Implementing a Protocol in Professional Learning Communities

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Abstract

The purpose of this qualitative study was to investigate teachers' perceptions about the effect of the implementation of the Pathways for Coaching Collaborative Teams protocol (Many et al., 2018). The Pathways for Coaching Collaborative Teams protocol specifies intentional actions that should occur in a PLC to ensure high levels of learning for all students (Many et al., 2018). As teachers self-reflect during PLCs, they can identify potential areas in the instructional learning cycle needed to deepen their understanding of one or more of the actions under each of the four critical questions of a PLC (see Figure 1, page 27). This provides an opportunity for job-embedded professional learning while also targeting the achievement needs of academically diverse learners (Many et al., 2018).

This study's design was qualitative. Five data sources were utilized in this study. Data source one was a baseline assessment administered in August 2022 to establish teacher understanding of the foundations of a PLC. In Spring 2024, a second data source was administered in the form of a summative assessment. The summative assessment identified teachers' understanding of the foundation of a PLC post-implementation. The third data source was a Likert-type scale teachers completed in weekly PLC in which teachers rated the effectiveness of the implementation of the Pathways for Coaching Collaborative Teams protocol (Many et al., 2018). The fourth data source was a weekly Google Form completed by teachers in PLCs at Building A in District X during the 2022-2023 school year. The Google Form was a digital version of the Pathway for Coaching Collaborative Teams protocol (Many et al., 2018). The final data point was a weekly Google Doc completed by teachers in PLC at Building A in District X during the 2023-

2024 school year. The Google Doc was a digital version of the Pathway for Coaching Collaborative Teams protocol (Many et al., 2018). The data analysis is organized by each research question. Overall, the results of the study revealed (a) teacher perception of the effectiveness of the Pathways for Coaching Collaborative Teams protocol implementation improved from January 2023 to Spring 2024 (b) the overall focus of the PLC actions changed from the 2022-2023 school year to the 2023-2024 school year from a general focus on non-PLC-related topics to a structured focus on the four critical questions of a PLC, and (c) the Likert-type scale ratings went from a rating of 74% uncertain to a rating of 6% uncertain. Based on the findings from this data, it is recommended that District X implement the protocol PK-12 and measure the impact on student achievement.

Dedication

This work is dedicated to my amazing husband, Michael, who supported me throughout this journey. Thank you for believing in my success, caring for our family while I attended classes for two years, and for your trips to fast food restaurants to nourish me during my weekly Zoom courses. This would not have been possible without your love, support, and patience. I love you.

I also dedicate this dissertation to my son, Brian, and daughter, Avery. Please know that life is not about becoming what others believe you should be. It is about achieving your dreams and contributing to a better world. If you can look in the mirror, and know you are proud of what you accomplished, then what others think of you **does not matter.** I want both my children to know that all things are possible (Philippians 4:13) and to never doubt your ability to overcome *any* hurdle you might face in life. I love you both with my whole heart and thank God for you each day.

When I began my dissertation, I intended to fulfill a conversation with my father who passed away in 2002. He told me he knew that one day I would become Dr. Westerfield (my maiden name). I wanted to fulfill his wish and make him proud. I also wanted to make my late Aunt Marie Chaney proud. She taught me that anything is possible with integrity, grit, and perseverance. Her guidance has taught me that you should treat others how you want to be treated and you should find something to be thankful for each day. To my mother, thank you for encouraging me and expressing how proud you are of my hard work. Learning about the trials you experienced in life taught me that we all face journeys with unexpected twists and turns, but we can rise above and keep moving forward.

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A huge thank you goes to my friend, Jennifer, for your encouragement, feedback, a trip to the spa (I have decided I do not like facials), and our dinners that have exposed me to new cuisine and experiences I would not have otherwise.

Thank you Dr. Dain for your mentorship over the last few years. You have modeled for me the motto: empowered women empower women. I am thankful for your honesty, guidance, and for cheering me on throughout this process. Thank you for believing in me and for caring for my family. I will forever be grateful to you.

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Thank you, Kay, for taking the time to review my study and ensure I was accurately portraying the impact of the implementation of the protocol at Building A. I will miss seeing you every day. Please know you were a blessing to me, and I will never forget all you have done to support me.

I am very thankful to Cohort 28 at Baker University. This cohort reminded me that a team is made up of a group of people with varied talents and backgrounds. This team must be built on trust. Laughter is important too. Together, we played BINGO, cheered for each other, shared notes and resources to support one another, and genuinely cared for one another's well-being. Thank you, Delia, for providing ongoing, genuine care for my family and helping me to broaden my perspectives on life. Thank you, Melissa, for introducing me to Messenger Coffee and offering a listening ear. Thank you, Courtney, for revitalizing my inner warrior to know the importance of standing your ground. Thank you, Kelly, for your ongoing support as a first-year assistant principal. Thank you to Josh for bringing laughter and a bold spirit to our classes. Thank you to Joe for encouraging the leader in me to keep moving forward. Thank you to Katie for allowing me to practice my defense and providing authentic feedback. Finally, thank you to my family, friends, and colleagues who supported me throughout this journey.

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Chapter 1

Introduction

"In *Amplify Your Impact: Coaching Collaborative Teams in PLCs at Work,* authors Thomas W. Many, Michael J. Maffoni, Susan K. Sparks, and Tesha Ferriby Thomas sound a clarion call for supporting the most valuable resources available to students: collaborative teams of teachers who take collective [accountability] for the learning success of each student entrusted to them" (DuFour et al., 2021). DuFour et al. (2018) further purport that the mission of Professional Learning Communities (PLC) is to ensure high levels of learning for all. To achieve this goal, schools and districts must create a "collaborative culture in which educators work in teams that take collective responsibility for each student's learning" (Many, et al, 2018, p. xv).

"Since the publication of *Professional Learning Communities at Work: Best Practices for Enhancing Student Achievement,* educators around the world have acknowledged the need for professional collaboration and have implemented Professional Learning Communities at Work practices" (DuFour at al., 2021, p.34). Schools that embrace PLCs fully embody the "ways of thinking that drive the work of a high-performing PLC" (DuFour et al., 2021, p.35). The first of these is an assurance of continuous improvement and an ongoing cycle of collective inquiry until all students are achieving at high levels (DuFour et al., 2021). This instructional cycle emphasizes identifying "high-leverage practices that have a positive impact on student and adult learning, which becomes the way we do things around here" (DuFour et al., 2021, p.6).

A PLC is more than a ritual gathering we attend on Thursdays. It is an "ongoing process in which educators work collaboratively in recurring cycles of collective inquiry

and action research to achieve better results for the students they serve" (DuFour et al., 2016, p. 39). Gray et al. (2016) demonstrated that PLCs work best with effective PLC structures (as cited in Courtney et al., 2017, p. 5). DuFour and Eaker (1998) examine foundational work in a PLC: defining a shared mission, vision, values, and goals. This imperative groundwork builds collective efficacy; foundationally, our collaborative efforts are more powerful than working in isolation. "From a practical standpoint, collective teacher efficacy is determined by the quality of collective learning and application of that learning" (Courtney et al., 2017, p. 5). PLCs are instrumental in promoting self-reflection and personal capacities for refining teaching practices (Courtney et al., 2017).

With an emphasis on refining teaching practices, educators can "reap rewards that outweigh investments of time and effort necessary to build strong PLCs: organization into instructional teams, shared success, creation of school-specific systematic interventions, assessment of collective effectiveness, and built-in continuous improvement" (Courtney, et al., 2017, p. 5). As the educational system evolves, educators' shifting needs are contingent on their ongoing professional growth (Kang et al., 2013). Ensuring that professional learning is focused and meaningful does not occur by happenstance. Strategic planning necessitates that professional learning aligns with state and district initiatives. Fullan (2009) provided a distinct path for strategic planning in his book *Motion Leadership: The Skinny on Becoming Change Savvy.* Fullan (2009) said, "The skinny is about simplexity—finding the smallest number of high-leverage, easy-to-understand actions that unleash stunningly powerful consequences" (p. 16).

Research has demonstrated that efficacious school plans are concentrated and sufficiently simple so teachers can understand their role in executing the plan (Waters et al., 2003). Implementing the Pathways for Coaching Collaborative Teams protocol stipulates PLC with resolute actions that deepen understanding of the PLC process (Many et al., 2018). Although many schools consider themselves PLCs, "few have collaborative teams that consistently function at high levels" (Many et al., 2018, p. xv). In the book *Amplify Your Impact: Coaching Collaborative Teams in a PLC at Work,* Many et al. (2018) provided a framework for coaching PLCs. This framework converges on clarity, feedback, and support (Many et al., 2018). The Pathways for Coaching Collaborative Teams protocol bestows clarity to teams furnishing a vision of what highly effective PLCs should demonstrate (Many et al., 2018). The specific actions outlined in the protocol parallel Richard DuFour's four critical questions of a PLC (DuFour et al., 2016):

- What do we want our students to know and be able to do?
- How will we know if each student has learned it?
- How will we respond when some students do not learn it, and
- How will we extend the learning for students who have demonstrated proficiency? (p. 36)

The Pathways for Coaching Collaborative Teams protocol actions (see Figure 1, page 27) support conversations to ensure PLCs are deepening teachers' professional understanding of

- prioritizing standards
- identifying targets

- determining proficiency
- planning units
- analyzing strategies
- creating common formative assessments
- analyzing student work
- analyzing assessment data
- analyzing strategies
- reviewing assessments
- planning classroom interventions
- utilizing a system of support
- planning enrichment activities (Many et al., 2018, p. 90)

Administrators can exercise the Pathways for Coaching Collaborative Teams protocol to collect formative data on PLC focus and the PLC members' reactions to the four critical questions (Many et al., 2018). This actionable data allows administrators and district leadership to respond with the necessary resources or support. When leaders "keep track of the time teams [spent] in each Pathway, we gain valuable insight [into] the team's development and where they might need additional support" (Thomas, 2018, para. 2). One of the prevalent roadblocks to forward movement in a PLC is when a PLC is stuck in PLC Lite. DuFour and Reeves (2016) defined PLC Lite as "when educators rename their traditional faculty or department meetings as PLC meetings, engage in book studies that result in no action, or devote collaborative time to topics that [do not] affect student achievement" (p. 69).

Background

Yearly, educational leaders generate state, district, and building goals. Once the state mandates, district initiatives, school improvement plans, or most recent research are communicated with educators, initiative overload can ensue. Initiative overload is the idea that innumerable initiatives are introduced yearly with inadequate time allotted for high-quality professional learning as defined by Learning Forward (2024).

The site for this study was Building A, a midwestern middle school that includes sixth through eighth, with approximately 709 students and 70 staff members (Kansas State Department of Education, 2023). PLCs are embedded in the district's strategic plan developed during the 2020-2021 school year. The middle school PLCs include math, social studies, science, English language arts, academy prep, Project Lead the Way, and electives (Assistant Principal of Building A, personal communication, August 2022).

The 2022-2023 school year at Building A initiated building-wide professional learning on foundational knowledge of a PLC. Certified teachers undertook a baseline assessment of their understanding of the foundational knowledge of a PLC. As new teammates joined PLCs, a foundational review of the four critical questions of a PLC, three big ideas, and the mission, vision, values, and goals were revisited. This critical habit established the foundational knowledge of a PLC and provided an opportunity to retune the PLC moving forward (Assistant Principal of Building A, personal communication, January 2024).

Statement of the Problem

American educators are challenged to increase student achievement through high-leverage and research-based resources. One high-leverage, research-based framework to

improve student achievement is the implementation of highly effective PLCs. Highly effective PLCs stay focused on DuFour's four critical questions of a PLC and three big ideas (Kramer & Schuhl, 2017). These questions may include identifying research-based strategies, planning units, prioritizing standards, or utilizing tiers of support. Coggshall (2012) asserted that "when professional learning communities have a common focus on student learning and purposeful sharing of instructional practice, teachers adopt pedagogical practices that improve student learning experiences" (p. 5).

As the demands on educators intensify, schools commit to becoming a learning organization; committed to working together to aggregate capacity and create a culture of trust (DuFour, 2003). When teachers recognize that specific actions increase student achievement, a teacher's motivation to implement those actions multiplies. PLCs establish the opportunity for teacher collaboration (DuFour, DuFour, Eaker et al., 2016).

Stoll (2010) described teacher collaboration as collaborative inquiry. Donohoo (2006) defined collaborative inquiry "as a process that engages educators in examining and reflecting on the link between the actions of teachers and school leaders and the outcomes of students" (Donohoo, 2006, p. ix). Tuttle (2015) studied the impact of collaborative learning protocols on PLCs. Given the results, "it is clear that school leaders would be well served to support the implementation of collaborative learning protocols through PLCs" (p. 92). Tuttle (2015) went on to reveal that research demonstrating the impact of protocols is constrained.

Spriggs (2023) studied the impact of teachers' perceptions of their personal skill level in implementing DuFour's four critical questions of a PLC. Among Sprigg's findings, "schools and districts can support teacher efficacy for all teachers, but

specifically [for] new teachers by providing more opportunities for mastery experiences, both job-embedded and other professional learning opportunities" (p. 99). It was documented that additional research was needed to determine the impact of leadership on collective teacher efficacy when implementing PLCs (Spriggs, 2023, p. 7). "The study could also be expanded to explore the connections between collective teacher efficacy [and] professional learning" (Spriggs, 2023, p. 101).

Greene (2015) studied the use of protocols to advance PLCs. In 2015, her research focused on whether implementation repositioned PLCs toward effective PLC standards. She found that PLC protocols can become a tool to improve PLCs; however, "evidence of an effective PLC practice appears to be limited" (Greene, 2015, p. 104). "Researchers including Killion (2010) and Easton (2009) suggested that selecting and implementing specific protocols designed to facilitate more in-depth, laser-focused data analysis and examination of teacher and student work results in more significant outcomes aimed toward school improvement" (as cited in Tuttle, 2015, p. 6)

Previous research on protocols in PLCs have focused on collaborative learning protocol impact on PLC, teachers' perceptions of their personal skill level in implementing DuFour's four critical questions of a PLC, and whether implementation repositioned PLCs toward effective PLC standards. This research has identified protocols as a tool to improve PLCs; however, "evidence of an effective PLC practice appears to be limited (Greene, 2015, p. 104). Further research is necessitated to understand teachers' perceptions of the impact of the implementation of the Pathways for Coaching Collaborative Teams protocol (Many et al., 2018). By examining teacher perception,

using qualitative approaches, we can better understand teacher's views about PLC protocols.

