were 28 classroom teachers. TES had 90% of licensed faculty members who were highly qualified according to NCLB standards.

Timeline

The study was conducted during the fall semester beginning in late September with the PLCA-R. All teachers who chose to participate were allowed to take the survey. By mid-October, after the survey was completed, I analyzed data from the surveys in preparation for the focus groups and interviews; however, because there was little interest in participating in the focus groups or interviews, an open-ended questionnaire was designed and disseminated to gain more insight into the effectiveness and implementation of PLCs. These data were collected in late December.

Limitations

This study focused exclusively on the educators of TES. Researchers should not generalize if research was based solely on one school. No generalizations were made with an inadequate number of participating teachers at a single school.

During the study, it was my goal to eliminate all biases through the confidentiality of surveys. Because the surveys were completed electronically with no names provided, teachers were more apt to answer the questions truthfully.

Another limitation that could have affected the study was the timing of the PLC Questionnaire. The questionnaire was approved to be sent to the administration of TES 2 weeks prior to winter break. The principal agreed to distribute the questionnaire prior to winter break. Because of this timing, it could have limited participation in the study.

Delimitations

Based on student achievement data, there was a need to research the current state of the PLCs at TES. The study had been developed around this site in order to improve student learning and achievement. This study was limited to TES in order to implement and sustain effective PLCs at the site. A program evaluation was considered, but the explanatory sequential design was selected to better understand teacher perceptions of PLC implementation during this time of uncertainty and change. I conducted a mixed method study that combined one site as a single case study. I chose to complete this study at TES to collect the data for teacher perceptions and opinions of the success of implementing PLCs at this site. This combination of a mixed methods case study provided me the detailed information through the PLCA-R survey and open-ended questionnaire to thoroughly explore my topic before expanding to other schools.

Summary

Chapter 3 described the mixed methods design that was used to conduct this study. The explanatory sequential design is a mixed method design that involved a survey and open-ended questionnaire, permitting me to determine educator perceptions related to the implementation of effective PLCs at TES. The quantitative data collection and analysis plan were described. The data were then used to create an open-ended questionnaire to further elaborate on the survey findings and to learn more about educator perceptions of PLC implementation at TES. Chapter 4 presents the findings, and Chapter 5 explains implications and makes recommendations for future research.

Chapter 4: Results

Introduction

The purpose of this study was to examine teacher perceptions of the level of implementation and effectiveness of PLCs. The concept of practice that motivates the nation's reform agenda demands that teachers reconsider their own practice, create new classroom roles and expectations about student outcomes, and provide instruction in various ways (Darling-Hammond & McLaughlin, 1995). Adapted to fit the world of education, the notion of a learning organization developed into that of a learning community that would attempt to advance the principles of collaborative work for teachers (Thompson et al., 2004).

The introduction, Chapter 1, allowed us to revisit the history of educational reform and reasons for the creation of PLCs. Chapter 1 discussed how PLCs came about and why they are important. Chapter 2 revealed considerable research surrounding the creation of steps for implementation and showed countless research on the inspiration behind the creation of steps for implementation and approaches to sustaining effective PLCs. Chapter 3 described the explanatory sequential mixed methods research design based on the research of Creswell and Creswell (2018). This chapter conveys the results of the process used to conduct this study, along with the results of each phase of the study.

Research Questions

To better understand PLCs at TES, the following research question and guiding questions are answered.

Research Question: How do teachers perceive PLC implementation at TES?

Guiding Question 1: What are teacher perceptions of PLC training and support at TES?

Guiding Question 2: What are teacher perceptions of the impact of PLCs on teacher knowledge, skills, and practices at TES?

Guiding Question 3: What are teacher perceptions of the impact of PLCs on student achievement?

An Overview of the Methodology

The purpose of this study was to determine teacher perceptions of PLCs at TES. Teachers completed an online survey, the PLCA-R, using a 4-point Likert scale ranging from 1-4 (strongly disagree to strongly agree). The survey contained six sections that are based on the research of Hipp and Huffman (2010) and comprised the characteristics of effective PLCs of DuFour, DuFour, and Eaker (2006).

All teachers were invited to complete the survey in Phase 1 of the study. These data provided supplemental information that served as a springboard for qualitative data collection. When the survey was completed, the data were analyzed prior to conducting Phase 2 of the study.

Phase 2 of this study was revised after Phase 1 concluded. The original Phase 2 plan would have included interviews with grade-level chairs and focus groups with teachers; however, this data collection plan for Phase 2 had to be revised based on a lack of voluntary participation. The revised methodology for Phase 2 replaced the focus groups and interviews with an open-ended questionnaire using the originally planned interview questions and additional questions generated based on data collected from the PLCA-R survey. More information about that instrument is presented in the following

sections.

Participants for Phases 1 and 2

There were 33 faculty and staff members at TES; of the 33, 30 were eligible participants for the study. Fourteen of the 30 staff members participated in Phase 1 of the study by completing the PLCA-R survey. Of the 14 staff members, three were kindergarten teachers, two were first-grade teachers, three were second-grade teachers, one was a third-grade teacher, two were fourth-grade teachers, two were fifth-grade teachers, and one was a special education teacher.

In Phase 2, 18 participants completed the open-ended survey for the qualitative phase of the study. These participants consisted of classroom teachers who participate in PLCs. The survey was anonymous; therefore, I am unable to determine the grades or subjects they teach; however, I assigned each participant a number such as Educator 1 or Educator 2 to more clearly analyze data from an anonymous questionnaire.

Data Collection Instruments

Upon IRB approval, I sent an email including the link to the PLCA-R to the 30 eligible staff members. On September 21, 2021, the PLCA-R survey (Appendix A) was distributed to all teachers at TES. An email was sent by the principal at the close of a staff meeting explaining the purpose of this study (Appendix B). A deadline of December 31, 2021 was specified for survey completion.

The PLCA-R is a paper/pencil or online assessment generated to evaluate classroom and school-level procedures concerning shared and supportive leadership, shared values and vision, collective learning/application, shared personal practice, and supportive conditions. The survey instrument has been validated in other studies by

Wortham (2018) and Hipp and Huffman (2010). PLCA-R is preferred due to its widespread use across the United States (Wortham, 2018). The PLCA-R survey uses a 4-point Likert scale ranging from 1-4 (strongly disagree to strongly agree). The results help establish the strengths and weaknesses of PLC practices at the site (Hipp & Huffman, 2010).

At the end of the survey was a question that invited participants to continue participating in the study as an interviewee or focus group member. The overall response rate was .02%. Because of the lack of volunteer participation, the interview and focus group phase of data collection was changed to an open-ended questionnaire.

Eighteen educators participated in Phase 2's open-ended questionnaire. Participants were sent a link via email and asked to complete the survey based on how they perceived PLCs at TES. Participants answered open-ended questions as a part of Phase 2 of the study.

I created an open-ended questionnaire for Phase 2. The questionnaire included the following items:

- What do PLCs at TES entail?
- What would you say is similar and different as a result of PLC implementation?
- How is student learning being affected by their teachers working in PLCs?
- What training and support have you received for the implementation of PLCs? (Guiding Question 1)
- What suggestions do you have for training and support that your school could benefit from to improve PLCs? (Guiding Question 1)

- According to the survey, your school has built trust and has caring relationships. How do trust and relationships have an impact on PLCs at the site? (Guiding Question 2)
- According to the survey, many teachers indicated that sharing personal practices happens at your school. How or when does that occur? (Guiding Question 2)
- What would you say has improved as a result of PLC implementation at your school? (Guiding Question 2)
- According to the survey, teachers believe that they do not get to receive feedback from peers often. How would peer observations or feedback benefit student learning at your school? (Guiding Question 3)
- How is the student learning data used to drive instruction and increase student achievement? (Guiding Question 3)

Table 6 displays the alignment of the research questions, PLCA-R, and PLC Questionnaire. Additional explanations regarding the decision to add certain questions to the PLC Questionnaire are provided in the data collection section of this chapter.

Table 6

Alignment of Research Questions, PLCA-R, and PLC Questionnaire

Research questions	PLCA-R results	PLC Questionnaire
Research Question: How do teachers perceive PLC implementation at TES?	Collective learning and application (Questions 21-30) which resulted in a score of 3.23.	What would you say is similar and different as a result of PLC implementation? What would you say has improved as a result of PLC implementation at your school?
Guiding Question 1: What are teacher perceptions of PLC training and support at TES?	Shared and supportive leadership (Questions 1-11) and supportive conditions–structures (Questions 43-52) which resulted in a score of 3.13.	What do PLCs at TES entail? What training and support have you received for the implementation of PLCs? What suggestions do you have for training and support that your school could benefit from to improve PLCs?
Guiding Question 2: What are teacher perceptions of the impact of PLCs on teacher knowledge and skills at TES?	Collective learning and application (Questions 21-30) which resulted in a score of 3.23	According to the survey, your school has built trust and has caring relationships. How do trust and relationships have an impact on PLCs at the site? According to the survey, many teachers indicated that sharing personal practices happens at your school. How or when does that occur? How is student learning being affected by teachers working in PLCs? According to the survey, teachers believe that they do not get to receive feedback from peers often. How would peer observations or feedback benefit student learning at your school?
Guiding Question 3: What are teacher perceptions of the impact of PLCs on student achievement?	Questions 14, 17, 19, 20, 28, 30, and 52 refer to data, data analysis, and student achievement which resulted in a score of 2.85.	How is the student learning data used to drive instruction and increase student achievement?