Purpose of the Study

The purpose of this qualitative study was to investigate teachers' perceptions about the effect of the implementation of the Pathways for Coaching Collaborative Teams protocol (Many et al., 2018). The Pathways for Coaching Collaborative Teams protocol specifies intentional actions that should occur in a PLC to ensure high levels of learning for all students (Many et al., 2018). As teachers self-reflect during PLCs, they can identify potential areas in the instructional learning cycle needed to deepen their understanding of one or more of the actions under each of the four critical questions of a PLC (see Figure 1, page 27). This provides an opportunity for job-embedded professional learning while also targeting the achievement needs of academically diverse learners (Many et al., 2018).

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Significance of the Study

This study has implications for educational leaders' approach to the implementation of highly effective PLCs and job-embedded professional learning.

Implementation of the Pathways for Coaching Collaborative Teams protocol provides ongoing, job-embedded professional learning for educators and enhances teacher knowledge of the actions needed to complete an instructional learning cycle in a PLC (Many et al., 2018). Regarding teachers' professional learning and its impact on student achievement, the concept of PLC has been widely endorsed (DuFour & Eaker 2005). The results of this study contribute to the literature on the impact of a PLC protocol by providing educational leadership with practical insight into narrowing the focus when trying to develop and implement highly effective PLC.

This study can provide educators with a clear focus for PLCs. When asked if the PLC is actively engaged in one of the four critical questions of a PLC, educators can confidently say the PLC is focused on collaborative inquiry. Additionally, it stipulates ongoing opportunities to deepen professional knowledge of the actions included in the instructional cycle of a PLC (Many et al., 2018). The potential strengths of this study include the implementation of a research-based protocol that administrators and educators can replicate in PLCs. According to DuFour, DuFour, Eaker et al. (2016), effective models "are set up to ensure teachers work together rather than in isolation" (p. 165). Collaboration is fundamental to teacher development. "The second big idea driving the PLC process is that in order to ensure all students learn at high levels, educators must work collaboratively and take collective responsibility for the success of each student" (DuFour, DuFour, Eaker et al., 2016, p. 42).

Delimitations

As stated by Lunenburg and Irby (2008), “Delimitations are self-imposed boundaries set by the researcher on the purpose and scope of the study” (p. 134). The following delimitations were used to limit the scope:

1) This study included teachers from Building A in District X during the 2022-2023 and 2023-2024 school years.
2) The data collected were about teachers’ perceptions of the impact of the Pathways for Coaching Collaborative Teams protocol using a Google Form measurement tool during the 2022-2023 school year.
3) The data collected were about teachers’ perceptions of the impact of the Pathways for Coaching Collaborative Teams protocol using a Google Doc measurement tool during the 2023-2024 school year.
4) A convenient, purposive sampling of all teachers was chosen by the researcher.

Assumptions

Assumptions, premises, and propositions accepted as operational for the research "provide meaning to the conclusions and support the recommendations" (Lunenburg & Irby, 2008, p. 135). The following assumptions were made during this study:

1. Administrators and teachers in the district had received professional development endorsed or sponsored by Solution Tree. Solution Tree provides professional development that is research-based and empowers educators to improve student achievement.
2. All administrators received training and support regarding implementing the Pathways for Coaching Collaborative Teams protocol (Many et al., 2018).

3. All sixth through eighth grade teachers implemented the Pathways for Coaching Collaborative Teams protocol with fidelity each week during PLC.

Research Questions

The qualitative research design examined teacher perception of the impact of the of the implementation of the Pathways for Coaching Collaborative Teams protocol (Many et al., 2018). This protocol presents teachers with intentional actions to ensure high levels of learning for all students (Many et al., 2018). As teachers self-reflect during PLCs, they identify potential areas in the instructional learning cycle (see Figure 1, page 27) to deepen their understanding; therefore, providing an opportunity for job-embedded professional learning.

The following questions guided this study:

RQ1

What were teachers' initial understanding of the foundations of a PLC in August 2022?

RQ2

How did teachers' understanding of the foundations of a PLC change from August 2022 to Spring 2024?

RQ3

How did teachers' perceptions about the effect of the implementation of the Pathways for Coaching Collaborative Teams protocol change from January 2023 through Spring 2024?

RQ4

How did the focus of the PLC actions associated with one or more of the four critical questions of a PLC change over time from January 2023 through Spring 2024?

Definition of Terms

To provide a mutual understanding of terms between the reader and the researcher, the following terms have been defined.

Course-alike PLC

A course-alike PLC is defined as a PLC that includes two or more teachers who teach the same course (DuFour, 2007).

Formative Assessment

Defined as an assessment for learning used to advance and not merely monitor each student's learning, a formative assessment informs the teacher regarding the effectiveness of instruction and the individual student regarding progress in becoming proficient. The checks for understanding that individual teachers use in the classroom daily are examples of formative assessments (Wiliam, 2018).

Pathways for Coaching Collaborative Teams

Many et al., (2018) identified Pathways for Coaching Collaborative Teams as a protocol that offers differentiated support and increases a PLC's effectiveness in answering the four critical questions of a PLC (DuFour et al., 2016).

Professional Learning Community

DuFour, DuFour, Eaker et al. (2016) defined PLCs as an ongoing process in which educators work collaboratively in recurring cycles of collective inquiry and action research to achieve better results for the students they serve (p. 39).

Protocols

According to Easton (2009), protocols are defined as practical tools for deepening the conversation so more meaningful professional learning can occur, resulting in changes in practice so that all students can learn.

Teacher Clarity

Hattie (n.d.) defined teacher clarity as a teacher's understanding of the skills, knowledge, attitudes, and values that students need to learn.

Three Big Ideas of a PLC

DuFour, DuFour, Eaker et al. (2016) defined the three big ideas as the basis for a PLC: (a) a focus on learning, (b) a collaborative culture, and (c) a results orientation.

Organization of Study

This study consists of 5 chapters. Chapter 1 contains an introduction, background information for District X, a statement of the problem, the study's purpose, the research questions, significance, definitions, delimitations, research questions, and the organization of the study. Chapter 2 is a review of the literature on PLC that will include the history of professional development, a historical overview of PLCs, professional learning communities' impact on student achievement, the power of protocols in education, and how the implementation of the Pathways for Coaching Collaborative Teams protocol provides ongoing, job-embedded professional learning for educators (Many et al., 2018). Chapter 3 presents the study's methodology, including information on the research design, setting, sampling procedures, instruments, data collection procedures, data analysis and synthesis, reliability and trustworthiness, researcher's role, and limitations of the study. Chapter 4 presents an explanation of the results of the study.

Chapter 5 includes a summary of the findings, findings related to the literature, and conclusions.

Chapter 2

Review of the Literature

The purpose of this qualitative study was to investigate teachers' perceptions about the effect of the implementation of the Pathways for Coaching Collaborative Teams protocol (Many et al., 2018). The Pathways for Coaching Collaborative Teams protocol specifies intentional actions that should occur in a PLC to ensure high levels of learning for all students (Many et al., 2018). As teachers self-reflect during PLCs, they can identify potential areas in the instructional learning cycle needed to deepen their understanding of one or more of the actions under each of the four critical questions of a PLC (see Figure 1, page 27). This provides an opportunity for job-embedded professional learning while also targeting the achievement needs of academically diverse learners (Many et al., 2018).

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Educational Reform

"America has had a long love affair with educational reform" (Berliner et al., 1996, p. 173). Efforts toward educational reform span the Public School Movement, the Elementary and Secondary Education Act (ESEA) of 1965, *A Nation at Risk, Goals 2000,* and No Child Left Behind (Hunt 2005). Hunt (2005) identified that educational reform is inundated with reforms advertised as "silver bullets" for political and economic problems (p. 89).

In 1983, there was criticism of public education via the federal report *A Nation at Risk.* Within this report, the education system was critiqued with a call for educational reform (The National Commission on Excellence, 1983). "According to the findings in the report, America was losing its prominence in "commerce, industry, science, technology, and innovation" (The National Commission on Excellence, 1983, p. 9). The findings raised concerns among American citizens.

Despite valiant efforts, a decade passed without successful reform. The movement failed to achieve the purported results. The top-down structure of this movement provided schools with the autonomy to make site-based decisions. With the excellence movement crumbling, a second movement was called for in 1989 by President George H.W. Bush (Toch, 1991). President Bush called for a national summit that laid the groundwork for Goals 2000. Goals 2000 stated that "... all students [would] master challenging subject matter in core disciplines and for American students to become 'first in the world' in math and science" (Stedman, 1994, p. 7).

In response to this movement, schools across the United States focused on minimal changes that did not directly impact student achievement. "So, the restructuring

movement, like the excellence movement before it, failed to make a significant difference in the ability of American schools to meet the challenges they face" (DuFour et al., 2008, p. 37). As George W. Bush was inducted into office, he focused on accountability. The No Child Left Behind (NCLB) statute was passed in 2002. NCLB stated that schools must show improvement. "NCLB increased accountability and required schools to meet state standards" (The White House, 2024, para. 3). NCLB implemented yearly state assessments in the areas of mathematics and reading for students in grades three through eight as well as high school. Each year, this data was disaggregated by subgroups and analyzed to determine if "adequate yearly progress" had been achieved (The White House, 2024, para. 3). The intention behind NCLB was to ensure all students reached proficiency by 2014 (The White House, 2024).

As President Obama began his presidency, he asserted that student achievement must be a continued focus. He established the goal that all high school graduates would be "college ready and career ready" (DuFour & Marzano, 2011, p.12). Fullan, a leading authority on education reform stated that "the nation has steadily lost ground to other countries since the reform efforts were launched" (DuFour & Marzano, 2011, p. 13). American educators have experienced numerous cycles of reform over the past four hundred years. History has uncovered essential facts that should be noticed. Over time, political, social, and economic changes have been reflected in America's educational systems (Fullan, 2016). After failed attempts, educators have grown weary of educational reform.

Previous school improvement models focused on "the concepts and principles of the factory model" (DuFour & Eaker, 1998, p. 19). Administrators are hired to cast a

vision. This vision is then tasked to the teachers to follow and implement. “According to DuFour and Eaker (1998), one school improvement model that has emerged to meet these demands is that of professional learning communities” (p.19). If schools want to improve their capacity to boost student learning systematically, they should build professional learning communities that focus on learning, a culture of collaboration, and collective responsibility among teachers (Newmann & Wehlage, 1995, p. 37).

Professional Learning Communities

The notion of teacher collaboration has been assiduous for more than 100 years. In 1933, John Dewey asserted that community-based teaching would benefit students. Within his writing, he explained school as a space to provide guidance to individuals and a responsibility for community learning (Dewey, 1900). The term professional learning community first emerged in 1960 when researchers sought an alternative to isolation (All Things PLC, 2010). Richard and Rebecca DuFour wrote about the term as an alternative to teacher isolation (n.d.). By the 1980’s, our systems were engrossed in collaborative teaching (Hord, 2008). “The demands of modern society are such that America’s public schools must now provide what they have never provided before: a first-rate academic education for nearly all students” (Schlechty, 1997, p. 235). A Nation at Risk was released in 1983 (U.S. Department of Education). This report characterized American schools as substandard. In 1989, Rosenholtz’s study found “learning enriched schools were characterized by collective commitments to student learning in collaborative settings” (Solution Tree, 2024). In 1998, DuFour and Eaker wrote *Professional Learning Communities at Work: Best Practices for Enhancing Student Achievement.* This foundational text launched a school improvement movement that focused on

transforming schools into professional learning communities. Professional learning communities provided a framework regarding how schools should function to increase student achievement. This included the importance of staff development (DuFour et al., 2008). PLCs were required to create a shared mission, vision, values, and goals (DuFour & Eaker, 1998). This ongoing collaborative work required collective inquiry and action orientation (DuFour & Eaker, 1998). Peter Senge (1996) states "the rationale for any strategy for building a learning organization revolves around the premise that such organizations will produce dramatically improved results" (p. 44).

One such school cited for dramatically improving results, was Adalai Stevenson High School (DuFour & Eaker, 1989, p. v). In 1983, Dr. Richard DuFour was hired to lead the high school. Adalai Stevenson High School was cited for its successful implementation of the PLC model (DuFour & Eaker, 1998). Three ideas that form the philosophical basis for the concepts and practices reflective of a high performing professional learning community are: a focus on learning, a collaborative culture, and a results orientation (DuFour et al., 2021). If the fundamental purpose of school is to ensure all students learn at high levels, then the adults in the organization must also be continually learning. To guide this ongoing learning, DuFour developed the four critical questions of a PLC:

1) What knowledge, skills, and dispositions should every student acquire as a result of this unit, course, or grade level?
2) How will we know when each student has acquired the essential knowledge and skills?
3) How will we respond when some students do not learn?

4) How will we extend the learning for students who are already proficient? (DuFour et al., 2016, p. 34)

It is important to note that “the PLC at Work process is not one of many improvement initiatives districts and schools undertake” (Muhammad, 2021, para. 11). It is the systematic framework that “positively impacts student success” (Muhammad, 2021, para. 11). “To reap the full benefits of becoming a high-performing PLC, administrators, teachers, and support staff (and students) must be spared a wide range of initiatives that are disconnected, redundant, or simply lack the promise of a significant positive impact” (Muhammad, 2021, para. 11).

Professional Development

Professional development has evolved throughout the past century. According to Grant et al. (2001), “Since schools were first established in this country, one of their primary responsibilities has been to create literate citizens. However, the role of the teacher, the nature of literacy instruction, and the character of professional development have changed" (p. 8). School administrators recognize the need for additional training for their teachers (Orlich, 1989). Over time, planning for additional training has evolved. Continuous improvement efforts and data-driven decision-making have significantly influenced these changes (Marsh & Ferrell, 2014).

Educators in the early 19th century did not receive adequate training to understand the subject matter they taught (Noddings, 1986). The lack of training regarded the educators as incapable of improving their teaching (Noddings, 1986). According to Button and Provenzo (1989), required formal learning was minimal, and entry into teaching was effortless in the 1800s.