Findings from Quantitative Research

Hipp and Huffman's (2010) PLCA-R has six dimensions. Each dimension

addresses a different attribute of PLCs. The PLCA-R is a validated instrument used to assess classroom and school-level practices about the PLC dimensions of shared and supportive leadership, shared values and vision, collective learning and application, shared personal practice, and supportive conditions (Hipp & Huffman, 2010). The PLCA-R used the 4-point Likert scale from strongly disagree (1) to strongly agree (4). According to Hipp and Huffman, scores of 3 or higher show general agreement with the attribute, and the calculated standard deviation accounts for outliers. A smaller standard deviation indicates greater agreement, while a larger one designates less agreement among survey participants.

PLCA-R Interpretation Steps

The PLCA-R instrument provided steps for interpretation of the survey results. Data analysis included

- viewing the attributes (item statements) individually to establish the highest and lowest scores
- focusing on the dimension sections; revealing those dimensions that have a majority of high or low scoring attributes
- focusing on the overall results at the dimension levels to conclude if there is a pattern of high or low scores
- understanding scores of 3 or higher show general agreement with the attribute
- referring to the calculated standard deviation in order to account for the outliers (variance within the group)
- realizing a smaller standard deviation indicates greater agreement, while a larger standard deviation shows more variance among respondents (less

agreement)

- finally, understanding I may have an outlier or two, but still have an overall strong level of support for the dimension (Hipp & Huffman, 2010)

PLCA-R Findings

Each step was followed to acquire a better understanding of the data in order to create survey questions for Phase 2. During the review of the data, the two dimensions that had the highest mean scores were collective learning and application and supportive conditions–relationships (mean score of 3.24). The next highest dimension was shared values and visions (mean score of 3.17). Following that dimension was shared and supportive leadership and supportive conditions–structures (mean score of 3.14). The dimension that had the lowest mean score was supportive conditions–relationships (mean score of 3.02). Figure 7 presents the raw scores, means, and standard deviations for each of the six dimensions examined through the PLCA-R survey.

Figure 7

PLCA – R Raw Scores, Means, and Standard Deviations

PLC Dimensions	Shared and Supportive Leadership	Shared Values and Visions	Collective Learning and Application	Shared Personal Practice	Supportive Conditions - Relationships	Supportive Conditions - Structures
	Q1: 45	Q12: 46	Q21: 45	Q31: 40	Q38: 46	Q43: 40
	Q2: 45	Q13: 44	Q22: 47	Q32: 39	Q39: 46	Q44: 42
	Q3: 43	Q14: 47	Q23: 47	Q33: 46	Q40: 47	Q45: 43
	Q4: 45	Q15: 46	Q24: 45	Q34: 46	Q41: 42	Q46: 47
	Q5: 45	Q16: 44	Q25: 46	Q35: 42	Q42: 46	Q47: 45
	Q6: 45	Q17: 42	Q26: 46	Q36: 43		Q48: 42
	Q7: 41	Q18: 45	Q27: 41	Q37: 40		Q49: 43
	Q8: 43	Q19: 40	Q28: 44			Q50: 45
	Q9: 46	Q20: 46	Q29: 46			Q51: 45
	Q10: 40		Q30: 46			Q52: 47
	Q11: 45					
Sum of raw scores:	483	400	453	296	227	439
Average Raw Score: (Sum / num people (14))	34.50	28.57	32.36	21.14	16.21	31.36
Mean: (Avg. raw score / num statements)	3.14	3.17	3.24	3.02	3.24	3.14
Standard Deviation:	0.49	0.49	0.49	0.50	0.46	0.48

Mean scores of 3 or higher show general agreement with the attribute in each dimension. Each dimension, although some lower than others, scored 3 or higher with the lowest score being 3.02 in shared personal practice. With focus placed on the overall results, Items 14, 22, 23, 40, 46, and 52 all have raw scores of 47. These statements address relationships among staff members and technology and data being easily available to staff. Staff members generally agree they have built professional relationships that will increase student achievement. They trust and respect each other as professionals and share the vision for school improvement with a focus on student learning.

Based on the raw scores for each item in each dimension, participants scored Statements 14, 22, 23, 40, 46, and 52 with a raw score of 47, which is the highest score of

the survey. Participants scored Statement 39, “A culture of trust and respect exists for taking risks,” with a raw score of 39, which is the lowest score of the survey. Dimensions containing Statements 14, 22, 23, 40, 46, and 52 produced the highest mean scores in the survey, as the dimension containing Statement 39 produced the lowest score in the survey.

In the dimension of shared and supportive leadership, the mean score was 3.14 with a standard deviation of 0.49. This dimension asked participants to score items that refer to leadership and decision-making within TES. Participants agreed that decision-making occurs through committees and communication across grade and subject areas based on the raw score in the survey. Within each dimension, the items with the highest and lowest raw scores were identified. In the shared and supportive leadership dimension (mean 3.14), raw scores ranged from 40 to 46. Item 9, “Decision-making takes place through committees and communication across grade and subject areas,” had the highest raw score (46); however, Item 10, “Stakeholders assume shared responsibility and accountability for student learning without evidence of imposed power and authority,” had the lowest raw score (40) for the shared and supportive leadership dimension.

In the dimension of shared values and visions, the mean score was 3.17 with a standard deviation of 0.49. This dimension asked participants to score items that refer to collaboration among teachers, the school goals and vision, and the use of data within TES. Participants agreed that staff members share the visions for school improvement that have a lasting focus on student learning based on the raw score in the survey. In the shared values and visions dimension, raw scores ranged from 40 to 47. Item 14, “Staff members share visions for school improvement that have an undeviating focus on student

learning," had the highest raw score (47); however, Item 19, "Stakeholders are actively involved in creating high expectations that serve to increase student achievement," had the lowest raw score (40) for the shared values and visions dimension.

For the collective learning and application dimension, the mean score was 3.24 with a standard deviation of 0.49. This dimension asked participants to score items that refer to collective learning, dialogue, and professional development within TES. Participants agreed that collegial relationships are existent among staff members who exhibit a commitment to school improvement efforts. Staff members also plan and work together to acquire solutions to focus on diverse student needs based on the raw score in the survey. In the dimension of collective learning and application, raw scores ranged from 41 to 47. Items 22 and 23, "Collegial relationships exist among staff members that reflect commitment to school improvement efforts" and "Staff members plan and work together to search for solutions to address diverse student needs," had the highest raw scores (47); however, Item 27, "School staff members and stakeholders learn together and apply new knowledge to solve problems," had the lowest raw score (41) for the shared and supportive leadership dimension. I pondered if this item was related to the lack of time for collaboration and sharing practices in the other dimension. It was my goal to include a question in the questionnaire about how time is spent during PLCs and how this need could be addressed.

In the shared personal practice dimension, the mean score was 3.02 with a standard deviation of 0.50. This dimension asked participants to score items that refer to peer observations, coaching, mentoring, and feedback to peers within TES. Participants agreed that staff members share ideas and suggestions informally for improving student

learning. Staff members also collaboratively review student work to share and enhance instructional practices. In the dimension of shared personal practice, raw scores ranged from 39 to 46. Items 33 and 34, “Staff members informally share ideas and suggestions for improving student learning” and “Staff members collaboratively review student work to share and improve instructional practices,” had the highest raw score (46); however, Item 32, “Staff members provide feedback to peers related to instructional practices,” had the lowest raw score (39) for the shared and supportive leadership dimension.

For the supportive conditions–relationships dimension, the mean score was 3.24 with a standard deviation of 0.46. This dimension asked participants to score items that refer to building trust and caring relationships while celebrating the achievements of students and staff within TES. Participants agreed that achievement is consistently recognized and celebrated within TES. In Phase 2, I wanted to gain teacher perceptions of how building trust and caring relationships impact PLCs at TES. The raw scores ranged from 42 to 47. Item 40, “Outstanding achievement is recognized and celebrated regularly in our school,” had the highest raw score (47); however, Item 41, “School staff and stakeholders exhibit a sustained and unified effort to embed change into the culture of the school,” had the lowest raw score (42) for the shared and supportive leadership dimension.

For the supportive condition–structure dimension, the mean score for this dimension is 3.14 with a standard deviation of 0.48. This dimension asked participants to score items that refer to support for teachers, materials, and time for planning during the daily schedule within TES. Participants agreed that suitable technology and instructional materials are presented to staff. Student data are organized and available for easy access

to staff members. In Phase 2, I wanted to address support for teachers from the leadership, the forms of data, and how teachers use it to improve student learning. The raw scores ranged from 40 to 47. Items 46 and 52, “Appropriate technology and instructional materials are available to staff” and “Data are organized and made available to provide easy access to staff members,” had the highest raw score (47); however, Item 43, “Time is provided to facilitate collaborative work,” had the lowest raw score (40) for the shared and supportive leadership dimension.