Educational reform was highlighted in *A Nation at Risk: The Imperative for Educational Reform* and was published by The National Commission on Excellence in Education (1983). This report highlighted the necessity to improve public education. Throughout the 1990s, school systems across the United States underwent educational reforms because of public demands to hold schools accountable for student learning (Archer, 2012). In 2001, high-stakes testing required under No Child Left Behind placed significant “demands on teachers for increasing knowledge, skills, performance, commitment, and results” (Odden and Kelley, 2002, p. 67).

Historically, educators continue well-known practices instead of exhausting time and energy on a new initiative. Educators often wonder, "How will [I] personally benefit ... [asking themselves] do I have to learn new things, work differently and probably even more, without any direct or symbolic gratification" (Terhart, 2013, p. 488)? In the United States, over $18 billion is spent annually on teacher professional development (Arnett et al., 2018). “Too often, the return on this investment is minimal in learning transfer for educators or measurable academic gains for students" (Germuth, 2018, p. 77).

“Improving professional learning for educators is a crucial step in transforming schools and improving academic achievement” (Darling-Hammond et al., 2009, p. 12). To bolster teaching skills and knowledge, schools must create job-embedded professional learning that is planned and organized to benefit all teachers (Darling-Hammond, 2009). DuFour et al., (2016) defined professional learning as developing learning teams that follow a cycle of continuous improvement focused on examining student data, identifying areas for new learning for educators, applying new learning in the classroom, reflecting on the impact on student learning, and repeating this cycle in a PLC.

According to Learning Forward (2024), continual improvement can be achieved through job-embedded professional learning. Learning Forward (2024) states that professional development should be "sustained, intensive, collaborative, job-embedded, data-driven, and classroom focused" (para 4). "Job-embedded professional development (JEPD) refers to teacher learning that is grounded in day-to-day teaching practice and is designed to enhance teachers' content-specific instructional practices with the intent of improving student learning" (Darling-Hammond & McLaughlin, 1995). Professional Learning Communities is cited by Learning Forward (2024) as a form of job-embedded professional learning. In PLCs, teachers collaborate to analyze their practice and discuss new strategies and tactics, testing them in the classroom and reporting the results to each other" (Croft et al., 2010, p. 7).

In the book, Amplify Your Impact, Thomas Many et al. (2018) identify the Pathways for Coaching Collaborative Teams protocol as a tool for PLCs "to deepen their understanding of the PLC process and move forward in the instructional learning cycle" (p. 86). This job-embedded form of professional learning aligns with Killion and her colleagues' (2012) assertion that "learning does not become useful or valuable until it is transferred into practice" (p. 23).

> A high functioning PLC focused on the right work will act, in essence, as a kind of knowledge-generating system for teachers, where the effect of professional development is accelerated and refined through collective focus on learning within the teams (Basileo, 2016, p. 3).

Protocols in Education

School reformers first developed protocols in the 1990s (National School Reform Faculty, 2024). Protocols are intended to provide a clear structure (Easton, 2009). At its heart, facilitating a meeting with a protocol is about promoting participation, ensuring equity, and building trust (Easton, 2009). Promoting participation is less about ensuring everyone talks and more about an assurance that we hear *all* perspectives (Easton, 2009). Participation allows everyone present to gain new insight. "It is also a call to pool knowledge and thus become smarter in the aggregate, to cultivate and rely upon what Lauren Resnick (1987) called "shared cognition" (as cited in McDonald et al., 2013, p. 12). As we build shared cognition, we all need to strive for inclusion. As a facilitator uses a protocol, "he or she also implicitly acknowledges the value of [the] difference in the group's learning, and helps the group strive to understand the contribution that difference may make" (McDonald et al., 2013, p. 13).

“The word protocol is derived from the Greek *protokollon”* (Cuddemi, 2020). Protokollon is partly derived from the Greek word *kollon*, meaning “glue” (Cuddemi, 2020). In education, protocols glue together diverse ideas and people through a process. Why would educators want to use protocols? The main reason is that they do not want to be isolated in their classroom. They know the value of collaboration. They know they can learn. They believe in collective efficacy and see all students as *their* students. Protocols provide a productive way to collaborate (Easton, 2009).

At first, protocols may seem awkward and constraining. Weinbaum et al. (2004) acknowledged that

> while it may feel somewhat unnatural at first (it is!) to use a protocol to structure a conversation, participants quickly realize that without an explicit structure, conversations about teaching and learning tend to drift, go in many directions at once, or become so abstract that they are unlikely to lead to any useful learning. (p. 47)

Protocols work for several reasons. One of the main reasons is that their use deepens conversations and provides on-demand professional learning (Easton, 2009). Protocols are one of the most potent processes PLCs can use for learning (Solution Tree, 2024). Many educational initiatives have come and gone with little impact because what happens within them is misunderstood. For example, many schools adopted the block system without addressing how teachers would instruct for more extended class periods. Stanford researchers McLaughlin and Talbert (2001, 2006) explained that high-performing schools include a critical factor in their success: the presence of professional communities of practice (as cited in Learning Forward, 2011). "These are within-school groups that meet frequently (often using protocols) to examine student work and other data-laden texts together, to think through problems of practice, and to hone their mutual commitment to the learning goals of the school" (McDonald et al., 2013, p. 9).

"Although many schools consider themselves professional learning communities, few have collaborative teams that consistently function at high levels" (Thomas, 2018, para. 1). In the book, *Amplify Your Impact: Coaching Collaborative Teams in a PLC at Work*, Many et al. (2018) provided a framework for coaching teams. This framework focuses on clarity, feedback, and support (Many et al., 2018). The Pathways for Coaching Collaborative Teams protocol includes actions for PLCs to focus their conversations

during team meetings (Many et al., 2018). Administrators can collect formative data to reflect on PLC meetings and the PLC's response to the four critical questions (Many et al., 2018). This actionable data allows administrators to respond with the necessary resources or support.

When leaders "keep track of the time teams spend in each Pathway, we gain valuable insight into the team's development and where they might need additional support" (Thomas, 2018, para. 6). To operate effectively, it is necessary to build a framework for success. This framework includes consistent time for PLCs to meet and regular space for groups to hold meetings (Annenberg Institute for School Reform, 2010). In addition, PLCs are enhanced by policies that encourage personalized professional learning and school-based decision-making. Looney (2004) found that “recent qualitative studies on the PLC model and student achievement, evidence was found that teacher effectiveness improved as their understanding of the PLC model improved, such as their increased understanding of teacher efficacy and beliefs in the PLC model” (as cited in Hunter-Boyce, 2009, p. 81).

The 2022 standards for Professional Learning help clarify how we can improve teacher effectiveness and student achievement (Learning Forward, 2024). The standards are organized into three frames that recognize what must be present for effective professional learning 1) the conditions necessary for professional learning to succeed, 2) high-quality processes for creating professional learning experiences, and 3) critical areas of content for educators to focus on as they continue to grow their expertise (Burr et al., 2021, p. 4).

Structured professional learning will help educators to expand their repertoire of skills (Learning Forward, 2011). A PLC is a natural place for this to occur. Team members can tap into the skills and talents of their colleagues. Truly productive teams work together to clarify what students should know and be able to do, backward design units, develop common formative assessments, analyze teaching strategies, and focus on results (DuFour et al., 2021). “We advocate for learning communities, not teaching communities, and argue that the best way to improve student learning is to invest in the learning of the adults who serve them” (DuFour et al., 2021, p. 11). Ultimately, teachers teaching one another the practice of teaching is what will lead schools to continual improvement (Fullan, 2009).

A guiding premise of *Learning by Doing*, by DuFour et al., (2016) is that despite the very real external issues and obstacles that impact schools, educators can take steps that will improve teaching and learning in their schools. PLCs create a shared vision by building shared knowledge of the current reality in the school as well as examining best practices for helping students learn at high levels (DuFour et al., 2016). Newmann and Wehlage stated (1995), "If schools want to enhance their organizational capacity to boost student learning, they should build a professional community characterized by shared purpose, collaborative activity, and collective responsibility among staff” (p. 37). If we want to raise academic achievement, we need to focus on improving the instructional capacity in the classroom (Annenberg Institute for School Reform, 2010). “Recent research shows that the kinds of professional development that improve instructional capacity display four critical characteristics:

- ongoing

- embedded within context-specific needs of a particular setting
- aligned with reform initiatives and
- grounded in a collaborative, inquiry-based approach to learning" (Annenberg Institute for School Reform, 2010, p. 3)

Often, educators reveal that professional learning comes in the form of a one-size-fits-all approach or through district-wide professional learning spread throughout a school year. In the book, Amplify Your Impact, the Pathways for Coaching Collaborative Teams' protocol is introduced as a tool to focus conversations in PLCs and provide on-demand professional learning for educators (Many et al., 2018).

To avoid the PLC Lite trap, the Pathways for Coaching Collaborative Teams protocol can focus the conversations on the four critical questions of a PLC and the intentional actions that should be the focus of the PLC (Many et al., 2018). As educators focus their work, they will identify growth opportunities and seek out resources, whether that is additional training, resources, or support from an instructional coach, administrator, or colleague. Figure 1 below "breaks down each of the four critical questions of a PLC and identifies a revised pathways tool that helps address each one" (Many et al., 2018, p. 87).

Figure 1

Revised Pathways as They Relate to the Four Critical Questions of a PLC

Critical Question One: What knowledge, skills, and dispositions should every student acquire as a result of this unit, this course, or this grade level?	**Critical Question Two:** How will we know when each student has acquired the essential knowledge and skills?	**Critical Question Three:** How will we respond when some students do not learn?	**Critical Question Four:** How will we extend the learning for students who are already proficient?
We're doing the following to answer this question:			
Prioritizing standards	Creating common formative assessments	Analyzing strategies (Teams will engage in similar practices at different stages of the instructional cycle, so there will be repeats.)	Planning enrichment activities
Identifying targets	Analyzing student work	Reviewing assessments	
Determining proficiency	Analyzing assessment data	Planning classroom interventions	
Planning units		Utilizing a system of support	
Analyzing strategies			

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The pathways outlined in Figure 1 “flow down the chart from each critical question listed at the top” (Many et al., 2018, p. 87). The actions that are listed are the generalized steps “needed to complete an instructional learning cycle in a PLC, and each has a corresponding pathway that coaches and teams use to move through the process” (Many et al., 2018, p. 87). Figure 2 below outlines the pathway tool for critical question one of a PLC: “What knowledge, skills, and dispositions should every student acquire as a result of this unit, this course, or this grade level?” (Many et al., 2018, p. 90).

Figure 2

Pathways Tool for Critical Question One

Prioritizing Standards	Identifying Targets	Determining Proficiency	Planning Units	Analyzing Strategies
Which standards provide endurance?	What targets did the unwrapping process reveal?	How would you rewrite this target in student-friendly terms?	What targets will you be instructing on next?	What instructional strategies will you use?
Which standards provide readiness for the next level of learning?	Where does the current curriculum address these targets?	What are the prerequisite skills and vocabulary necessary to master this target?	What instructional strategies will you all agree to use during this unit?	Which strategies worked well when this unit was taught in the past? How do you know?
Which standards provide leverage?	Which targets are not adequately addressed in your current curriculum?	To what DOK level should students show mastery?	Approximately how much time will you spend teaching each target?	Which strategies did not work well last time this unit was taught? Why did they not work?
Which standards are most often assessed by standardized tests?	To what DOK level will you teach each target?	What will students create, produce, or be able to do when they master this target?	To what DOK level will you teach each target?	How can you alter these strategies to make them more successful?
If you could only teach ten standards in this course, which would they be? Why?	How will you pace your course curriculum to include these targets?	How will you grade or score this target?	What data, evidence, or student work should your team bring to the next meeting?	What strategies should you delete from this unit?
		What models of proficiency do you have or can you create?		What additional best-practice strategies should you try?

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The pathways outlined in Figure 2 help teams find clarity “about their goals for instruction in order for all teachers to deliver a guaranteed and viable curriculum” (Many et al., 2018, p. 90). Using Table 2 supports teams as they “navigate through very important conversations related to this question” (Many et al., 2018, p. 90). “The main actions for the first critical question [of a PLC] include prioritizing standards, identifying targets, determining proficiency, planning units, and analyzing strategies” (Many et al., 2018, p. 91). Schools that implement this protocol “transform their culture from a focus on teaching to a focus on learning” (Many et al., 2018, p. 97). PLC should always focus on what students learn. “Once teachers know where their students stand in mastering the priority standards, they can collaboratively plan their next instructional moves” (Many et al., 2018, p. 98). “The best way to measure where students are in their mastery is to utilize regularly scheduled, short cycle, common formative assessments” (Many et al., 2018, p. 98). Figure 3 below is the pathway for critical question two of a PLC. It focuses on common formative assessments, analyzing assessment data, and student work.

Figure 3

Pathways Tool for Critical Question Two

Creating Common Formative Assessments	Analyzing Student Work	Analyzing Assessment Data
When will you deliver your next CFA?	What student work samples did you bring to discuss as a team?	What assessment data did you bring to discuss as a team?
What targets will you address in this CFA?	Find examples of student work you deem proficient. What makes them proficient? Do you all agree?	What are the proficiency rates of each target in individual classrooms?
What targets from previous instruction do you need to reassess?	Look at papers of students who are not proficient. Are there common misconceptions or mistakes? How can you correct those misconceptions or mistakes?	What are the overall team proficiency rates for each target you assessed?
At what DOK levels do you expect students to master the target? Do the CFA questions match this expected level of DOK?	Look at the questions most students got wrong. What are the patterns among the wrong answers? How can you correct the misconceptions or mistakes?	Are proficiency levels higher in some classes than in others? Why? How can you transfer that success to other classes?
What question types will best measure the students' mastery at the required DOK level? Are these included in your assessment?	Did some groups outperform others? Why? How can you transfer that success to other groups?	Which questions did the students most often get wrong? Why? What are the patterns among the wrong answers? How can your team correct the misconceptions or mistakes?
Are there enough items per target to accurately measure the student's level of mastery?	What connections can you make between student performance and instructional strategies?	What connections can you make between student performance and instructional strategies?
Do your multiple-choice items include distractors that will help you identify specific misconceptions?	How will your team address targets that need additional whole-class instruction?	How will your team address targets that need additional whole-class instruction?
When will you analyze the CFA data as a team?	Which students need interventions on which targets? What is your plan for providing those students with additional instruction?	Which students need interventions on which targets? What is your plan for providing those students with additional instruction?
	What should your next steps be as a classroom teacher? As a team?	What adjustments do you need to make to the assessment?

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The pathways outlined in Figure 3 help teams find clarity about critical question two of a PLC "How do we know if our students have learned it? (Many et al., 2018, p. 98). Using Figure 3 supports teams as they implement "one of the most powerful strategies a teacher can use" (Many et al., 2018, p. 100). This powerful strategy focuses on what students have learned. "Once teachers know where their students stand in mastering the priority standards, they can collaboratively plan their next instructional move" (Many et al., 2018, p. 98). According to Wiliam (2018), the best way to determine the next instructional move is through short-cycle formative assessments (p. 51). Short-cycle formative assessments collect evidence from all students, are minute-by-minute, and help teachers respond in real-time (Wiliam, 2018, p. 51). Regular use of formative assessments can "raise student achievement by 0.4 to 0.7 standard deviations" (Many et al., 2018, p. 98).

Figure 4 below is the pathway for critical question three of a PLC. It focuses on utilizing a system of support, analyzing strategies, planning classroom interventions, and reviewing assessments (Many et al., 2018, p. 103).

Figure 4

Pathways Tool for Critical Question Three

Analyzing Strategies	Reviewing Assessments	Planning Classroom Interventions	Utilizing a System of Supports
What instructional strategies did you use?	Which questions do students most commonly answer wrong?	What DOK level constitutes proficiency? At what DOK level did students perform?	Has this student been identified to receive Tier 2 or Tier 3 support?
Which ones work well? How do you know?	What standards and targets do those questions assess?	What pieces of the content are students missing (specific targets)?	What type of support is this student already receiving within the classroom?
Which ones didn't work well? How do you know?	What vocabulary in the question and answers could trip up your students?	How can you divide students into groups based on need?	What type of support is this student receiving outside the classroom?
How can you make these strategies more successful?	What patterns do you see in the distractors students chose? What common misconceptions can you identify?	How can you provide students with adjustments in the content you provide (lower Lexile materials, pictorial explanations, and so on)?	Does the student need additional Tier 2 or Tier 3 support?
What other strategies should you try?	Which targets need further small-group or whole-class instruction?	How can you provide students with a different process for understanding the material (for example, peer tutoring, cooperative learning, alternate readings, online activities, and so on)?	What next steps must you take to ensure this student is receiving all the support he or she needs?
	How can the classroom intervention pathway assist your team in making intervention plans?	Can students create a different kind of product to demonstrate their proficiency on this target?	
		How can you break down the material so students can experience success with the target?	

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The pathways outlined in Figure 4 help teams find clarity about critical question three of a PLC "How will we respond when some students do not learn it?" (Many et al., 2018, p. 90). Using Figure 4 supports teams as they "collaboratively plan intervention strategies not only for individual classrooms but for entire grade levels of students" (Many et al., 2018, p. 103). Buffum et al (2010) said "schools should provide targeted and systematic interventions to all students as soon as they demonstrate the need" (as cited in Many et al., 2018, p. 103). Figure 5 below is the pathway for critical question four of a PLC. It focuses on "How will we extend the learning for students who are already proficient" (Many et al., 2018, p. 107).

Figure 5

Pathways Tool for Critical Question Four

Planning Enrichment Activities
What DOK level constitutes proficiency? At what DOK level did your students perform?
What components of the content do your students understand the best (specific targets)?
What pieces of the content could you help your students stretch even further?
Are there students who need adjustments in the content you have provided (for example, higher-Lexile-level materials, and so on)?
How can you provide students with a different process for understanding the material at a deeper level (writing to learn, advance organizers, and so on)?
What different kinds of products (with a higher DOK) can students create to demonstrate their proficiency on this target?

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The pathways outlined in Figures 1-5 provide structure to keep teams on track during PLCs and offer a common language for schools (Many et al., 2018, p. 108). Each PLC will be in a different place in the instructional learning cycle; therefore, differentiated support from administration and instructional coaches will be key.

Summary

Chapter 2 focused on reviewing the literature about educational reform, professional development, professional learning communities, and protocols in education. Chapter 3 explains the research design, setting, sampling procedures, instruments, data collection procedures, data analysis and synthesis, researcher's role, limitations, and a summary.

Chapter 3

Methods

Over time, research has shown that effective school improvement "isn't magic, it's a science - a matter of taking the proper steps that lead to sustained success time and again" (Pipkin, 2015a, para. 4). In the *Journal of College Teaching & Learning* "researchers found that when school established a clear process to increase educator effectiveness, they experienced significant gains in student achievement" (Pipkin, 2015a, para. 13). School improvement needs to be focused and sufficiently simple so that everyone can understand their role in executing the plan (Pipkin, 2015b). The purpose of this qualitative study was to investigate teachers' perceptions about the effect of the implementation of the Pathways for Coaching Collaborative Teams protocol (Many et al., 2018). The Pathways for Coaching Collaborative Teams protocol specifies intentional actions that should occur in a PLC to ensure high levels of learning for all students (Many et al., 2018). As teachers self-reflect during PLCs, they can identify potential areas in the instructional learning cycle needed to deepen their understanding of one or more of the actions under each of the four critical questions of a PLC (see Figure 1, page 27). This provides an opportunity for job-embedded professional learning while also targeting the achievement needs of academically diverse learners (Many et al., 2018). This chapter includes a description of the research design, setting, sampling procedures, instruments, procedures used for data collection, data analysis and synthesis, along with the limitations of the study.

Research Design

The researcher designed a qualitative phenomenological study using archival data. According to Creswell and Poth (2018), “The main aim of phenomenology is to capture, as closely as possible, the way a phenomenon was lived by people who participated in the phenomenon” (p. 4). This study is included in the phenomenological research design category because the design examined and described the perceptions of teachers experiencing the phenomenon of implementing the Pathways for Coaching Collaborative Teams protocol (Many et al., 2018). To clearly understand the impact of the PLC protocol on teachers, four research questions were explored.

Setting

The study took place in Building A in District X. The district buildings include one early childhood school, one kindergarten through second grade elementary school, one third through fifth grade elementary school, one middle school, and one high school. During the 2022-2023 school year, enrollment for early childhood through high school was 2,692 (Kansas State Department of Education, 2023). The district reported 170 licensed staff and 12 building-level administrators district-wide (District X, 2023). At the time this study began in Fall 2022, the middle school was led by a principal and an assistant principal. After this study concluded in Spring 2024, the middle school was led by a new principal to the district, a first-year assistant principal, and a second-year assistant principal.

Sampling Procedures

The participants in this study were certified teachers at Building A in District X. Lunenburg and Irby (2008) defined purposive sampling as “selecting a sample based on

the researcher's experience or knowledge of the group to be sampled" (p. 175). In the 2022-2023 school year, the certified teachers included in weekly PLC are (Assistant Principal of Building A, personal communication, 2022):

- six teachers from the English language arts department
- six teachers from the mathematics department
- six teachers from the social studies department
- six teachers from the science department
- three teachers from the academy prep department
- three teachers from the Project Lead the Way department
- two teachers who make up the physical education department
- one teacher who makes up the fine arts department
- one teacher who makes up the journalism/theater/debate department
- one teacher who makes up the computer applications department
- one teacher who makes up the English as a second language department
- one teacher who makes up the family and consumer science department
- one library media specialist

In the 2023-2024 school year, the certified teachers included in weekly PLC are (Assistant Principal of Building A, personal communication, 2024):

- six teachers from the English language arts department
- six teachers from the mathematics department
- six teachers from the social studies department
- six teachers from the science department
- two teachers who make up the physical education department

- one teacher who makes up the fine arts department
- one teacher who makes up the journalism/theater/debate department
- one teacher who makes up the family and consumer science department

Instruments

Five instruments were utilized for this study: (a) a baseline assessment administered in August 2022 to examine teachers' understanding of the foundations of a PLC (see Appendix A), (b) a summative assessment administered in Spring 2024 to examine a change in teachers understanding of the foundations of a PLC from August 2022 to Spring 2024 (see Appendix B), (c) a Likert-type scale rating of the effectiveness of the Pathways for Coaching Collaborative Teams protocol (see Appendix C), (d) a digital version of the Pathways for Coaching Collaborative Teams protocol completed in weekly PLC during the 2022-2023 school year (see Appendix D), and a digital version of the Pathways for Coaching Collaborative Teams protocol completed in weekly PLC during the 2023-2024 school year (see Appendix E). The instruments are reviewed below. They include the name of the instrument, date(s) administered, and question(s).

Baseline Assessment

The baseline assessment administered in August of 2022 is a Google Form that contains five questions that help answer RQ1: What were teachers' initial understanding of the foundations of a PLC in August 2022? Teachers began the survey by

- typing their first and last name
- Question one asked teachers to complete a paragraph response to the question: What are the four PLC questions?

- Question two asked teachers to complete a paragraph response to the question: What are the three big ideas of a PLC?
- Question four was a multiple-choice question that asked teachers: When you think about PLC question one and the action of prioritizing standards, how would you rate your understanding?
- Question five was a multiple-choice question that asked teachers: When you think about PLC question one and the action of breaking standards into Learning Targets, how would you rate your understanding?

Summative Assessment

The summative assessment administered in Spring 2024 is a Google Form that contains five questions that help answer RQ2: How did teachers' understanding of the foundations of a PLC change from August 2022 to Spring 2024? This summative assessment was the same test administered as the baseline assessment administered in August 2022. Five questions were included.

- typing their first and last name
- Question one asked teachers to complete a paragraph response to the question: What are the four PLC questions?
- Question two asked teachers to complete a paragraph response to the question: What are the three big ideas of a PLC?
- Question four was a multiple-choice question that asked teachers: When you think about PLC question one and the action of prioritizing standards, how would you rate your understanding?

- Question five was a multiple-choice question that asked teachers: When you think about PLC question one and the action of breaking standards into Learning Targets, how would you rate your understanding?

Likert-Type Scale

The Likert-type scale was first administered in January 2023 and is a part of the digital version of the Pathways for Coaching Collaborative Teams protocol (Assistant Principal of Building A, personal communication, January 2023). The Likert-type scale helped answer RQ3: How did teachers' perceptions about the impact of the implementation of the Pathways for Coaching Collaborative Teams protocol change from January 2023 through Spring 2024?

The Likert-type scale was developed by the researcher in collaboration with a Baker University research analyst and major advisor. The scale was a 5-point Likert-type scale: 1 = *extremely ineffectively,* 2 = *very ineffectively,* 3 = *uncertain,* 4 = *very effectively,* 5 = *extremely effectively.*

The first 10 Fridays in the 2022-2023 school year were focused on professional learning (Assistant Principal of Building A, personal communication, December 2022). Beginning in January 2023, each certified teacher provided a rating on the Likert-type scale (Assistant Principal of Building A, personal communication, May 2023). During the 2023-2024 school year, PLCs were held on Thursdays (Assistant Principal of Building A, personal communication, August 2023). The first 6 Thursdays focused on professional learning and support on the foundations of a PLC (Assistant Principal of Building A, personal communication, August 2023). For the remaining 11 Thursdays, each certified

teacher filled out the digital version of the Pathways for Coaching Collaborative Teams protocol (see below Appendix C). Data were stored in a Google Sheet.

A Digital version of the Pathways for Coaching Collaborative Teams Protocol Completed in Weekly PLC During the 2022-2023 School Year

The instrument used to answer RQ4 was a digital version of the Pathways for Coaching Collaborative Teams protocol completed in weekly PLC after the PLC meetings during the 2022-2023 school years. Appendix D includes the digital version of the protocol used during the 2022-2023 school year. The digital version of the Pathways for Coaching Collaborative Teams protocol provides PLCs with specific actions (see Figure 1, page 27) they should be focused on under each of the four critical questions of a PLC. Teachers submitted feedback weekly on:

1. The critical question of a PLC they focused on during PLCs.
2. The specific action they focused on under each of the four critical questions of a PLC.

A Digital version of the Pathways for Coaching Collaborative Teams Protocol Completed in Weekly PLC During the 2023-2024 School Year

The instrument used to answer RQ4 was a digital version of the Pathways for Coaching Collaborative Teams protocol completed in weekly PLC after the PLC meetings during the 2023-2024 school years. Appendix E includes the digital version of the protocol used during the 2023-2024 school year. The digital version of the Pathways for Coaching Collaborative Teams protocol provides PLCs with specific actions (see Figure 1, page 27) they should be focused on under each of the four critical questions of a PLC. Teachers submitted feedback weekly on:

1. The critical question of a PLC they focused on during PLCs.

2. The specific action they focused on under each of the four critical questions of a PLC.

Data Collection

Before data collection began, the researcher completed an Institutional Review Board (IRB) request through Baker University on January 22, 2024 (see Appendix F). The Baker University IRB committee approved the request on January 23, 2024. The researcher requested to conduct research in District X in January 2023. The Superintendent of Schools gave written consent for this study to be conducted in District X (see Appendix G).

All the data were initially collected by Building A's assistant principal as part of her role as the assistant principal of curriculum and instruction (Assistant Principal of Building A, personal communication, January 2023). The baseline assessment was administered in August 2022. Data were collected in a Google Form to assess teachers' understanding of the foundations of a PLC. A summative assessment was administered in Spring 2024 by Building A's assistant principal of curriculum and instruction (Assistant Principal of Building A, personal communication, Spring 2024). Data were collected in a Google Form to assess their progress on the implementation of the foundations of a PLC. The researcher accessed the data from the Google Form and opened it in a Google Sheet. The Google Sheet was then opened in an Excel document to sort the data.

The assistant principal (personal communication, January 2023) administered a Likert-type scale for teachers to rate the effectiveness of the Pathways for Coaching Collaborative Teams protocol beginning in January 2023 to the staff in Building A. Data

were collected on 13 Fridays from January through May of 2023 (Assistant Principal of Building A, personal communication, April 2023). In the 2023-2024 school year, the data were collected on 11 Thursdays (Assistant Principal of Building A, personal communication, December 2023). The researcher accessed the data from the Google Doc. To merge the results from the 2022-2023 school year and the 2023-2024 school year, the researcher worked with a PLC expert to move data from the 2023-2024 Google Doc into the 2022-2023 Google Sheet. The Google Sheet was then opened in an Excel document to sort the data.