A smaller standard deviation indicates greater agreement, while a larger standard deviation shows more variance among respondents or less agreement. Supportive conditions–relationships had the smallest standard deviation of 0.46 meaning greater agreement among the staff members for the statements addressed in the dimension. Shared personal practice had the highest standard deviation of 0.50 for the statements addressed in the dimension.

Although the standard deviation does not vary much throughout the dimensions, there was a slight variation of responses of 2 in Questions 5, 7, 8, and 10 of shared and supportive leadership, Questions 17 and 19 in shared values and vision, Questions 21 of collective learning and application, Questions 31, 32, 35, and 37 of shared personal practice, Question 41 of supportive conditions–relationships, and Questions 43, 44, 45, 48, and 49 of supportive conditions–structures. Although these outliers are present, there was an overall strong level of support for the dimensions as they all have a mean score of 3 or greater.

Upon review of the PLCA-R data, I noticed the dimension with the lowest mean score for TES was shared personal practice. Figure 8 displays the results for shared

personal practice.

Figure 8

PLCA–R Results for Shared Personal Practice

Shared Personal Practice			
#	Avg. Score	Standard Deviation	Statement Text
31.	2.86	0.53	Opportunities exist for staff members to observe peers and offer encouragement.
32.	2.79	0.58	Staff members provide feedback to peers related to instructional practices.
33.	3.29	0.47	Staff members informally share ideas and suggestions for improving student learning.
34.	3.29	0.47	Staff members collaboratively review student work to share and improve instructional practices.
35.	3.00	0.39	Opportunities exist for coaching and mentoring.
36.	3.07	0.27	Individuals and teams have the opportunity to apply learning and share the results of their practices.
37.	2.86	0.53	Staff members regularly share student work to guide overall school improvement.

Item averages for this dimension ranged from the lowest score of 2.79 to the highest score of 3.07. Item 32, "Staff members provide feedback to peers related to instructional practices," received an average score of 2.79 (Hipp & Huffman, 2010). Staff members scored this statement the lowest in this dimension. Item 36, "Individuals and teams have the opportunity to apply learning and share the results of their practices," scored an average of 3.07 and was the highest item scored in this dimension. The next two statements scoring the lowest in this dimension are related to opportunities to observe their peers and sharing student work to guide school improvement.

Transitioning From Phase 1 to Phase 2

The analysis of the data provided a gateway into Phase 2. During Phase 2, it was my goal to understand teacher perceptions of PLCs at the site. The purpose was to gain more knowledge about support, relationships, and data use of teachers within TES using a questionnaire. Unlike the PLCA-R survey, the open-ended questionnaire allowed teachers to elaborate on how the leadership of the school supports the staff, the extent to

which teachers have built trusting relationships, and the ways teachers use student data. In order to further understand the findings from the PLCA-R related to these dimensions, the following questions were added to the questionnaire:

- What do PLCs at TES entail?
- What would you say is similar and different as a result of PLC implementation?
- How is student learning being affected by their teachers working in PLCs?
- What training and support have you received for the implementation of PLCs? (Guiding Question 1)
- What suggestions do you have for training and support that your school could benefit from to improve PLCs? (Guiding Question 1)
- According to the survey, your school has built trust and has caring relationships. How do trust and relationships have an impact on PLCs at the site? (Guiding Question 2)
- According to the survey, many teachers indicated that sharing personal practices happens at your school. How or when does that occur? (Guiding Question 2)
- What would you say has improved as a result of PLC implementation at your school? (Guiding Question 2)
- According to the survey, teachers believe that they do not get to receive feedback from peers often. How would peer observations or feedback benefit student learning at your school? (Guiding Question 3)
- How is the student learning data used to drive instruction and increase student

achievement? (Guiding Question 3)

These questions were created based on participant responses on the PLCA-R. As I reviewed the data, I noticed these items were among the lower-scoring items. These questions on the open-ended questionnaire helped provide recommendations for the lower scoring items on the PLCA-R.

There were two dimensions that scored the highest on the PLCA-R survey: collective learning (Figure 9) and application and supportive conditions–relationships (Figure 10). The averages scores in the dimension of collective learning and application ranged from 2.93 to 3.36. Although this dimension scored the highest at TES, Item 27, "Staff members and stakeholders working together to apply innovative knowledge to solve problems," received a score of 2.93. Among the highest scores for this dimension was Item 22, "Collegial relationships exist among staff members that reflect commitment to school improvement efforts," with the score of 3.36. In the comments section, one staff member chose to share that student work is shared in the form of assessment. Actual student work samples are not used beyond specific classrooms. Figure 9 shows the results for collective learning.

Figure 9

PLCA–R Results for Collective Learning and Application

Collective Learning and Application			
#	Avg. Score	Standard Deviation	Statement Text
21.	3.21	0.43	Staff members work together to seek knowledge, skills and strategies and apply this new learning to their work.
22.	3.36	0.50	Collegial relationships exist among staff members that reflect commitment to school improvement efforts.
23.	3.36	0.50	Staff members plan and work together to search for solutions to address diverse student needs.
24.	3.21	0.43	A variety of opportunities and structures exist for collective learning through open dialogue.
25.	3.29	0.47	Staff members engage in dialogue that reflects a respect for diverse ideas that lead to continued inquiry.
26.	3.29	0.47	Professional development focuses on teaching and learning.
27.	2.93	0.73	School staff members and stakeholders learn together and apply new knowledge to solve problems.
28.	3.14	0.36	School staff members are committed to programs that enhance learning.
29.	3.29	0.47	Staff members collaboratively analyze multiple sources of data to assess the effectiveness of instructional practices.
30.	3.29	0.47	Staff members collaboratively analyze student work to improve teaching and learning.

During Phase 2, I focused on understanding how work samples are used, what forms of data are used during PLCs, and how data are analyzed and shared to improve student achievement. Gaining teacher perceptions on data analysis and shared practice would provide a better outlook on the impact of PLCs on student achievement.

In the supportive conditions–relationships dimension (Figure 10), average scores ranged from 3.00 to 3.36. Staff members at TES agreed that caring relationships exist among the staff, a culture of trust and respect is present, and relationships among the staff members are supported by a respectful examination of data. Within this dimension, all the statements are related to the relationships between staff and their willingness to work together to enhance teaching and learning at the site. Item 41, “School staff and stakeholders exhibit a sustained and unified effort to embed change into the culture of the school,” received a score of 3. One of the highest statements scored for the site was “Outstanding achievement is recognized and celebrated regularly in our school,” with an

average score of 3.36. Figure 10 displays the results for supportive conditions–relationships.

Figure 10

PLCA-R Results for Supportive Conditions–Relationships

Supportive Conditions - Relationships			
#	Avg. Score	Standard Deviation	Statement Text
38.	3.29	0.47	Caring relationships exist among staff and students that are built on trust and respect.
39.	3.29	0.47	A culture of trust and respect exists for taking risks.
40.	3.36	0.50	Outstanding achievement is recognized and celebrated regularly in our school.
41.	3.00	0.39	School staff and stakeholders exhibit a sustained and unified effort to embed change into the culture of the school.
42.	3.29	0.47	Relationships among staff members support honest and respectful examination of data to enhance teaching and learning.

During Phase 2, I focused on understanding how building caring relationships and trust among colleagues positively impacts PLCs and, in turn, improves student achievement at this school.

Findings from Qualitative Research

Because of a lack of voluntary participation in interviews and focus groups, I disseminated an open-ended questionnaire instead. I used Qualtrics to send out the PLC Questionnaire to gain more knowledge about the implementation of PLCs. Using an open-ended questionnaire still aligned with the explanatory sequential design. Eighteen teachers volunteered to participate in Phase 2 of the study. The goal of this part of the study was to further investigate the responses on the PLCA-R and answer my research questions. The questions included on the survey for qualitative data were as follows:

- What do PLCs at TES entail?
- What would you say is similar and different as a result of PLC

implementation?

- How is student learning being affected by teachers working in PLCs?
- What training and support have you received for the implementation of PLCs?
- What suggestions do you have for training and support that your school could benefit from to improve PLCs?
- According to the survey, your school has built trust and has caring relationships. How do trust and relationships have an impact on PLCs at the site?
- According to the survey, many teachers indicated that sharing personal practices happens at your school. How or when does that occur?
- What would you say has improved as a result of PLC implementation at your school?
- According to the survey, teachers believe that they do not get to receive feedback from peers often. How would peer observations or feedback benefit student learning at your school?
- How is the student learning data used to drive instruction and increase student achievement?

My research question for this study asked, "How do teachers perceive PLC implementation at TES?" In order to gain the perceptions of teachers, the PLC Questionnaire was created. Within the questionnaire, the two questions related to the research question were, "What would you say is similar and different as a result of PLC implementation?" and "What would you say has improved as a result of PLC implementation at your school?" Table 7 shares the responses to these questions.

Table 7

Responses to Questions 2 and 8 of the PLC Questionnaire

PLC Questionnaire question	Responses
What would you say is similar and different as a result of PLC implementation?	(Educator 1) Sharing ideas and learning from each other. (Educator 2) Having more time to learn from each other. (Educator 4) We look at student data in a different way and look at whole school needs and get information from the leadership team as well. (Educator 5) More communication between grade levels and better alignment between instruction. We always look at student data and we always look at it in different ways. (Educator 6) Look at student data (Educator 7) Focus on whole school needs and leadership team (Educator 8) Each year we look at student data to determine different focus[es]. (Educator 9) [E]ach year we look at student data to see what we need to focus on (Educator 10) We have had these discussions before. Each year we look for different focuses. (Educator 11) Each year we look at student data to determine different focuses. (Educator 12) We look at student data to look at different focuses from year to year. So we are always looking at the data, though we may look at it in different ways from year to year and how we go at student learning. (Educator 13) Look at student data Focus on whole school needs and leadership team (Educator 14) Each year we look at student data and use to help our instruction. (Educator 15) We talk more and share more information about students and their progress. Similar would be we are still told what to do and when. (Educator 16) We use school data to identify weakness[es] and brainstorm ways to address these issues. Each year we look at student data to determine student needs. (Educator 18) We have been using PLCs for a few years now. The difference is that we have an opportunity to discuss issues uninterrupted by children (because we do it during our planning time).

(continued)

PLC Questionnaire question	Responses
What would you say has improved as a result of PLC implementation at your school?	(Educator 1) Open and consistent communication. (Educator 2) Teacher communication has improved. (Educator 4) We have better communication and collaboration (Educator 5) Communication in all areas. (Educator 6) It has helped us to work better as a community and build stronger support for each other. (Educator 7) Student data (Educator 8) We have more work sometimes, but if it is for the betterment of the children, I think it is a good thing. (Educator 9) Teamwork and relationships (Educator 10) We work toward the whole child instead of specific areas or grade levels. (Educator 11) [C]ommunication and meeting needs of the students (Educator 12) [T]alking among teachers (Educator 13) Teachers have more knowledge (Educator 14) Instruction [is] being designed to address targeted needs and resources available to address individual student's needs. (Educator 15) Communication between staff, awareness of strategies and support for students, alignment of instruction. (Educator 18) Relationships have grown as a result of PLCs.

When asked "What would you say is similar and different as a result of PLC implementation," 93% of the participants at TES responded with reviewing student data, sharing ideas and learning from each other, communication, and focusing on the needs of the school and students bearing similar results. Educator 1 responded, "We have been using PLCs for a few years now. The difference is that we have an opportunity to discuss issues uninterrupted by children (because we do it during our planning time)." This response provided a difference in past years. This was the only participant who stated they were allowed to collaborate uninterrupted, and it seemed to be beneficial for them and the team. Educator 2 stated that PLCs meant "having more time to learn from each

other." Educator 5 believed PLCs were similar because there was "More communication between grade levels and better alignment between instruction. We always look at student data and we always look at it in different ways." Educators 4, 5, 6, 8, 9, and 16 all stated PLCs were similar in that "We look at student data in a different way and look at whole school needs and get information from the leadership team as well," as stated by Educator 4.

In response to the question, "What would you say has improved as a result of PLC implementation at your school," Educator 2 believed "Teacher communication has improved" and Educators 1, 4, 5, 11, and 15 all agreed. Educator 18 referred to the relationships that "have grown as a result of PLCs." Educator 6 extended this thinking by stating, "It has helped us to work better as a community and build stronger support for each other." Educator 15 included the thoughts of the participants stating, "Communication between staff, awareness of strategies and support for students, alignment of instruction" have improved as a result of PLCs.

Guiding Questions were also used for this study to support my research. Guiding Question 1 asked, "What are teacher perceptions of PLC training and support at TES?" The PLC Questionnaire asked three questions related to the research question: (a) "What do PLCs at TES entail"; (b) "What training and support have you received for the implementation of PLCs"; and (c) "What suggestions do you have for training and support that your school could benefit from to improve PLCs?" Table 8 shares the responses to these questions.

Table 8

Responses to Questions 1, 4, and 5 of the PLC Questionnaire

PLC Questionnaire question	Responses
What do PLCs at TES entail?	(Educator 1) Getting together with my teammate, principal, and instructional coach to discuss identifying student, classroom, and school needs. We also discuss struggles and successes. (Educator 2) We will focus on [the] needs of our school as a grade level and a staff. (Educator 4) We meet with our grade level, principal, and instructional coach to go over the needs of our students, we use this data to focus in on what the students may need in the classroom. (Educator 5) Meetings with team members, admin, and some support staff. Discussion of curriculum pacing, student needs. (Educator 6) Each year we look at what we need to cover to help our students better. (Educator 7) Identify through end-of-the-year conversations. (Educator 8) Identify through end-of-the-year conversations, get together as a grade level. (Educator 9) Identify through end-of-the-year conversations what would be best for our school based on student data. (Educator 10) Identify some of the needs for our school in grade level and as a school. (Educator 11) Look at student data looking at student data planning in the grade level. (Educator 12) Needs of the school and focus on needs for the next year. (Educator 13) At the end-of-the-year, we together as a team we come up with what we feel will be our target for the next year. (Educator 14) Each year we look at student data to gain focus on needs and strengths. (Educator 15) We use PLC[s] to guide planning across the grade level and between grade levels as well as review data for planning instruction. (Educator 16) [A] Group that gets together to discuss certain topics, focus on certain areas of need. We work together through discussion, trainings etc. to help us improve in these areas. (Educator 18) Learning through each other. Sharing ideas and discussing issues to strengthen teaching skills for students.
What training and support have you received for the implementation of PLCs?	(Educator 1) Support - weekly meetings, with in-between meetings as needed (Educator 2) We are supported by our principal. (Educator 4) We have trainings to target specific areas of need in our school. Lexia and Dreambox trainings. (Educator 5) We have been implementing PLCs for many years. We trained on this for a small amount of time before implementation. (Educator 6) Our leadership team has helped us to target specific areas. I took [part] in the Harvard behavior course. (Educator 7) We have had trainings to target specific training. (Educator 8) We have had trainings to target specific areas. We have trained in: Harvard differentiation, mClass, MTSS, Letterland, Lexia. (Educator 9) We have had reading and math trainings to target specific areas.

(continued)

PLC Questionnaire question	Responses
	(Educator 10) We have trainings to target specific areas in reading and math. (Educator 11) We have had training to target specific areas (Lexia, mClass Dreambox, MTSS) (Educator 12) We have had trainings to target specific trainings. (Educator 13) We have had trainings to target specific areas – Lexia, Dreambox, MTSS (Educator 14) We have had training to target specific areas. We have support from our instructional coaches. I am a[n] EC teacher and have an EC instructional coach but the regular education coach always is available to help and answer questions. I have had the Harvard training and MTSS training. (Educator 15) Training related to specific needs of the PLC... ways to implement, assess and use data, programs etc. (Educator 16) We have had trainings to target certain areas (Lexia, MTSS, Dreambox). (Educator 18) I feel I have gotten more support from ICs and administration.
What suggestions do you have for training and support that your school could benefit from to improve PLCs?	(Educator 1) Honestly not sure. We already have an agenda each time we meet. (Educator 2) We would like to have teacher input on what we meet about. (Educator 4) Cross grade level PLC's (Educator 5) Allowing more time to discuss across grade levels and allowing teachers the ability to make decisions needed for their students. (Educator 6) I have enjoyed doing PLCs with various grade levels. Especially the grade below and above. It has helped me better understand how to help my students. (Educator 7) none at this time (Educator 8) I think it would be nice if we could meet every other week, or once a month (or just when necessary). (Educator 9) No suggestions at this time. (Educator 10) No suggestions at this time. (Educator 12) Better training on required programs BEFORE the programs are implemented in the school system. (Educator 13) We do a great job with PLC's (Educator 14) None at this time. (Educator 15) No suggestions at this time.

When asked “What do PLCs at TES entail,” all the teachers at TES responded with sharing ideas and learning from each other during discussions on how to meet the needs of students and the school. Educators 2, 4, and 5 spoke about the needs of the school and meetings with their grade level, principal, and instructional coach. Educators 6, 7, 8, and 9 discussed end-of-the-year conversations and how to better serve students. They described PLCs as “end-of-the-year discussions” to prepare for the upcoming year. Educators 10, 11, 12, and 18 spoke on targeting the needs of students and the school.

Educator 11 specifically spoke about reviewing student data.

When asked “What suggestions do you have for training and support that your school could benefit from to improve PLCs,” Educators 1, 6, 8, 9, 12, 13, 14, and 15 had no suggestions on how to better PLCs at the site; however, Educators 4, 8, 11, 13, 14, and 16 discussed the trainings they received for the implementation of programs such as Lexia, DreamBox, and Multi-Tiered System of Support (MTSS). The remaining educators spoke about meeting at least bi-weekly or monthly, which includes PLCs with various grade levels. Educators 9 and 10 discussed trainings for implementing math and reading programs.

Guiding Question 2 asked, “What are teacher perceptions of the impact of PLCs on teacher knowledge, skills, and practices at TES?” The PLC Questionnaire asked three questions related to the research question: (a) “According to the survey, your school has built trust and has caring relationships. How do trust and relationships have an impact on PLCs at the site”; (b) “How is student learning being affected by teachers working in PLCs”; and (c) “According to the survey, teachers believe that they do not get to receive feedback from peers often. How would peer observations or feedback benefit student learning at your school?” Table 9 shares the responses to these questions.