The assistant principal utilized a digital version of the Pathways for Coaching Collaborative Teams protocol (see Appendices D & E) in weekly PLCs during the 2022-2023 and 2023-2024 school years. This protocol measured the focus of the PLC on one of the four critical questions of a PLC as well as the PLC action as outlined in Figure 1, page 27. Data were collected in a Google Form (see Appendix D) in the 2022-2023 school year and a Google Doc (see Appendix E) in the 2023-2024 school year. In order to merge the results from the 2022-2023 school year and the 2023-2024 school year, the researcher worked with a PLC expert to move data from the 2023-2024 Google Doc into the 2022-2023 Google Sheet. The researcher and the PLC expert agreed upon codes to use after reviewing the data. The researcher and PLC expert coded each of the teacher's answers about the focus. After the coding process was complete, the researcher and PLC expert discussed the differences. If there were differences, a discussion occurred, and an agreement was reached on how to code. This process continued until all data had been reviewed. February 22, 2024, was the last date data were collected for this dissertation.

Data Analysis and Synthesis

According to Bloomberg and Volpe (2019), the first step in data analysis is collecting data and then managing, organizing, and making sense of the separate pieces of the data. Each research question is listed below. Prior to analysis, the researcher removed the names to protect teacher anonymity. Each teacher's name received a code beginning with the number one. Following each research question, there is a paragraph that explains the analysis for that question.

RQ1

What were teachers' initial understanding of the foundations of a PLC in August 2022?

For each baseline assessment question, the researcher reviewed the data. To provide clarity, each question from the baseline assessment is listed below and an explanation is included on how the researcher made sense of the data.

Baseline Assessment Q1. On the baseline assessment, Q1 asked: What are the four PLC questions? The answers to this question were viewed in a Google Sheet automatically created by the Google Form data. The researcher added a filter to the Google Sheet to sort the data. After the researcher assigned a teacher code, column F in the Google Sheet was sorted from A to Z. Data were then reviewed by the researcher and a PLC expert. If there was a disagreement in the coding, a discussion occurred. After all data was reviewed, a table was created in this same Google Sheet with the heading 1) What are the four PLC questions? Table headers included: (a) knew the questions, (b) don't know the questions, and (c) knew at least one of the questions. The researcher and PLC expert read through each response and totaled the responses for each table header:

(a) knew the question, (b) don't know the questions, and (c) knew at least one of the questions. The total numbers were then used by the researcher to create tables in APA Style 7 to display the frequencies and percentages from this data. The tables were inserted into the dissertation.

Baseline Assessment Q2. On the baseline assessment, Q2 asked: What are the three big ideas of a PLC? The answers to this question were viewed in a Google Sheet automatically created by the Google Form data. The researcher added a filter to the Google Sheet to sort the data. After the researcher assigned a teacher code, column F in the Google Sheet was sorted from A to Z. Data were then reviewed by the researcher and a PLC expert. A table was created in this same Google Sheet with the heading 1) What are the three big ideas of a PLC? The table headers included: (a) don't know the three big ideas and (b) know the three big ideas. The researcher and the PLC expert read through each response and totaled the responses for each table header: (a) don't know the three big ideas and (b) know the three big ideas. Total numbers were then used to calculate the percentages for each table header (a) don't know the three big ideas and (b) know the three big ideas. The researcher created tables in APA Style 7 to display the frequencies and percentages from this data. The tables were inserted into the dissertation.

Baseline Assessment Q3. On the baseline assessment, Q3 asked the teachers: When you think about PLC Question 1 and the action of prioritizing standards, how would you rate your understanding? The answers to this question were viewed in a Google Sheet automatically created by the Google Form data. The researcher added a filter to the Google Sheet to sort the data. After the researcher assigned a teacher code, column F in the Google Sheet was sorted from A to Z. Data were then reviewed by the

researcher and a PLC expert. A table was created in this same Google Sheet with the heading: When you think about PLC Question 1 and the action of prioritizing standards, how would you rate your understanding? The table headers included: (a) say they know their standards but don't know how to prioritize as a team (b) can lead next Friday's professional learning on this topic. The researcher and PLC expert read through each response and totaled the responses for each table header: (a) say they know their standards but don't know how to prioritize as a team and (b) can lead next Friday's professional learning on this topic. The total numbers were then used to calculate the percentages. The total numbers were then used by the researcher to create tables in APA Style 7 to display the frequencies and percentages from this data. The tables were inserted into the dissertation.

Baseline Assessment Q4. On the baseline assessment, Q4 asked the teachers: When you think about PLC Question 1 and the action of breaking standards into Learning Targets, how would you rate your understanding? The answers to this question were viewed in a Google Sheet automatically created by the Google Form data. The researcher added a filter to the Google Sheet to sort the data. After the researcher assigned a teacher code, column F in the Google Sheet was sorted from A to Z. Data were then reviewed by the researcher and a PLC expert. A table was created in this same Google Sheet with the heading: When you think about PLC Question 1 and the action of breaking standards into Learning Targets, how would you rate your understanding? The table headers included: (a) don't know how to break my standards into Learning Targets, (b) I can lead next Friday's professional learning on the topic, (c) I know the learning targets for each standard I should teach, and (d) provided "other" responses. The researcher and PLC

expert read through each response and totaled the responses for each table header: (a) don't know how to break my standards into Learning Targets, (b) I can lead next Friday's professional learning on the topic, (c) I know the learning targets for each standard I should teach, and (d) provided "other" responses. The total numbers were then used by the researcher to create tables in APA Style 7 to display the frequencies and percentages from this data. The tables were inserted into the dissertation.

RQ2

How did teachers' understanding of the foundations of a PLC change from August 2022 to Spring 2024?

To provide clarity, each question from the summative assessment is listed below and an explanation is included of how the researcher made sense of the data.

Summative Assessment Q1. On the summative assessment, Q1 asked: What are the four PLC questions? The answers to this question were viewed in a Google Sheet automatically created by the Google Form data. The researcher added a filter to the Google Sheet to sort the data. After the researcher assigned a teacher code, column F in the Google Sheet was sorted from A to Z. Data were then reviewed by the researcher and a PLC expert. A table was created in this same Google Sheet with the heading 1) What are the four PLC questions? The table headers included: (a) knew the questions, (b) don't know the questions, and (c) knew at least one of the questions. The researcher and PLC expert read through each response and totaled the responses for each table header: (a) knew the question, (b) don't know the questions, and (c) knew at least one of the questions. The total numbers were then calculated and used by the researcher to create

tables in APA Style 7 to display the frequencies and percentages from this data. The tables were inserted into the dissertation.

Summative Assessment Q2. On the summative assessment, Q2 asked: What are the three big ideas of a PLC? The answers to this question were viewed in a Google Sheet automatically created by the Google Form data. The researcher added a filter to the Google Sheet to sort the data. After the researcher assigned a teacher code, column F in the Google Sheet was sorted from A to Z. Data were then reviewed by the researcher and a PLC expert. A table was created in this same Google Sheet with the heading 1) What are the three big ideas of a PLC? The table headers included: (a) don't know the three big ideas and (b) know the three big ideas. The researcher read through each response and totaled the responses for each table header: (a) don't know the three big ideas and (b) know the three big ideas. The total numbers were then calculated and used by the researcher to create tables in APA Style 7 to display the frequencies and percentages from this data. The tables were inserted into the dissertation.

Summative Assessment Q3. On the summative assessment, Q3 asked the teachers: When you think about PLC Question 1 and the action of prioritizing standards, how would you rate your understanding? The answers to this question were viewed in a Google Sheet automatically created by the Google Form data. The researcher added a filter to the Google Sheet to sort the data. After the researcher assigned a teacher code, column F in the Google Sheet was sorted from A to Z. Data were then reviewed by the researcher and a PLC expert. A table was created in this same Google Sheet with the heading: When you think about PLC Question 1 and the action of prioritizing standards, how would you rate your understanding? The table headers included: (a) say they know

their standards but don't know how to prioritize as a team and (b) can lead next Friday's professional learning on this topic. The researcher read through each response and totaled the responses for each table header: (a) say they know their standards but don't know how to prioritize as a team and (b) can lead next Friday's professional learning on this topic. The total numbers were then calculated and used by the researcher to create tables in APA Style 7 to display the frequencies and percentages from this data. The tables were inserted into the dissertation.

Summative Assessment Q4. On the summative assessment, Q4 asked the teachers: When you think about PLC Question 1 and the action of breaking standards into Learning Targets, how would you rate your understanding? The answers to this question were viewed in a Google Sheet automatically created by the Google Form data. The researcher added a filter to the Google Sheet to sort the data. After the researcher assigned a teacher code, column F in the Google Sheet was sorted from A to Z. Data were then reviewed by the researcher and a PLC expert. A table was created in this same Google Sheet with the heading: When you think about PLC Question 1 and the action of breaking standards into Learning Targets, how would you rate your understanding? The table headers included: (a) don't know how to break my standards into Learning Targets, (b) I can lead next Friday's professional learning on the topic, (c) I know the learning targets for each standard I should teach, and (d) provided "other" responses. The researcher read through each response and totaled the responses for each table header: (a) don't know how to break my standards into Learning Targets, (b) I can lead next Friday's professional learning on the topic, (c) I know the learning targets for each standard I should teach, and (d) provided "other" responses. The total numbers were then calculated

and used by the researcher to create tables in APA Style 7 to display the frequencies and percentages from this data. The tables were inserted into the dissertation.

RQ3

How did teachers' perceptions about the impact of the implementation of the Pathways for Coaching Collaborative Teams protocol change from January 2023 through Spring 2024?

The researcher began by opening the digital version of the Pathways for Coaching Collaborative Teams protocol from 2022-2023 in the Google Sheet. After the researcher assigned a teacher code, column F in the Google Sheet was sorted from A to Z. The researcher sorted the data by the date column to only include the dates from the 2022-2023 school year. This data was then sorted by the Likert-type scale rating. The scale was a 5-point Likert-type scale in which the teacher rated the protocol: 1 = *extremely ineffectively*, 2 = *very ineffectively*, 3 = *uncertain*, 4 = *very effectively*, and 5 = *extremely effectively*. Data were then reviewed by the researcher and a PLC expert. A table was created in this same Google Sheet with the heading: How did teacher's perceptions about the effect of the implementation of the Pathways for Coaching Collaborative Teams protocol change from January 2023 through Spring 2024? The table headers included: 1 = *extremely ineffectively*, 2 = *very ineffectively*, 3 = *uncertain*, 4 = *very effectively*, and 5 = *extremely effectively*. The researcher read through each response and totaled the responses for each table header. The total numbers were then calculated and used by the researcher to create tables to display the frequencies and percentages from this data. The tables were inserted into the dissertation.

The researcher then worked with a PLC expert to move the 2023-2024 digital version of the Pathways for Coaching Collaborative Teams protocol from 2023-2024 into the same Google Sheet as the 2022-2023 data. It is important to note that the reason the format for collecting data changed was that the Instructional Coach was provided the leadership autonomy to design a digital version of the Pathways for Coaching Collaborative Teams protocol in a format that would work best for the PLC. The Instructional Coach chose to use a Google Doc instead of the Google Form that was used in the 2022-2023 school year based on teacher feedback at the end of the 2022-2023 school year. The researcher needed to ensure the data was in one location for analysis, so she worked with a fellow PLC expert to transfer the data. To ensure the data were transferred correctly, the researcher and the fellow PLC expert copied and pasted all the data from 2023-2024 to the 2022-2023 Google Sheet. After transferring all the data, teacher names were coded. If a teacher was employed by Building A in the 2022-2023 school year and the 2023-2024 school year, the same code was used. If a teacher was new in the 2023-2024 school year, a new code was created. This was done to protect their anonymity. The researcher then sorted the data by the date column to only include the dates from the 2023-2024 school year. This data was then sorted by the Likert-type scale rating.

Data were then reviewed by the PLC expert and the researcher. A table was created in this same Google Sheet with the heading: How effectively have PLC actions affected teacher professional learning in the instructional learning cycle from Fall 2022 to Spring 2024? The table headers included: (a) extremely ineffectively, (b) very ineffectively, (c) uncertain, (d) very effectively, and (e) extremely effectively. The

researcher read through each response and totaled the responses for each table header: (a) extremely ineffectively, (b) very ineffectively, (c) uncertain, (d) very effectively, and (e) extremely effectively The total numbers were then used to calculate the percentages comparing the 2022-2023 responses to the 2023-2024 responses. The tables were inserted into the dissertation.

RQ4

How did the focus of the PLC actions associated with one or more of the four critical questions of a PLC change over time from January 2023 through Spring 2024?

For each protocol action focus question, the researcher reviewed the data with a PLC expert. To provide clarity, the data from 2022-2023 and 2023-2024 is outlined below. An explanation is included on how the researcher and PLC expert made sense of the data.

The 2022-2023 responses on the Google Form (digital version of the Pathways for Coaching Collaborative Teams protocol) for RQ4 were viewed in a Google Sheet automatically created by the Google Form data. The researcher added a filter to the Google Sheet to sort the data from A to Z. The data was then reviewed by the researcher and the PLC expert. A table was created in this same Google Sheet with the heading 1) What was the focus of the PLC question and action in 2022-2023? The table headers included: (a) PLC Question 1, (b) PLC Question 2, (c) PLC Question 3, and (d) PLC Question 4. The researcher and PLC expert read through each response and totaled the responses for each table header: (a) PLC Question 1, (b) PLC Question 2, (c) PLC Question 3, and (d) PLC Question 4. The researcher and PLC expert then needed to identify the actions that were focused on underneath each critical question of a PLC. To

complete this data analysis, each critical question of a PLC column was sorted A through Z. A table was created in this same Google Sheet with the heading 1) What was the focus of the PLC action in 2022-2023? The table headers included: (a) prioritizing standards, (b) identifying targets, (c) determining proficiency, (d) planning units, (e) analyzing strategies, (f) developing formative assessments, (g) analyzing student work, (h) analyzing assessment data, (i) PLC action, (j) utilizing a system of supports, (k) analyzing strategies, (l) planning enrichment activities. The total numbers were then used to calculate the percentages. With the help of the research analyst, tables were created in APA Style 7 to display the frequencies and percentages from this data. The tables were inserted into the dissertation.