Table 9

Responses to Questions 3, 6, 7, and 9 to the PLC Questionnaire

PLC Questionnaire question	Responses
How is student learning being affected by teachers working in PLCs?	(Educator 1) Students needs are addressed each week, with changes being made immediately. (Educator 2) The teachers can collaborate on ideas to help the students. (Educator 4) We collaborate to learn new techniques and strategies across grade levels to better meet the needs of our students. (Educator 5) I feel that we are improving more in the area of student personal needs. Addressing student personalized needs. (Educator 6) Students are able to have a positive experience because we are all gaining a better understanding as a staff of how to address their needs in our PLCs (Educator 7) Students are learning at different pace. (Educator 8) We are coming up with ideas that will help them in the classroom. (Educator 9) Student learning has been targeted toward the individual. (Educator 10) Student learning is more targeted toward the individual. (Educator 11) We plan together and see what needs the students may have and plan lessons accordingly. (Educator 12) Some students learning has increased, while others have not. Those that have not been given higher interventions through the MTSS process. (Educator 13) Teachers are learning new ideals to take back to the classroom (Educator 14) Instruction is data-driven and instruction is planned according to specific student[']s needs. Students get individual instruction either small group or one on one hitting targeted areas of need. (Educator 15) Student learning has increased as we are better able to meet student needs. (Educator 16) We are able to target areas of need which has improved student learning, scores, engagement etc. (Educator 18) I feel student learning is growing and students are making more growth due to teachers working in PLCs
According to the survey, your school has built trust and has caring relationships. How do trust and relationships have an impact on PLCs at the site?	(Educator 1) We can be open and honest about struggles and concerns and how to best resolve them. (Educator 2) We can trust the information we are getting. (Educator 4) We are not afraid to ask for support, we know our community will help and support us in any way they can. (Educator 5) We work together to build a strong learning environment for our students. The PLC time allows everyone to see what has been accomplished and areas of weakness. (Educator 6) Trust is so important among team members. (Educator 7) Teachers all get along and can work well together. Teachers work as team. (Educator 8) You can say what you feel and not have the feeling of someone being rude, or judgmental. (Educator 9) Trust and caring relationships have had a positive impact on our school. It has helped us to work as a team rather than individual grade levels.

(continued)

PLC Questionnaire question	Responses
	(Educator 10) [Trust] and relationships has helped us to work as a team instead of individual grade levels. (Educator 11) Being able to trust and care about your coworkers are very important [factor] in our PLCs. (Educator 12) Helped us to work as a team and together throughout the school (Educator 13) Teachers have a great relationship at our school. We are willing to help each other (Educator 14) It has helped us work as [a] team instead of individual grade level[s]. (Educator 15) We are able to work together with open communication to address needs of students. (Educator 16) We openly share with each other and are willing to step up and help staff that need it. Our relationships with students allow us to realize their areas of need so they can be addressed. (Educator 18) Having a strong relationship with others is the key to successful PLCs. Being able to get along with others and being able to express your ideas to a group of teachers is key to building that trust.
According to the survey, many teachers indicated that sharing personal practices happens at your school. How or when does that occur?	(Educator 1) ALL THE TIME. Seriously. When we walk in together in the mornings, as we stand together in the hall after school during car rider dismissal, during PLCs (Educator 2) We meet during our planning time during the week. (Educator 4) Daily (Educator 5) During PLC, staff meeting, and leadership meetings. (Educator 6) We have shared personal practices by observing other teachers in their classroom and during our staff meetings. (Educator 7) Morning or before dismissal. (Educator 8) When we pass and talk in the hallway, when we see what our pod mates are doing or hear what they say and get ideas, or at Staff meetings when we get into small groups and talk. (Educator 9) Teachers at my school share ideas and lessons that have worked well. (Educator 10) This occurs at all times of the day. We share as we are at the copier, lunch table as well as grade level or staff meeting. (Educator 11) That happens whenever we meet because this can help us to grow as professionals. (Educator 12) When we get the chance, communicating after school or during school times. (Educator 13) Weekly (Educator 14) This takes place in grade-level meetings and staff meetings. (Educator 15) Grade level PLC, between grade level PLC and monthly meetings. (Educator 16) Staff members share what is working well for them, share programs, materials etc. they are using. (Educator 18) During pull-out time or during the school day.

(continued)

PLC Questionnaire question	Responses
According to the survey, teachers believe that they do not get to receive feedback from peers often. How would peer observations or feedback benefit student learning at your school?	(Educator 1) Another teacher might recognize a need from the student perspective and also give a suggested solution from a teacher perspective. (Educator 2) I do not think it would. (Educator 4) I think informal discussions with other teachers is the best way to find answers to questions and learn more about what is happening in the school. (Educator 5) It would be a small benefit. We need to hear from colleagues, but often need more PLC time to work with one another to gain a better understanding for the needs of students. (Educator 6) Feedback from peers would help me to adjust my teaching. (Educator 7) Teachers can implement different strategies that they may see from other peers. (Educator 8) I think if it is the teacher asking another teacher about a specific situation or student, it is helpful. (Educator 9) I don't feel peer observations are a positive action. It puts teachers in an uncomfortable position of judging other teachers' teaching. Having conversations with other teachers or just observing others is fine. (Educator 10) This is touchy for me. I feel a lot of time we are sent to observe to find something wrong or put pressure on the teacher when we should be lifting them up. (Educator 11) I do not think it would. (Educator 12) Not peer observations per se....but more TIME during the day to talk together and work together, rather than having to do it after school. (Educator 13) The students may take the information from their peers a little different than they would the teachers (Educator 14) Feedback would help me engage my students more. (Educator 15) I feel we have received feedback from the opportunities we have had to complete peer observations. (Educator 16) Getting feedback from teachers who are doing what we are doing every day is helpful. (Educator 18) Feedback from peers would help teachers in student learning or growth by showing where they could improve on in their teaching. Sometimes seeing others' point of views helps you grow as a person and as a learner.

When asked “According to the survey, your school has built trust and has caring relationships. How do trust and relationships have an impact on PLCs at the site,” the responses of Educators 2, 6, 9, 10, and 11 were related to how strong relationships build trust. Educator 9 confirmed, “Trust and caring relationships have had a positive impact on our school. It has helped us to work as a team rather than individual grade levels.” Educator 11 was intentional when responding, “Being able to trust and care about your

coworkers are very important factors in our PLCs." For example, the responses of Educators 5, 13, 17, and 18 were related to how relationships with teachers and students help with communication and the positive impact strong relationships have on the school. Also, Educators 1, 4, 8, and 16 noted how trust allows teachers to have meaningful discussions without anyone taking offense and build on areas of weakness. Educators 7, 12, 14, and 15 said that trust and caring relationships allow teachers to work together as a team throughout the school.

When asked "How is student learning being affected by teachers working in PLCs," Educators 12, 15, and 18 at TES mentioned the growth of student data. More specifically, growth has increased because of teacher work in PLCs. Educators 1, 2, 4, 5, 6, and 8 considered how PLCs allow for teachers to address student needs and how to better serve them. Educator 6 stated that students "have a positive experience because we are all gaining a better understanding as a staff of how to address their needs in our PLCs." Educators 7, 9, 10, 11, 13, and 14 discussed how the dialogue with their teammates helps drive instruction and provides new ideas for classroom instruction. Educators 9 and 10 responded, "Student learning is more targeted toward the individual." For example, Educator 14 was explicit about instruction being data-driven and instruction planned according to specific students' needs: "Students get individual instruction either small group or one on one hitting targeted areas of need."

When asked "According to the survey, teachers believe that they do not get to receive feedback from peers often. How would peer observations or feedback benefit student learning at your school," Educators 1, 4, 5, 6, 7, 8, 12, 14, 15, 16, and 18 believed peer observations or feedback would improve their instruction. Educator 1 responded,

"Another teacher might recognize a need from the student perspective and also give a suggested solution from a teacher perspective." Educator 18 expressed that "Feedback from peers would help teachers in student learning or growth by showing where they could improve on in their teaching." This educator went on to say teachers may have a different viewpoint or understanding and be able to provide suggestions for classroom instruction. Educators 2, 9, 10, and 11 discussed the negative aspect of peer observations and feedback. One participant, Educator 10, was very specific about how peer observations "is touchy for me" and felt "we are sent to observe to find something wrong or put pressure on the teacher when we should be lifting them up." Educator 13 responded as if peers were students, not teachers. Educator 13 believed, "students may take the information from their peers a little different than they would the teachers."

When asked "According to the survey, many teachers indicated that sharing personal practices happens at your school. How or when does that occur," all educators at TES agreed that they are collaborating regularly. Some specific times for collaboration included during planning time, in the hallway, and during lunch. Educator 1 was adamant about how regularly teachers communicate, replying, "ALL THE TIME. Seriously. When we walk in together in the mornings, as we stand together in the hall, after school, during car rider dismissal, during PLCs." Educator 11 said it "happens whenever we meet because this can help us to grow as professionals." Educator 16 explicitly stated, "Staff members share what is working well for them, share programs, materials etc. they are using."

Guiding Question 3 asked, "What are teacher perceptions of the impact of PLCs on student achievement?" The PLC Questionnaire asked one question related to the

research question: “How is the student learning data used to drive instruction and increase student achievement?” Table 10 shares the responses to this question.

Table 10

Responses to Question 10 of the PLC Questionnaire

PLC Questionnaire question	Responses
How is the student learning data used to drive instruction and increase student achievement?	(Educator 1) We find the areas that need more instruction or review and work on them while continuing to support the areas of strength. (Educator 2) We look to see what needs we can meet for each individual student. (Educator 4) We use the data to see where we need to focus interventions with our students to improve learning (Educator 5) All data is used to support instructional needs and strengths. Reteaching, remediation, and acceleration. (Educator 6) The data is observed in meetings with our Instructional Coach and they help provide ideas for us to help engage and reach those students that need help. (Educator 7) Students are [progress] monitored depending on data. Lessons are implemented to meet students at their level during guided. (Educator 8) A lot of the time[s] you lead with data and form your groups or know which kids to pull back. (Educator 9) It helps to see what areas students need more help with. (Educator 10) Meet the child where they are. (Educator 11) All learning is focused on data. No fluff. (Educator 12) It gives us an idea of what we need to target If the students are struggling in an area then we can adjust our lessons to increase student achievement. (Educator 13) Students needs (Educator 14) Our instructional coach has [met] with teachers and reviewed data to make instruction data-driven. (Educator 15) Discussed and reviewed frequently. (Educator 16) We look at scores and achievement and [base] our teaching and trainings based on areas we need more support in or are doing well in. (Educator 18) Student data show[s] where that student needs extra help. As teachers we use that data to target in and give that student extra help in that area.

When asked “How is the student learning data used to drive instruction and increase student achievement,” again every educator at TES concurred with data being

used to drive instruction, meet students where they are, and create necessary targets for students. More specifically, Educator 14 discussed how "instructional coaches meet with teachers and reviewed data to make instruction data-driven." Educator 1 responded, "We find the areas that need more instruction or review and work on them while continuing to support the areas of strength." Educator 4 eluded to the fact that they "use the data to see where we need to focus interventions with our students to improve learning." Educator 5 used terms such as "reteaching, remediation, and acceleration" to describe how student data were used to increase student achievement.

Summary of Findings

The research question for this study was, "How do teachers perceive PLC implementation at TES." I used data from the PLCA-R in the dimension of collective learning and application and in the PLC questionnaire to answer this question. In the dimension of collective learning and application, the mean score of 3.24 was calculated based on teacher responses. Item 22 stated "Collegial relationships exist among staff members that reflect commitment to school improvement efforts," and had the highest average score of 3.36. This shows a general agreement with the attribute. The results from the PLC Questionnaire revealed Educators believed PLCs were effective based on student growth and collaboration among teachers.

Most participants believed PLCs were consistent. They also implied that student data, collaboration, and instruction have improved as a result of PLCs. All educators agreed that open and honest conversations have had an impression on the students who are able to communicate effectively. The PLC Questionnaire also displayed teacher and student relationships had improved at the site. This relates to the PLCA-R dimension of

supportive conditions–relationships, which revealed a general agreement among participants with an average score of 3.24.

Guiding Question 1 asked, “What are teacher perceptions of PLC training and support at TES?” The two dimensions of the PLCA-R that addressed Guiding Question 1 were shared and supportive leadership and supportive conditions–structures which both indicated a general agreement among participants with an average score of 3.14. The PLC questionnaire addressed Guiding Question 1 by asking “What do PLCs at TES entail,” “What training and support have you received for the implementation of PLCs,” and “What suggestions do you have for training and support that your school could benefit from to improve PLCs?”

Educator responses on the PLC Questionnaire indicated that teachers at the site participated in PLCs with their colleagues throughout the year and at the end of the year. Based on these responses, teachers meet with the administration, instructional coaches, other teachers on their grade level, as well as teachers on other grade levels on a regular basis. Some of these meetings were conducted more formally during regular planning time and others are more informal conversations that take place over lunch or in the hallway. More specifically, Educator 15 believed, “We use PLC to guide planning across the grade level and between grade levels as well as review data for planning instruction.”

Results from the questionnaire communicated teachers have received training for math and reading curriculums. They have also received training for MTSS, DreamBox, and Lexia. Educator responses indicated support was given by the administration and instructional coaches. Overall, teachers have been trained and receive support during PLCs.

Based on the PLC Questionnaire, most teachers did not have any suggestions to improve PLCs at the site; however, Educator 4 spoke about having "cross grade level PLCs" as an improvement. Also, Educator 8 would like to have less frequent meetings.

Guiding Question 2 asked, "What are teacher perceptions of the impact of PLCs on teacher knowledge, skills, and practices at TES?" The PLCA-R dimension of collective learning and application related to this guiding question and illustrated general agreement among participants with an average score of 3.24. The PLC questionnaire addressed this guiding question by asking, "According to the survey, your school has built trust and has caring relationships. How do trust and relationships have an impact on PLCs at the site"; "According to the survey, many teachers indicated that sharing personal practices happens at your school. How or when does that occur"; "How is student learning being affected by teachers working in PLCs"; and "According to the survey, teachers believe that they do not get to receive feedback from peers often. How would peer observations or feedback benefit student learning at your school?"

Educators at TES believe they have built healthy administration-teacher, teacher-teacher, and teacher-student relationships. They also believe PLCs help to build trust among the staff. Conversations have been respectful and have had a positive impact on the school.

Those meaningful relationships lead to the sharing of personal practices among teachers. Educators believed there is no specific time to collaborate. They tend to collaborate with each other throughout the day on a regular basis. Educator 9 stated, "Teachers at my school share ideas and lessons that have worked well."

Educators believe teacher feedback could be either positive or negative. Most felt

as if feedback would impact student learning positively. Educator 4 suggested, “informal discussions with other teachers” would be more effective. Educators believed feedback from other teachers about what works well for them would be beneficial. On the other hand, there were a few teachers who believed the peer observations and feedback would have a negative effect on student learning. Educator 10 felt as if peer observations were conducted to put “pressure” on a specific teacher.

Guiding Question 3 asked, “What are teacher perceptions of the impact of PLCs on student achievement?” There was a limited agreement based on the answers to the items on the PLCA-R. More specifically, Item 19, which refers to stakeholders having the opportunity to be included in producing high expectations to increase student achievement, scored an average score of 2.86. Four participants disagreed (score of 2) with this statement, eight participants agreed (score of 3) with this statement, and two strongly agreed (score of 4) with this statement. Referring to student data (items 14, 17, 19, 20, 28, 30, and 52), these items were placed in various dimensions and displayed general agreement among participants with the average for these items resulting in an average score of 3.18.

The PLC Questionnaire addressed this guiding question by asking, “How is the student learning data used to drive instruction and increase student achievement?” Educators believed that PLCs were used to review and discuss student data. After which, the data are used to drive instruction to target student needs. There was also mention of progress monitoring by Educator 7, where students are assessed weekly to ensure gains are being made. These data were also discussed and resulted in lessons that were created to meet student needs as they grow. Educator 15 believed data being “discussed and

reviewed frequently" would increase student achievement.

Teachers at TES feel as if PLCs are effective, and they are able to apply various strategies for learning. Teachers should continue to collaborate and share best practices. They also believe they are supported by the leadership and have received training to be successful. According to the responses on the PLC Questionnaire, teachers would like more training prior to implementing programs. They also stated that they would like more time for collaboration and an opinion on decision-making when creating agendas.

Based on the responses to Questions 14, 17, 19, 20, 28, 30, and 52 referring to data, data analysis, and student achievement which resulted in a score of 2.85, there is a need to reevaluate the use of data during PLCs. Item 52 received an average score of 2.86 and refers to allowing stakeholders an opportunity to be involved with student achievement. Although this score is not far from a general agreement score of 3, there is some concern about the trust, openness, and communication between teachers on the same grade level and possibly other grade levels. The responses to the PLC Questionnaire led me to believe those who participated in Phase 2 may not be the same teachers who completed the PLCA-R. Participants on the PLC Questionnaire stated specifically about the use of data to drive instruction and create learning targets for students.

Conclusion

Chapter 4 organized the research findings in the data analysis of the survey and questionnaire as they were connected within the context of the research questions presented for this study. The survey items reviewed in this chapter were presented as they were to participants. The findings and data were reported as they related to the research question and each of the three supporting research questions.

Chapter 5 provides the findings of the research according to the research questions posed in the study, conclusions, and recommendations for PLCs at TES. Recommendations for upcoming research and proposals for future studies on PLC implementation and significant conclusions are presented as well.

Chapter 5: Discussion

The intention of this research was to survey teacher perceptions on the degree of implementation and effectiveness of PLCs. A wealth of research has been done to validate the use of PLCs in educational settings. Senge's (1990) five disciplines of shared mission and vision, assumptions, personal mastery, collaboration or team learning, and systems thinking serve as a basis for the idea of PLCs. Several articles by Becky and Rick DuFour communicated to administrators and teachers about how enhancement in student learning occurs best in the environment acknowledged as PLCs (Venables, 2010). Educators in a PLC benefit from creating a shared mission and goals for the site; establishing cooperative teams focused on teaching and learning; participating in collective inquiry, action orientation, and experimentation; being dedicated to continuous improvement; and being result-oriented (DuFour, DuFour, & Eaker, 2006).