The 2023-2024 responses on the Google Doc (digital version of the Pathways for Coaching Collaborative Teams protocol) for RQ4 were moved by the researcher and the PLC expert into the same Google Sheet as the 2022-2023 data. The researcher needed to ensure all the data was in one location for analysis, so she worked with a fellow PLC expert to transfer the data. To ensure the data was transferred correctly, the researcher and the fellow PLC expert copied and pasted all the data from 2023-2024 to the 2022-2023 Google Sheet. After transferring all the data, teacher names were coded. If a teacher was employed by Building A in the 2022-2023 school year, the same code was used for the teacher from the 2023-2024 school year. If a teacher was new in the 2023-2024 school year, a new code was created. This was done to protect their anonymity. The researcher then sorted the data by the date column to only include the dates from the 2023-2024 school year. A table was created in this same Google Sheet with the heading 1) What was the focus of the PLC question in 2023-2024? The table headers included:

(a) PLC Question 1, (b) PLC Question 2, (c) PLC Question 3, and (d) PLC Question 4. The researcher and PLC expert read through each response and totaled the responses for each table header: (a) PLC Question 1, (b) PLC Question 2, (c) PLC Question 3, and (d) PLC Question 4. The researcher then needed to identify the actions that were focused on underneath each PLC question. To complete this data analysis each PLC question column was sorted A through Z. A table was created in this same Google Sheet with the heading 1) What was the focus of the PLC actions in 2023-2024? The table headers included: (a) prioritizing standards, (b) identifying targets, (c) determining proficiency, (d) planning units, (e) analyzing strategies, (f) developing formative assessments, (g) analyzing student work, (h) analyzing assessment data, (i) PLC action, (j) utilizing a system of supports, (k) analyzing strategies, and (l) planning enrichment activities. The total numbers were then used to calculate the percentages. Tables were created to display the frequencies and percentages from this data. The tables were inserted into the dissertation.

Reliability and Trustworthiness

Bloomberg and Volpe (2019) separated the trustworthiness of qualitative studies into two considerations, validity and reliability. Creswell (2018) stated that validity in qualitative research "means that the researcher checks for the accuracy of the findings by employing certain procedures (p. 199). Bloomberg and Volpe described validity as follows, "If research is valid, it clearly reflects the world being described" (p. 202). Bloomberg and Volpe (2019) identified audit trails as processes for increasing validity. The audit trail created by the weekly PLC Google Form in 2022-2023 and weekly PLC Google Doc in 2023-2024 allowed for greater validity. A third method for addressing validity was the involvement of a Baker University research analyst and major advisor in

developing the Likert-type scale used before beginning implementation of the weekly PLC Google Form in January 2023. Finally, inter-rater reliability was established with the help of a PLC expert. The PLC expert had been trained by Solution Tree at a national PLC institute, worked under a principal who implemented PLC with fidelity and led professional learning on the topic within their district of 30,000 students and over 4,000 staff. According to Creswell (2018), inter-rater reliability is important because it measures consistency between two raters. The qualitative data was coded by the researcher and the PLC expert for RQ1, RQ2, and RQ4.

Creswell (2018) wrote that "qualitative reliability indicates the researcher's approach is consistent among different projects" (p. 199). The researcher worked alongside a Baker University research analyst and Baker University major advisor to confirm content validity. To further ensure the credibility of this study, the researcher used content analysis of the weekly PLC Google Form from 2022-2023, the weekly PLC Google Doc from 2023-2024, data from the baseline assessment on the foundations of a PLC administered in August 2022, and the summative assessment in the Spring 2024.

Researcher's Role

The researcher has twenty years of experience with professional learning communities including training by Solution Tree. Solution Tree is a leading researcher on the topic of professional learning communities (DuFour et al, 2016). The researcher was the assistant principal of curriculum and instruction at Building A. In the winter of January 2024, the assistant principal also took on the role of the building's instructional coach due to a Teaching and Learning member moving out of state. The researcher

understands this role can create bias and therefore took the following steps to help curb this bias.

1. Inter-rater Reliability: The researcher coded the data with a fellow PLC expert to increase validity.
2. The researcher transferred the 2023-2024 data from a Google Doc to the same Google Sheet that included the 2022-2023 data with a fellow PLC expert to increase validity.
3. Member Checking: The researcher shared her dissertation with the 2022-2023 instructional coach to check for accuracy.
4. Prolonged Engagement in the Field: The researcher spent two years engaged in the work of professional learning communities work at Building A. This included the implementation of the Pathways for Coaching Collaborative Teams protocol.
5. Peer Debriefing: The researcher shared her dissertation with a professor at an R1 University to reflect on the quality of the report.
6. Researcher Reflexivity: The researcher stated her bias regarding professional learning communities.

Limitations

Lunenburg and Irby (2008) stated, "Limitations are factors that may affect the interpretation of the findings or the generalizability of the results" (p. 133). While the researcher does not have control over the limitations, explicitly stating them can assist in preventing misapprehensions (Lunenburg & Irby, 2008). Limitations of this study included:

1. The sample size was 38 participants in 2022-2023 and 29 participants in 2023-2024.
2. Purposeful, convenience sampling was utilized in this study. Creswell (2020) defines convenience sampling as choosing respondents based on their convenience and availability.
3. My perceived power as the assistant principal could cause staff to positively self-report.
4. My position as the assistant principal and researcher in the building where the research was conducted.
5. Teachers may have varied years of teaching experience and knowledge of PLC.
6. Teachers may have participated in different amounts and types of professional learning regarding PLC.

Summary

This chapter outlined the methods utilized in the research study to examine the perceptions of certified educators in the midwestern middle school concerning the effectiveness of PLCs. The chapter addresses the procedures in the research design, selection of participants, measurement, data collection, and analysis. The researcher statistically analyzed data collected through archived data. The results will be outlined in the next chapter.

Chapter 4

Results

In this qualitative phenomenological study, the researcher aimed to research teachers' initial understanding of the foundations of a PLC in August of 2022, how teachers' understanding of the foundations of a PLC changed from August 2022 to the spring of 2024, teachers' perceptions about the impact of the implementation of the Pathway for Coaching Collaborative Teams protocol from January 2023 to Spring 2024, and how the focus of the PLC action associated with one or more of the PLC questions changed from January 2023 through Spring 2024. This study's design was qualitative utilizing archival data from five data sources. Lichtman (2013) explained that qualitative research is chosen to understand, interpret, and describe human phenomena. The phenomenon was teacher perception of the impact of implementing the Pathways for Coaching Collaborative Teams protocol. Four research questions guided this qualitative study.

Findings

This section analyses the data associated with the four research questions that guided this study. Each research question is listed below. The results from the analysis of the archival data follow each research question.

Findings RQ1

The following section includes the findings for RQ1. RQ1 is organized into subsections for each question on the baseline assessment administered in August 2022. The assessment consisted of two long answer text questions and two multiple choice

questions. Following a summary paragraph, a table is provided to share findings that address the research question.

Q1 on Baseline Assessment. To address the first research question and establish teachers' understanding of the foundations of a PLC, the researcher utilized a Google Form baseline assessment in August 2022. Q1 on the baseline assessment asked teachers to name the four critical questions of a PLC. Of the 38 responses, 10% of the teachers knew the four critical questions of a PLC. Table 1 below presents the number of responses as well as the percentages.

Table 1

2022-2023 Frequencies and Percentages for Q1

	2022-2023	
Responses	*N*	%
I know the four critical questions of a PLC.	4	10
I don't know the four critical questions of a PLC.	4	10
I know a few of the four critical questions of a PLC.	30	80

Q2 on the Baseline Assessment. The baseline assessment asked teachers to name the three big ideas of a PLC. Of the 38 responses, 15.8% of teachers knew the three big ideas of a PLC. Table 2 below shows the number of responses as well as the percentages.

Table 2

2022-2023 Frequencies and Percentages for Q2

	2022-2023	
Responses	*N*	%
I know the three big ideas.	6	15.8
I don't know the three big ideas.	32	84.2

Q3 on the Baseline Assessment. The baseline assessment asked teachers, "When you think about PLC Question 1 and the action of prioritizing standards, how would you rate your understanding?" Of the 38 responses, 81.6% of teachers knew their standards. Table 3 below shows the number of responses as well as the percentages.

Table 3

2022-2023 Frequencies and Percentages for Q3

	2022-2023	
Responses	*N*	%
I know my standards; can't prioritize	31	81.6
I can lead Friday's PD on the topic.	5	13.2
Other	2	5.2

Note. I know my standards; can't prioritize = I know my standards, but I don't know how to prioritize; I can lead Friday's PD on the topic = I can lead next Friday's professional learning on the topic.

Q4 on the Baseline Assessment. Question 4 asked teachers, "When you think about PLC Question 1 and the action of breaking standards into learning targets, how would you rate your understanding?" Of the 38 responses, 57.9% of teachers knew their learning targets. Table 4 below shows the number of responses as well as the percentage.

Table 4

2022-2023 Frequencies and Percentages for Q4

	2022-2023	
Responses	*N*	%
I can lead next Friday's PD on topic.	10	26.3
Cannot break into learning targets	5	13.2
Know learning targets	22	57.9
Other	1	2.6

Note. I can lead next Friday's PD on topic = I can lead next Friday's professional learning on the topic; Cannot break into learning targets = I don't know how to break my standards into learning targets; Know learning targets = I know the learning targets for each standard.

Findings RQ2

To address the second research question, the researcher utilized a Google Form summative assessment in the Spring 2024. The Google Form summative assessment included the same questions as the baseline assessment administered in August 2022. The assessment consisted of two long answer text questions and two multiple choice questions. Teachers present at the PLC were asked to complete the Google Form

summative assessment to identify their understanding of the foundations of a PLC after ongoing professional learning.

Comparing Responses to Q1 on the Baseline Assessment in August 2022 to the Summative Assessment in Spring 2024. Question 1 of the baseline assessment and summative assessment asked teachers to name the four critical questions of a PLC. Table 5 below shows the number of responses as well as the percentages and compares the 2022-2023 school year to the 2023-2024 school year. It is important to note the difference in the number of total responses for the two assessments:

- 38 teachers responded in 2022-2023
- 29 teachers responded in 2023-2024

When the teachers took the baseline assessment in August 2022, 10.5% knew the four critical questions of a PLC. During Spring 2024, a summative assessment was administered and 96.6% of the teachers knew the four critical questions of a PLC.

Table 5

2022-2023 and 2023-2024 Frequencies and Percentages for Q1

	2022-2023		2023-2024	
Responses	*N*	%	*N*	%
I know the four critical questions.	4	10.5	28	96.6
I don’t know the four critical questions.	4	10.5	0	0.0
I know a few of the four critical questions.	30	78.9	1	3.4

Comparing Responses to Q2 on the Baseline Assessment in August 2022 to the Summative Assessment in Spring 2024. Question 2 asked teachers to name the three big ideas of a PLC. Table six below shows the number of responses as well as the percentage and compares the 2022-2023 school year to the 2023-2024 school year. When they took the baseline assessment in the 2022-2023 school year, 13.2% of the teachers knew the three big ideas; however, in the summative assessment during the 2023-2024 school year, 89.7% of the teachers understood the three big ideas of a PLC.

Table 6

2022-2023 and 2023-2024 Frequencies and Percentages for Q2

	2022-2023		2023-2024	
Responses	*N*	%	*N*	%
I know the three big ideas.	5	13.2	26	89.7
I don't know the three big ideas.	33	86.8	3	10.3

Comparing Responses to Q3 on the Baseline Assessment in August 2022 to the Summative Assessment in Spring 2024. Question 3 asked teachers, "When you think about PLC Question 1 and the action of prioritizing standards, how would you rate your understanding?" Table 7 below shows the number of responses as well as the percentage and compares the 2022-2023 school year to the 2023-2024 school year. A change in this data is that 81.6% of teachers said they knew their standards in 2022-2023; whereas, in the 2023-2024 school year 69% of teachers said they knew their standards. Table 7 below shows the comparisons.

Table 7

2022-2023 and 2023-2024 Frequencies and Percentages for Q3

	2022-2023		2023-2024	
Responses	*N*	%	*N*	%
I know my standards, can't prioritize	31	81.6	20	69.0
I can lead Friday's PD on the topic.	5	13.2	8	27.6
Other	2	5.2	1	3.4

Note. I know my standards, can't prioritize = I know my standards, but I don't know how to prioritize; I can lead Friday's PD on the topic = I can lead next Friday's professional learning on the topic.

Comparing Responses to Q4 on the Baseline Assessment in August 2022 to the Summative Assessment in Spring 2024. Question 4 asked teachers "When you think about PLC Question 1 and the action of breaking standards into Learning Targets, how would you rate your understanding?" Table 8 below shows the number of responses as well as the percentage and compares the 2022-2023 school year to the 2023-2024 school year. A change in this data is that 57.9% of teachers said they knew their learning targets in 2022-2023; whereas, in the 2023-2024 school year 69.0% of teachers said they knew their learning targets.

Table 8

2022-2023 and 2023-2024 Frequencies and Percentages for Q4

	2022-2023		2023-2024	
Responses	*N*	%	*N*	%
I can lead next Friday's PD on topic.	10	26.3	5	17.2
Cannot break into learning targets	5	13.2	0	0.0
Know learning targets	22	57.9	20	69.0
Other	1	2.6	4	13.8

Note. I can lead next Friday's PD on topic = I can lead next Friday's professional learning on the topic; Cannot break into learning targets = I don't know how to break my standards into learning targets; Know learning targets = I know the learning targets for each standard.

Findings RQ3

To address the third research question, the researcher utilized a weekly Google Form that teachers had filled out during their weekly PLC during the 2022-2023 school year and a Google Doc during the 2023-2024 school year. RQ3: How did teachers' perceptions about the impact of the implementation of the Pathways for Coaching Collaborative Teams protocol change from January 2023 through Spring 2024?

A difference in the data is the change from 74% of teachers rating the effectiveness of the PLC protocol as uncertain in the 2022-2023 school year to 6% of teachers rating the effectiveness of the PLC protocol as uncertain in the 2023-2024 school year. Another change in the data is that in the 2022-2023 school year, 1% of teachers rated the effectiveness of the PLC protocol as very effective, whereas, in the

2023-2024 school year 94% rated it very effectively. Table 9 below shows the comparisons.