Overview of Methodology

The explanatory sequential design method is an approach that consists of two distinct phases. I used this method because I was interested in using qualitative data from the PLC Questionnaire to support the quantitative outcomes of the PLCA-R. Qualitative data were used as an interpretation for clarification of the outcomes from the PLCA-R.

The study began with the research-based survey, the PLCA-R, which was used to compile quantitative results. When the participants completed the survey, the data were analyzed to build questions for clarification of those results. The PLC Questionnaire was created to gain further information on the implementation of PLCs at TES. It was requested that participants complete the questionnaire based on their perceptions of the implementation of PLCs at the site. Chapter 5 contains a synopsis of findings, discussion

of implications, and recommendations specified for TES.

Research Questions

To better understand PLCs at TES, the following research question and guiding questions were answered.

Research Question: How do teachers perceive PLC implementation at TES?

Guiding Question 1: What are teacher perceptions of PLC training and support at TES?

Guiding Question 2: What are teacher perceptions of the impact of PLCs on teacher knowledge, skills, and practices at TES?

Guiding Question 3: What are teacher perceptions of the impact of PLCs on student achievement?

Discussion of Findings

Participants for this study were comprised of all teachers at TES in the fall semester of the 2021-2022 school year. Of the 30 teachers, 14 opted to participate in Phase 1 of the study by answering items on the PLCA-R. There were no teachers willing to participate in Phase 2 of the study when it consisted of focus groups and interviews. As a result, the study was revised, and the PLC Questionnaire was created. Eighteen teachers participated in the PLC Questionnaire. Each phase of the study was open for 2 weeks with reminders sent after 1 week of each phase.

The PLCA-R was distributed by the principal through the county's email system to the teachers and was completed by 47% of the teachers at the site. Many teachers agreed that PLCs are effective; however, there was a general consensus by the participants that data and sharing practices are not used regularly.

The PLC Questionnaire was created to provide qualitative data for Phase 2 of the study and was completed by 60% of the teachers at the site. In order to further my understanding of PLC implementation at TES, the PLC Questionnaire was created to align with the research question and guiding questions.

The research question was, “How do teachers perceive PLC implementation at TES?” The results from the PLCA-R and PLC Questionnaire implied participants believed student achievement has improved, as well as collaboration between teachers and teachers, teachers and students, and students and students. One participant believed collaboration was better because teachers were able to collaborate “uninterrupted.”

Guiding Question 1 was, “What are teacher perceptions of PLC training and support at TES?” Participants agreed that PLCs were a time to meet and plan with their team, discuss the needs of students and the school, and discuss various strategies for instruction. Participants also offered suggestions such as having “input” on what they meet about, allowing more time for vertical planning, more training for programs and trainings prior to programs, and regular meetings.

Guiding Question 2 was, “What are teacher perceptions of the impact of PLCs on teacher knowledge and skills at TES?” Participants collectively responded that the school has built trust and caring relationships. They collaborate regularly, most daily, at numerous times of the day or week. Although four participants provided negative reasons why they did not believe peer feedback was effective, the remaining participants believed peer feedback would be beneficial and would increase their perspectives and improve instruction.

Guiding Question 3 was, “What are teacher perceptions of the impact of PLCs on

student achievement?" Participants felt as if PLCs provided teachers with time to review data. PLCs also include teachers and instructional coaches The student data are used to create lessons and target student needs. When lessons are created, student learning is specified for each individual student. As they learn, they are progress monitored to ensure growth and continue to target lessons for student needs.

TES's PLC Characteristics and Stages of Development

DuFour, DuFour, and Eaker (2006) detailed six significant characteristics for implementing high functioning PLCs: (a) a concentration on learning, (b) a culture of collaboration with a concentration on learning for all, (c) collective inquiry into best practice and existing reality, (d) action orientation (learning by doing), (e) an obligation to constant improvement, and (f) results orientation. Data analysis of the PLCA-R and PLC Questionnaire showed evidence of each characteristic listed by DuFour, DuFour, and Eaker (2006), although some were more developed than others based on combined data from both instruments.

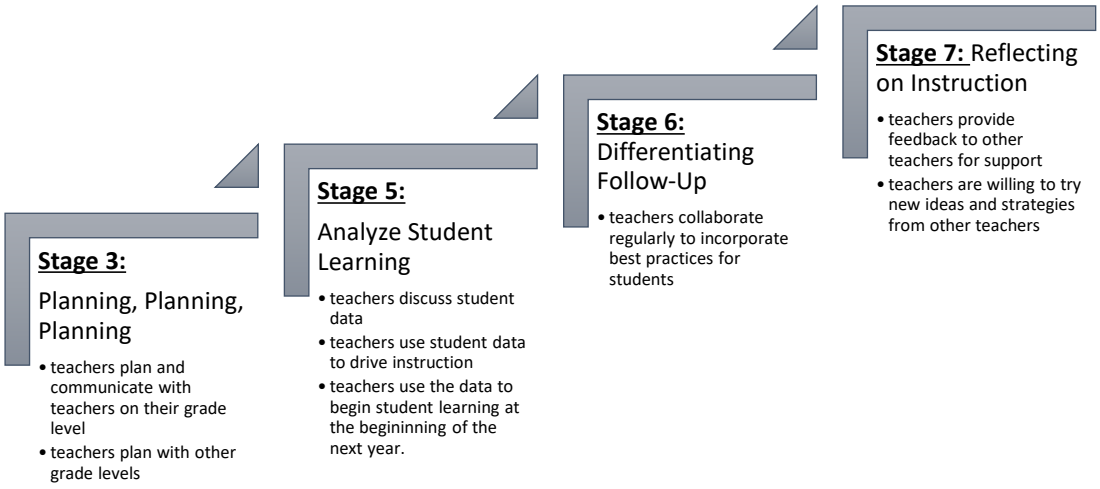
Darling-Hammond and McLaughlin (1995) noted that assisting teachers with rethinking their practices is necessary for professional development, and it encompasses educators in dual positions of both teaching and learning. This effort also produces innovative visions of what teachers must learn, when they must learn, and how they must learn. There is a need to reevaluate utilizing data during collaboration and how to improve student achievement. Although every participant in the PLC Questionnaire believed they used data to drive instruction, the North Carolina School Report Card has indicated a grade of C over a period of 5 years, and student data fluctuated over time. Comparably, students in schools where there were operative PLCs generated advanced

levels of accomplishment (Louis & Marks, 1998); therefore, teachers must be willing to rethink their practices for the accomplishment of the students and school as a whole.

Figure 11, updated from Chapter 2, used the data collected about PLC implementation at TES in connection with DuFour, DuFour, and Eaker's (2006) PLC characteristics and Graham and Ferriter's (2008) stages of development. It provides evidence for the use of Graham and Ferriter's (2008) stages of development and DuFour, DuFour, and Eaker's (2006) characteristics of effective PLCs at TES.

Figure 11

Evidence PLC Characteristics and the Stages of Development



Upon examination of the data provided from the PLCA-R and PLC Questionnaire, TES was using various strategies in the implementation of PLCs. PLCs included the administration, instructional coaches, and teachers where teachers are willing to share openly and respectfully. The atmosphere was relaxed, and they communicated effectively without judgment. Teachers created various opportunities to share personal practice and effective learning strategies. They are welcoming of peer observations if they are used to encourage teachers and increase student learning.

Based on the findings in this study, TES was in Stage 3, planning, planning, planning; Stage 5, analyze student learning; and Stage 6, differentiating follow-up in Graham and Ferriter's (2008) stages of development. There was no mention during the analysis of the data that they incorporate common assessments, which is Stage 4, development of common assessments, or participate in reflective conversations among teachers or with the administration, which is Stage 7, reflecting on instruction. Teachers did not respond or discuss creating common assessments for students to acquire immediate data after teaching standards. There was also no mention of reflection of instruction during PLCs, which Darling-Hammond and McLaughlin (1995) referred to as rethinking their practices to increase the development of best practices.

Implications

As previously stated, a PLC is a representation of partnership for teachers and administrators to establish a shared mission, vision, and set of values; contribute to collective inquiry; employ collaboration among teams; be action oriented; and concentrate on enhancement and outcomes (McCarthy et al., 2011). Upon further investigation, a model PLC consists of educators who are collaborative in classroom data analysis, the improvement of instruction, creating common formative assessments and tasks, examining student work, and implementing corrective action for intervention (Jones-Goods, 2018). Hord and Sommers (2008) explained that educators acquire a greater understanding of subject matter, the curriculum, expectations for academic success, and strengthening their functions in supporting all students while helping them attain high standards of learning while participating in PLCs. It was concluded that teachers were participating in PLCs regularly at TES. The findings of this study and

existing research about PLC implementation serve as a basis when providing the implications for teachers, school-level administrators, and district-level leaders.

Implications for Teachers

Teachers were using PLCs effectively to review student data and communicate effectively. The creation of common formative assessments has not been a regular practice. Teachers should begin to work together to assess various standards weekly or bi-weekly to target student needs. If they begin to use common formative assessments, targeting the needs of students will become common practice and not just during formative assessments, interim assessments, and end-of-grade tests. As stated in Graham and Ferriter's (2008) Stage 4, development of common assessments is vital to increasing student learning as a hands-on tool for immediate data. PLCs place emphasis on creating and analyzing common formative assessments based on the persuasive research which states these assessments genuinely improve student achievement (Bailey & Jakicic, 2012). This will also prepare students for state-based tests, as the common assessments should mirror the standards and questions of end-of-grade assessments. Based on DuFour, DuFour, and Eaker (2006), putting collective inquiry into best practice and existing reality is essential to effective PLCs. There is also an obligation to constant improvement based on these six characteristics of PLCs. As educators participate in PLCs, they are fulfilling the obligation to students, families, and the community to educate and support each other, as well as student learning.

Some teachers were leery of peer observations. As a team, there should be space for veteran teachers to observe other teachers and be observed. Teachers must be able to share glows, or moments where the teacher shines and grows, or room for improvement

for each other in a positive manner. By gathering information about what happens within a classroom, considering and evaluating these data, we recognize and take into consideration educational practices and underlying theories (Tice, 2004). This may lead to changes and improvements in teaching. As a result of your reflection, you may decide to use various strategies or decide you are using best practices, which leads to professional development. Reflective teaching is a process included in professional development that begins in the classroom (Tice, 2004).

Implications for School Administrators

The findings from the study led me to believe the environment is not conducive for peer feedback. Based on data collected in this study, some teachers were under the impression that peer observations were conducted to place pressure on teachers. Educator 10 replied this was "touchy for me" because she felt as if sometimes they were "sent to observe to find something wrong or put pressure on the teacher when we should be lifting them up." Kruse (2019) provided five tips to build a collaborative culture at your school: (a) concentrate on clear outcomes, (b) increase leadership opportunities, (c) establish meaningful opportunities for improvement, (d) align efforts, and (e) celebrate the work of others. The third tip states establish meaningful opportunities for improvement. These meaningful opportunities could consist of effective feedback. As we look to create those meaningful opportunities, administrators could provide teachers with a requirement of three glows (specific praise) and two grows (opportunities for improvement). If there is more room for improvement, they should be given a chance to make improvements and be observed again at a later date. DuFour, DuFour, and Eaker (2006) felt there should be a culture of collaboration with a concentration on learning for all, which includes all

educators at the site.

As with teachers, it is important for administrators to be reflective of their practice to build professional development (Tice, 2004). Administrators are responsible for more than one classroom and create the culture for the school. Focusing on a clear outcome and expanding leadership opportunities would provide teachers the chance for reflective practice and leading within the school (Kruse, 2019). Teachers would possibly need to receive professional development for leadership opportunities. This will increase the expectations for teachers as educators and leaders.

Recommendations

In the future, it is recommended that this study be conducted in a number of schools with low student achievement within the same district. The initial study should be done to research PLCs within two or more sites. The study should begin with insight into how PLCs are being implemented and teacher perceptions for each site. It is recommended that teachers from the various sites understand the reason for the study and are clear about the expectations during the study which make it relevant and effective.

The perceptions would need to be reviewed and analyzed for similarities and differences across sites. As the data are analyzed, possibly hold interviews or focus groups or complete the PLC Questionnaire to gain further insight into the effectiveness of PLCs at each site. It is recommended that trust be built between the researcher and the sites. In order to conduct face-to-face interviews with grade-level chairs and focus groups, they must trust that all information will be kept private. After which, the data from each site should be reviewed and analyzed for similarities and differences.

Finally, the data should be compared and the steps followed to implement PLCs

effectively to increase collaboration and student achievement and build trusting relationships at each site. The findings should be clear, concise, and relate to each site to ensure improvements. The findings should be shared with the teachers, school leaders, and district leaders to increase student learning throughout the district.

In the initial stage of planning and writing, I planned to perform a program evaluation on PLCs at TES. Although my study was somewhat altered, I recommend schools with established PLCs perform a program evaluation to determine the effectiveness over time. The evaluator could use the results of the evaluation to improve PLCs at the site as a means of increasing collaboration and improving student achievement.

Conclusion

The creators of PLCs intended to build collaboration and increase student achievement (DuFour, DuFour, & Eaker, 2006). Throughout the history of education, there has been a push to build student achievement scores. With this came the initiative to encourage teachers to collaborate, meet student needs, and encourage school improvement.

Based on DuFour, DuFour, and Eaker's (2006) characteristics of effective PLCs and Graham and Ferriter's (2008) stages of development, this study presented findings for improvement on the school and classroom level and growth in student achievement. Upon finding PLCs are being implemented, this study provided suggestions for teachers and administrators at the school that would help PLCs move into the next stage of development. That stage of development would include moving towards a culture of collaboration that includes the use of common assessments and increased peer feedback.

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Appendix A

PLCA-R Survey

STATEMENTS		SCALE			
	Shared and Supportive Leadership	**SD**	**D**	**A**	**SA**
1.	Staff members are consistently involved in discussing and making decisions about most school issues.				
2.	The principal incorporates advice from staff members to make decisions.				
3.	Staff members have accessibility to key information.				
4.	The principal is proactive and addresses areas where support is needed.				
5.	Opportunities are provided for staff members to initiate change.				
6.	The principal shares responsibility and rewards for innovative actions.				
7.	The principal participates democratically with staff sharing power and authority.				
8.	Leadership is promoted and nurtured among staff members.				
9.	Decision-making takes place through committees and communication across grade and subject areas.				
10.	Stakeholders assume shared responsibility and accountability for student learning without evidence of imposed power and authority.				
11.	Staff members use multiple sources of data to make decisions about teaching and learning.				
COMMENTS:					

STATEMENTS		SCALE			
	Shared Values and Vision	**SD**	**D**	**A**	**SA**
12.	A collaborative process exists for developing a shared sense of values among staff.				
13.	Shared values support norms of behavior that guide decisions about teaching and learning.				
14.	Staff members share visions for school improvement that have an undeviating focus on student learning.				
15.	Decisions are made in alignment with the school's values and vision.				
16.	A collaborative process exists for developing a shared vision among staff.				
17.	School goals focus on student learning beyond test scores and grades.				
18.	Policies and programs are aligned to the school's vision.				
19.	Stakeholders are actively involved in creating high expectations that serve to increase student achievement.				
20.	Data are used to prioritize actions to reach a shared vision.				
COMMENTS:					

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

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

STATEMENTS		SCALE			
	Supportive Conditions - Relationships	**SD**	**D**	**A**	**SA**
38.	Caring relationships exist among staff and students that are built on trust and respect.				
39.	A culture of trust and respect exists for taking risks.				
40.	Outstanding achievement is recognized and celebrated regularly in our school.				
41.	School staff and stakeholders exhibit a sustained and unified effort to embed change into the culture of the school.				
42.	Relationships among staff members support honest and respectful examination of data to enhance teaching and learning.				
COMMENTS:					

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

Appendix B

PLCA-R Results

Response #	Subgroup Data	PLC Mean Scores by Dimension						Date Received	PLCA-R System Record ID
		Shared and Supportive Leadership	Shared Values and Visions	Collective Learning and Application	Shared Personal Practice	Supportive Conditions - Relationships	Supportive Conditions - Structures		
Response 1	Position: Teacher; Specific grade level: 3	3.45	3.56	3.60	3.00	3.60	3.10	09/21/2021 2:52 PM	20826
Response 2	Position: Teacher; Specific grade level: 5	2.73	2.78	3.00	2.86	3.00	2.70	09/21/2021 2:56 PM	20827
Response 3	Position: Teacher; Specific grade level: 1	3.00	3.00	3.00	3.00	3.00	3.30	09/21/2021 5:27 PM	20828
Response 4	Position: Teacher; Specific grade level: 2	3.00	3.00	3.00	3.14	3.20	3.00	09/29/2021 12:55 PM	20829
Response 5	Position: Teacher; Specific grade level: 2	3.00	3.22	3.30	3.00	3.00	3.00	09/29/2021 12:59 PM	20830
Response 6	Position: Teacher; Specific grade level: 1	4.00	4.00	4.00	3.86	4.00	4.00	09/29/2021 2:43 PM	20831
Response 7	Position: Teacher; Specific grade level: 4	2.91	2.78	3.00	3.00	2.80	3.00	09/30/2021 06:43 AM	20832
Response 8	Position: Teacher; Specific grade level: K	3.00	3.00	3.00	3.00	3.00	3.00	09/30/2021 6:59 PM	20833
Response 9	Position: Teacher; Specific grade level: 2	3.45	3.00	3.20	3.29	3.00	3.40	10/08/2021 12:09 PM	20837
Response 10	Position: Teacher; Specific grade level: K	3.55	3.67	4.00	2.71	3.80	3.50	10/10/2021 12:46 PM	20838
Response 11	Position: Teacher; Specific grade level: 4	3.00	3.00	3.00	3.00	3.00	3.00	10/10/2021 2:01 PM	20839
Response 12	Position: Teacher; Specific grade level: 5	3.00	3.44	3.20	2.86	3.80	3.00	10/11/2021 09:46 AM	20840
Response 13	Position: Teacher; Specific grade level: Special Education	2.82	3.00	3.10	2.57	3.20	2.90	10/11/2021 12:57 PM	20841
Response 14	Position: Teacher; Specific grade level: K	3.00	3.00	2.90	3.00	3.00	3.00	10/11/2021 8:22 PM	20842