Table 9

2022-2023 and 2023-2024 Frequencies and Percentages for RQ3

	2022-2023		2023-2024	
Responses	*N*	%	*N*	%
Extremely ineffectively	4	3.0	0	0.0
Very ineffectively	2	2.0	0	0.0
Uncertain	110	74.0	24	6.0
Very effectively	2	1.0	370	94.0
Extremely effectively	30	20.0	0	0.0

Findings RQ4

To address the fourth research question, the researcher utilized a digital version of the Pathways for Coaching Collaborative Teams protocol. In the 2022-2023 school year, from August to December 2022 Building A met as a whole school, department, or grade level to learn about the foundations of a PLC which included learning about the Pathways for Coaching Collaborative Teams protocol (Assistant Principal of Building A, personal communication, December 2022). The protocol was not implemented until January 2023. From January 2023 to May 2023, teachers used the Pathways for Coaching Collaborative Teams protocol on a weekly basis (Assistant Principal of Building A, personal communication, April 2023). Beginning in Fall 2023 through October 6, 2023, PLC met as a whole school, department, or grade level to review the foundations of a PLC or participate in professional learning (Assistant Principal of Building A, personal

communication, October 2023). Following the October 6th PLC through February 2024, when the researcher stopped collecting data for this dissertation, PLCs met in course-alike PLC.

A difference in the data is teachers' responses regarding the amount of time they spent in PLC on non-PLC-related topics. In the 2022-2023 school year, 25% of the teachers responded they were focused on non-PLC-related topics; whereas, in the 2023-2024 school year, 10% of the teachers responded they were focused on non-PLC-related topics. Another difference in the data is the focus of PLCs between the 2022-2023 and 2023-2024 school years. In 2022-2023, 56% of the teachers said they were focused on one of the actions (see Figure 1, page 27) associated with the four critical questions of a PLC; however, in the 2023-2024 school year, 88% of the teachers were focused on one of the actions associated with the four critical questions of a PLC. Table 10 below shows the comparisons.

Table 10

2022-2023 and 2023-2024 Frequencies and Percentages for RQ4

	2022-2023		2023-2024	
Responses	*N*	%	*N*	%
Prioritizing Standards	32	9.0	220	55.0
Identifying Learning Targets	14	4.0	97	24.0
Developing CFA	0	0.0	18	4.0
Planning Units	111	32.0	9	2.0
Analyzing Strategies	20	6.0	0	0.0
Analyzing Assessment Data	0	0.0	7	2.0
Determining Proficiency	17	5.0	2	1.0
Non-PLC Related Topics	87	25.0	40	10.0
Sub Class – Missed PLC	0	0.0	8	2.0
Blank	66	19.0	0	0.0

Note. Developing CFA = Developing Common Formative Assessment; Sub Class – Missed PLC = The teacher missed PLC because they were subbing for a class; Other = Teachers were focused on something that did not align with one of the PLC actions in the Pathways for Coaching Collaborative Teams protocol.

Within the literature, protocols were noted to deepen conversations and provide on-demand professional learning. The data revealed that staff went from a focus on non-PLC-related actions to actions aligned with the four critical questions of a PLC. These actions resulted in requests for ongoing support from the building administration or instructional coach. The types of requests included:

- “Can I get an opportunity to shadow another FACS teacher?”
- “Can we get insights into specific assessed topics in math to see where students need help? EX: Are our students struggling more with statistics or geometry?”
- “Can we talk to the principal about resources for honors?”
- “What does the priority standards mean by mastered? I would assume that the priority standard should be mastered at the end of the unit? Used the @ feature to tag assistant principal to come provide support in PLC. What does the priority standards mean by mastered? I would assume that the priority standard should be mastered at the end of the unit? Used the @ feature to tag assistant principal to come provide support in PLC.”
- “We talked about what units we were going to do next and how we are going to connect them to other classes. I also learned a new way to present information on certain topics. We also looked at quiz scores to see if there was anything I could teach better.”
- “Discussed RWL (real world learning) with the assistant principal.”
- “Can you [assistant principal] use the FastBridge Impact Report to show us how to group students based on their needs?”
- “@[redact name] is there a total number of LT per each standard. Currently I have been doing one LT per standard but can think of different standards that could be broken into two LTs.”

- "When breaking down our priority standards, instead of 1st/2nd semester, we are thinking of it as 1st QT/4 QT and 2nd QT/3rd QT. This comes down to the activities we can use based on climate and weather. Is that ok?"
- "Can we meet and lesson plan for next week?"

Summary

The analysis of the data from the research indicated a positive change in teachers' understanding of the foundations of a PLC from August 2022 to Spring 2024. Additionally, there was a positive change in teacher perception of the effectiveness of the Pathways for Coaching Collaborative Teams protocol from the 2022-2023 school year to the 2023-2024 school year. Chapter 5 contains a summary of the study, which includes an overview of the problem, a purpose statement, research questions, and a review of the methodology. Also, the summary includes the major findings of the study. Finally, the chapter includes implications for action, recommendations for future research, and concluding remarks.

Chapter 5

Interpretation and Recommendations

This chapter contains a summary of the study, which includes an overview of the problem, purpose statement, research questions, and a review of the methodology. Also, this chapter presents the major findings of the study and how they relate to the literature. Finally, this chapter includes implications for action, recommendations for future research, and concluding remarks.

Study Summary

The following section summarizes the current study, which includes an overview of the problem, purpose of the study, and the four research questions. A review of the methodology and major findings completes the study summary.

Overview of the Problem

American educators are challenged to increase student achievement through focused efforts and identify resources that are high-leverage and research-based. One high-leverage, research-based framework to improve student achievement is the implementation of highly effective Professional Learning Communities. PLCs that are highly effective stay focused on DuFour's four critical questions of a PLC and three big ideas. As the team analyzes student data, they identify the next step in the instructional learning cycle which may include identifying research-based strategies, planning units, prioritizing standards, or utilizing tiers of support. This purports ongoing collaboration and job-embedded professional learning (Goddard et al., 2010) that can lead to improved student achievement. One of the three big ideas is a focus on learning. When highly

effective PLCs come together, the focus is not only on learning, but collaboration, and a focus on results.

As the demands on educators continue to increase, schools must focus on becoming a learning organization. As a learning organization, educators are committed to working together to increase capacity and create a culture of trust collectively. When teachers identify that specific actions increase student achievement, a teacher's motivation can increase. As teachers gain momentum, they become more knowledgeable. This knowledge spreads, and a focus on learning becomes the norm.

Purpose Statement and Research Questions

The purpose of this qualitative study was to investigate teachers' perceptions about the effect of the implementation of the Pathways for Coaching Collaborative Teams protocol (Many et al., 2018). The Pathways for Coaching Collaborative Teams protocol specifies intentional actions that should occur in a PLC to ensure high levels of learning for all students (Many et al., 2018). As teachers self-reflect during PLCs, they can identify potential areas in the instructional learning cycle needed to deepen their understanding of one or more of the actions under each of the four critical questions of a PLC (see Figure 1, page 27). This provides an opportunity for job-embedded professional learning while also targeting the achievement needs of academically diverse learners (Many et al., 2018).

The following research questions guided this study:

RQ1. What were teachers' initial understanding of the foundations of a PLC in August 2022?

RQ2. How did teachers' understanding of the foundations of a PLC change from August 2022 to Spring 2024?

RQ3. How did teachers' perceptions about the impact of the implementation of the Pathways for Coaching Collaborative Teams protocol change from January 2023 through Spring 2024?

RQ4. How did the focus of the PLC actions associated with one or more of the four critical questions of a PLC change over time from January 2023 through Spring 2024?

Review of the Methodology

A qualitative phenomenological design using archival data was utilized for this study. According to Creswell (2014), this design is appropriate when archival data is used from tests that have already been administered and comparing two or more independent groups takes place. In this qualitative phenomenological study, the researcher aimed to determine the effectiveness of the Pathways for Coaching Collaborative Teams protocol (Many et al., 2018). Qualitative research is chosen to understand, interpret, and describe human phenomena (Lichtman, 2013). Data collection consisted of data from the following instruments: (1) a baseline assessment administered in August 2022, (2) a summative assessment administered in Spring 2024, (3) a Likert-type scale, (4) a digital copy of the Pathways for Coaching Collaborative Teams protocol in the 2022-2023 school year and (5) a digital copy of the Pathways for Coaching Collaborative Teams protocol in the 2023-2024 school year. Convenient, purposeful sampling was utilized for Building A in District X. The participants included 38 teachers in the 2022-2023 school year and 29 teachers in the 2023-2024 school year. Each data point was analyzed.

Major Findings

The findings from this study were organized by each data point. The findings display teacher perception from 38 certified teachers in the 2022-2023 school year and 29 certified teachers in the 2023-2024 school year in Building A in District X. Each research question is listed below with a discussion of the findings.

Findings Related to RQ1

The first question investigated teachers' initial understanding of the foundations of a PLC in August 2022. Participants completed a baseline assessment. This assessment revealed teachers did not have a foundational understanding of the three big ideas of a PLC or the four critical questions of a PLC. In the book, Amplify Your Impact, Thomas Many et al. (2018) explain the need to establish the foundational understanding of a PLC before implementation of the Pathways for Coaching Collaborative Teams protocol. When participants were asked if they could name the four PLC questions, the following answers were most often noted by the participants for Q1 of RQ1.

- "What do my students know?"
- "Standards"
- "What standards did my students learn?"
- "I don't know the four questions."
- "How do you know it?"

The second question asked teachers to name the three big ideas of a PLC. The following answers were most often noted by the teachers for Q2 of RQ1.

- Learning
- Data

- Collaboration
- Results
- I don’t know

The third question asked teachers, “When you think about PLC Question 1 and the action of prioritizing standards, how would you rate your understanding?” The following answers were most often noted by the teachers for Q3 of RQ1.

- “I know my standards but I don’t know how my team should prioritize standards.”
- “I can lead next Friday’s Professional Learning on this topic.”

The fourth question asked teachers, “When you think about PLC Question 1 and the action of breaking standards into Learning Targets, how would you rate your understanding?” The following answers were most often noted by the teachers for Q4 of RQ1.

- “I don’t know how to break standards into Learning Targets.”
- “I can lead next Friday’s Professional Learning on this topic.”

Based on this data, professional learning was implemented in the fall of 2022 before the implementation of the Pathways for Coaching Collaborative Teams protocol in weekly PLCs. The weekly professional learning focused on building an understanding of the foundations of a PLC including the four critical questions of a PLC, three big ideas, and the mission, vision, values, and goals. Formative assessments were utilized by the assistant principal of curriculum and instruction to check for understanding and adjust professional learning to meet their individual needs.

Findings Related to RQ2

The second research question asked, “How did teachers’ understanding of the foundations of a PLC change from August 2022 to Spring 2024?” The results revealed that teachers did not understand the foundations of a PLC in August 2022; however, by Spring 2024, teachers could restate the four critical questions of a PLC, three big ideas, and could identify their priority standards and learning targets. RQ2 was included in this study to explore changes in teachers’ understanding of the four critical questions of a PLC, three big ideas, and teachers’ ability to prioritize standards and unwrap the standards into learning targets. When participants were asked if they could name the four PLC questions in the Spring of 2024 on a summative assessment, the following answers were most often noted by the participants for Q1 of RQ2:

- “What do we want our students to know and do?”
- “What knowledge and skills should every student acquire as a result of this unit, course, or grade level?”
- “How will we know when students have learned it?”
- “How do we respond when data shows students are not learning?”
- “How will we respond when there is evidence that our students are not learning?”
- “How do we extend for those who are already proficient?”

The second question asked teachers to name the three big ideas of a PLC. The following answers were most often noted by the teachers for Q2 of RQ2.

- Create a culture of collaboration
- Focus on results
- Focus on learning

The third question asked teachers, “When you think about PLC Question 1 and the action of prioritizing standards, how would you rate your understanding?” The following answers were most often noted by the teachers for Q3 of RQ2.

- “I am not an expert, but I feel comfortable with prioritizing.”
- “I can lead next Friday’s Professional Learning on this topic.”
- “I know my standards, but I don’t know how my team should prioritize standards.”

The fourth question asked teachers, “When you think about PLC Question 1 and the action of breaking standards into Learning Targets, how would you rate your understanding?” The following answers were most often noted by the teachers for Q4 of RQ2.

- “I know the Learning Targets for each standard I should teach.”
- “I can lead next Friday’s Professional Learning on this topic.”

This data was compared to the data from August 2022. A major change in the data is that 10.5% of the teachers knew the four critical questions of a PLC in August 2022; however, by the Spring 2024 96.6% of teachers knew all four of the critical questions of a PLC. Data regarding teachers understanding of the three big ideas revealed a change in the data. In the 2022-2023 school year, 13.2% of the teachers knew the three big ideas; however, in the 2023-2024 school year 89.7% of the teachers knew the three big ideas.

This data reveals that teachers understood the overall concept of the three big ideas; however, they could not specifically name the three big ideas: a focus on learning, a collaborative culture, and a focus on results. In the book Amplify Your Impact, by Thomas Many et al. (2018) he outlines a need for ongoing support in the instructional

learning cycle. Teacher understanding of the foundations of a PLC is a part of this cycle. Structured professional learning benefits educators by expanding their repertoire of skills (Learning Forward, 2011). A PLC is a natural place for this to occur. The fall of 2022 and 2023 were focused on professional learning on the foundations of a PLC. This data in correlation with the findings reveal that beginning each year with professional learning on the foundations of a PLC coupled with ongoing implementation of the Pathways for Coaching Collaborative Teams protocol positively impacted teachers' ability to understand the four critical questions of a PLC, three big ideas, prioritizing standards, and unwrapping standards into learning targets (Many et al., 2018).

Findings Related to RQ3

The third research question asked, "How did teachers' perceptions about the impact of the implementation of the Pathways for Coaching Collaborative Teams protocol change from January 2023 through Spring 2024?" A difference in the data is the change from 74% of teachers rating the effectiveness of the PLC protocol as uncertain in the 2022-2023 school year to 6% of teachers rating the effectiveness of the PLC protocol as uncertain in the 2023-2024 school year. Another change in the data is that in the 2022-2023 school year, 1% of teachers rated the effectiveness of the PLC protocol as very effective, whereas, in the 2023-2024 school year 94% rated it very effectively.

The results revealed that teachers did not understand the purpose of the PLC protocol in the 2022-2023 school year and rated uncertainty regarding its impact. This finding aligns with Weinbaum et al. (2004) when they state protocols may seem "unnatural at first" (p. 47). However, by the 2023-2024 school year 94% of teachers rated the Pathways for Coaching Collaborative Teams protocol as very effective. The change

in this data aligns with the literature review that implementation of protocols provide a structure and overtime “participants quickly realize that without an explicit structure, conversations about teaching and learning tend to drift, go in many directions at once, or become so abstract that they are unlikely to lead to any useful learning” (Weinbaum et al., 2004, p. 47). The Pathways for Coaching Collaborative Teams protocol is intended to focus conversations on the four critical questions of a PLC (Many et al., 2018). “In Team to Teach: A Facilitator’s Guide to Professional Learning Teams, Anne Jolly (2008) contends that team discussion often gets off track or turn into gripe sessions, and that conversation guides are a necessary tool to keep teams moving forward” (Many et al., 2018, p. 86).

Findings Related to RQ4

The fourth research question asked, “How did the focus of the PLC actions associated with one or more of the four critical questions of a PLC change over time from January 2023 through Spring 2024?” The results revealed that teachers focused on non-PLC-related topics in Fall 2022. By Spring 2024, PLCs were focused on one or more of the PLC actions; specifically, they were prioritizing and unwrapping standards. In the book, Amplify Your Impact, Thomas Many et al. (2018) states that the protocol is a tool to focus PLCs on the four critical questions of a PLC and “deepen understanding of the PLC process and move forward in the instructional learning cycle” (p.86). Administrators can use the protocol to collect formative data to reflect on PLCs response to the four critical questions of a PLC (Many et al., 2018). This is apparent in the data and responses provided by the teachers throughout Spring 2023 and the 2023-2024 school year. As implementation of the Pathways for Coaching Collaborative Teams protocol became

routine, the teachers remained focused on the four critical questions of a PLC and the actions aligned with each PLC question (see Figure 1, page 27).

Structured professional learning will help educators to expand their repertoire of skills (Learning Forward, 2011). A PLC is a natural place for this to occur. Team members can tap into the skills and talents of their colleagues. Truly productive teams work together to clarify what students should know and be able to do, backward design units, develop common formative assessments, analyze teaching strategies, and focus on results. “We advocate for learning communities, not teaching communities, and argue that the best way to improve student learning is to invest in the learning of the adults who serve them” (DuFour et al., 2021, p. 11). Ultimately, teachers teaching one another the practice of teaching is what will lead schools to continual improvement (Fullan, 2009). "The real path to greatness, it turns out, requires simplicity and diligence...It demands each of us to focus on what is vital–and to eliminate all the extraneous distractions” (Collins, 2001, para. 54). Implementation of the Pathways for Coaching Collaborative Teams protocol is about defining clear and manageable expectations. A clear focus “reduces cognitive overload and confusion and makes work easier, more engaging, and pleasurable” (Jensen, 2000, p. 12l).

Conclusions

This study aimed to examine teacher perception of the impact of the Pathways for Coaching Collaborative Teams protocol. To ensure high levels of learning for all students, intentional actions should occur in a PLC (Many et al., 2018). As teachers self-reflect during PLCs, they identify potential areas in which they need to deepen their understanding of one or more actions under each critical question of a PLC (see Figure 1,

page 27). The findings in this study revealed that ongoing professional learning supported teachers' growth regarding the foundational understanding of a PLC. Additionally, teachers' initial perception of the Pathways for Coaching Collaborative Teams protocol changed from uncertainty in the 2022-2023 school year to a rating of very effectively in Spring 2024. This major change aligns with the literature. At first, protocols may seem awkward and constraining. Weinbaum et al. (2004) acknowledged that

> while it may feel somewhat unnatural at first (it is!) to use a protocol to structure a conversation, participants quickly realize that without an explicit structure, conversations about teaching and learning tend to drift, go in many directions at once, or become so abstract that they are unlikely to lead to any useful learning. (p. 47)

Implications for Action

This study demonstrates the complexity of the successful implementation of PLCs and how to measure the impact. The findings of this study revealed that the Pathways for Coaching Collaborative Teams protocol did positively impact teacher's perception of the effectiveness as measured by a weekly assessment. To best support continued success, it is recommended that Building A dig deeper with the questions aligned with each PLC action. These questions provide depth of knowledge in the questions PLCs ask when they are focused on the right work. Prior research supports the implementation of protocols to focus the work of PLCs.

District X should also consider implementing the Pathways for Coaching Collaborative Teams protocol PK-12 and measure its impact on student achievement. A quantitative study comparing FastBridge data in mathematics or reading using

triangulated data could add to the body of research regarding Pathways for Coaching Collaborative Teams protocol and its impact on student achievement.

Recommendations for Future Research

This study adds to the body of research focused on protocols in education and teacher perception of PLC effectiveness. The results of this study revealed a continued need to explore Building A's approach to implementing the Pathways for Coaching Collaborative Teams protocol. The building would benefit from a study on the impact of the leader's role in the implementation of the Pathways for Coaching Collaborative Teams protocol. Findings from this study also indicate the importance of providing initial training around the foundations of a PLC. This includes the three big ideas, and the four critical questions of a PLC. Future studies should investigate how teachers operationalize the four critical questions of a PLC and how differentiated professional learning might impact their understanding of the four critical questions of a PLC.

This study indicated positive outcomes on teacher perception from the 2022-2023 school year to the 2023-2024 school year. However, hurdles were also identified. Digging deeper into the hurdles can help leaders and PLCs focus on the right work. Future research should seek to learn teachers' perceptions of the barriers to implementing the Pathways for Coaching Collaborative Teams protocol.

Concluding Remarks

As outlined in Chapter 1, educators are challenged to increase student achievement through focused efforts and identify high-leverage and research-based resources. One high-leverage, research-based framework to improve student achievement is the implementation of highly effective PLCs. Highly effective PLCs stay focused on

DuFour's four PLC questions and three big ideas (Kramer & Schuhl, 2017). Rebecca DuFour "sounds a clarion call for supporting the most valuable resource available to students: collaborative teams of teachers who take collective responsibility for the learning success of each student entrusted to them" (R. DuFour, 2018). DuFour (2018) further purports that the mission of Professional Learning Communities (PLC) is to ensure high levels of learning for all. To achieve this goal, schools and districts must create a "collaborative culture in which educators work in teams that take collective responsibility for each student's learning" (Many, et al, 2018, p. xv).

"Since the publication of Professional Learning Communities at Work: Best Practices for Enhancing Student Achievement, educators around the world have acknowledged the need for professional collaboration and have implemented Professional Learning Communities at Work (PLC at Work) practices (DuFour, 2019). School that embrace PLCs fully embody the "ways of thinking that drive the work of a high-performing PLC" (DuFour, 2019). The first of these is a commitment to continuous improvement. A PLC commits to an ongoing cycle of collective inquiry until all students are achieving at high levels. This cycle focuses on identifying the "high-leverage practices that have a positive impact on student and adult learning, which becomes the way we do things around here" (DuFour, 2019).

This study aimed to examine teacher perception of the impact of the Pathways for Coaching Collaborative Teams protocol. To ensure high levels of learning, intentional actions should occur in a PLC (Many et al., 2018). As teachers self-reflect during PLCs, they identify potential areas in which they need to deepen their understanding of one or more of the actions under the four critical questions of a PLC (see Figure 1, page 27).

A relentless focus on the right work is the key to achieving high levels of learning for all students (DuFour, 2018). “Reeves’s analysis of 196 schools with a combined enrollment of more than 750,000 students finds that the use of PLCs was significantly correlated with student-achievement gains, but *only* when the principles were practiced in depth and duration” (2018). Since we know that a sustained focus on the PLC at Work process will dramatically increase student learning, we must maintain discipline and persistence to attain this level of implementation (DuFour, 2018). “The importance of highly effective collaborative teams has never been more evident” and implementation of the Pathways for Coaching Collaborative Teams can positively impact PLC focus and provide ongoing professional learning that can ultimately lead to student achievement (Many et al., 2018).

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Appendices

Appendix A: Baseline Assessment August 2022

What are the four PLC questions? *

Your answer

What are the three big ideas of a PLC? *

Your answer

When you think about PLC Question 1 and the action of prioritizing standards, how would you rate your understanding? *

- ◯ I can lead next Friday's Professional Learning on this topic.
- ◯ I know my standards but I don't know how my team should prioritize standards.
- ◯ I don't know my standards.
- ◯ Other: _____

When you think about PLC Question 1 and the action of breaking standards into Learning Targets, how would you rate your understanding? *

- ◯ I can lead next Friday's Professional Learning on this topic.
- ◯ I know the Learning Targets for each standard I should teach but I don't know why this matters in the scheme of PLCs.
- ◯ I don't know how to break standards into Learning Targets.
- ◯ Other: _____

Appendix B: Summative Assessment Spring 2024

What is PLC Question #1? *

Your answer

What is PLC Question #2? *

Your answer

What is PLC Question #3? *

Your answer

What is PLC Question #4? *

Your answer

What is Big Idea #1 of a PLC? *

Your answer

What is Big Idea #2 of a PLC? *

Your answer

What is Big Idea #3 of a PLC? *

Your answer

When you think about PLC Question 1 and the action of prioritizing standards, how would you rate your understanding? *

- ◯ I can lead next Friday's Professional Learning on this topic.
- ◯ I know my standards but I don't know how my team should prioritize standards.
- ◯ I don't know my standards.
- ◯ Other:

When you think about PLC Question 1 and the action of breaking standards into Learning Targets, how would you rate your understanding? *

- ◯ I can lead next Friday's Professional Learning on this topic.
- ◯ I know the Learning Targets for each standard I should teach.
- ◯ I don't know how to break standards into Learning Targets.

Appendix C: Likert-type Scale

Based upon our district's focus on PLCs, how effectively have your PLC actions affected your professional learning on one or more actions in the instructional learning cycle?

- [ ] 1. Extremely ineffectively
- [ ] 2. Very ineffectively
- [ ] 3. Uncertain
- [ ] 4. Very effectively
- [ ] 5. Extremely effectively

Appendix D: Google Form–Digital Version of the Pathways for Coaching Collaborative Teams Protocol for the 2022-2023 School Year

Please choose the **ACTION you focused on** during today's PLC under **PLC Question ONE.**

THIS document should help guide the conversation.

Choose

If you choose OTHER for PLC Question 1, please explain what you focused on and why.

Your answer

Please choose the **ACTION you focused on** during today's PLC under **PLC Question TWO.**

THIS document should help guide the conversation.

Choose

If you choose OTHER for PLC Question 2, please explain what you focused on and why.

Your answer

Please choose the **ACTION you focused on** during today's PLC under **PLC Question THREE.**

THIS document should help guide the conversation.

Choose

If you choose OTHER for PLC Question 3, please explain what you focused on and why.

Your answer

Appendix E: Google Doc–Digital Version of the Pathways for Coaching Collaborative Teams Protocol for the 2023-2024 School Year

Attendance April 18:

Here is an overview of what you have completed this year in your PLC:

What has our PLC accomplished this year?

- ★ Identified Priority Standards.
- ★ Broke Priority Standards into Learning Targets
- ★ Prioritized your Priority Standards by Quarter 6th Grade Standards by quarter
- ★ **REMINDER: DUE by May 17 -** Check the official forward facing documents.

Where is your PLC in the Instructional Learning Cycle? We only have 4 PLC left this year...

- ☐ Once the following is completed, you should focus on completing instructional cycles.

Instructional Learning Cycle
This is what we should see you doing during your allotted PLC time.

- ☐ **PLC Question 1**
  - ☐ **Action:** Prioritizing Standards
  - ☐ **Action:** identifying Learning Targets
  - ☐ **Action:** Determining Proficiency
  - ☐ **Action:** Planning Units
  - ☐ **Action:** Analyzing Strategies
- ☐ **PLC Question 2**
  - ☐ **Action:** Developing Common Formative Assessments
  - ☐ **Action:** Analyzing Student Work
  - ☐ **Action:** Analyzing Assessment Data
- ☐ **PLC Question 3:**
  - ☐ **Action:** Planning Classroom Interventions
  - ☐ **Action:** Utilizing a System of Supports
  - ☐ **Action:** Analyzing Strategies
- ☐ **PLC Question 4:**
  - ☐ **Action:** Planning Enrichment Activities

PLC Reflection

How effectively have your PLC actions affected your professional learning on one or more actions in the instructional learning cycle?

- ☐ **1 = Extremely Ineffectively**
- ☐ **2 = Very Ineffectively**
- ☐ **3 = Uncertain**
- ☐ **4 = Very Effectively**
- ☐ **5 = Extremely Effectively**

"Professional [learning] for teachers is a key mechanism for improving classroom instruction and student achievement (Ball & Cohen, 1999; Cohen & Hill, 2000; Corcoran, Shields, & Zucker, 1998; Darling-Hammond & McLaughlin, 1995; Elmore, 1997; Little, 1993; National Commission on Teaching and America's Future, 1996)."

Appendix F: Baker IRB Approval Letter

Baker University Institutional Review Board

January 23, 2024

Dear Andrea Paulakovich and Margaret Waterman,

The Baker University IRB has reviewed your revised project application and approved this project under Exempt Status Review. As described, the project complies with all the requirements and policies established by the University for protection of human subjects in research. Unless renewed, approval lapses one year after approval date.

Please be aware of the following:

1. Any significant change in the research protocol as described should be reviewed by this Committee prior to altering the project.
2. Notify the IRB about any new investigators not named in original application.
3. When signed consent documents are required, the primary investigator must retain the signed consent documents of the research activity.
4. If this is a funded project, keep a copy of this approval letter with your proposal/grant file.
5. If the results of the research are used to prepare papers for publication or oral presentation at professional conferences, manuscripts or abstracts are requested for IRB as part of the project record.
6. If this project is not completed within a year, you must renew IRB approval.

If you have any questions, please contact me at skimball@bakeru.edu or 785.594.4563.

Sincerely,

Scott Kimball, PhD
Chair, Baker University IRB

Baker University IRB Committee
Jiji Osiobe, PhD
Tim Buzzell, PhD
Susan Rogers, PhD

Appendix G: Superintendent Approval Letter for District X

January 21, 2024

To whom it may concern,

Please accept this letter as confirmation of approval for [redacted] to utilize the following non-identifiable student data from the [redacted] as part of her dissertation research:

- The data will be non-identifiable teacher responses from a weekly PLC Google Form used from fall 2022 through the spring of 2024.
- The PLC Google Form was a digital version of the Pathways for Coaching Collaborative Teams protocol.

Sincerely,

[redacted]