The Level of Implementation of Professional Learning Communities Based on Principals' and Teachers' Perceptions

By

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Abstract

Professional learning communities (PLCs) continue to be a widely accepted and used process for improving teacher capacity and increasing student achievement. Scholars have noted that the success or failure of the PLC process is based on the implementation of the PLC process; as well as, the views of principals and teachers in the PLC process. The purpose of this study is to identify the extent to which one school district in the Rocky Mountain Region has implemented the PLC process. This study attempts to investigate the different levels the PLC process that have been implemented based on the perceptions of teachers and principals. In addition, this study seeks to identify target areas and identify suggestions for district leaders, principals, and stakeholders for improving the PLC process within the school district.

Keywords: Professional Learning Communities (PLC), perceptions, implementation

The Level of Implementation of Professional Learning Communities Based on Principals' and Teachers' Perceptions

As No Child Left Behind (NCLB) fades and Every Student Succeeds Act (ESSA) begins to take shape across the country, the pressure to increase student achievement continues to intensify (US Department of Education, 2015; US Department of Education 2002). District leaders, building leaders, and teachers continue to have extreme pressure to improve student performance; and in turn, these leaders are constantly looking for new or existing practices, philosophies, strategies, professional development, and any other system or program that will aid in their quest. One such process, professional learning communities (PLCs), continues to be an integral component to improving teacher capacity and thus assisting in increasing student achievement (DuFour, 2004, 2014; DuFour, DuFour, Eaker, & Many 2010, Vescio, Ross, & Adams, 2008). Professional learning communities focus on educational professionals communicating and collaborating with each other in the same building or district to increase student achievement (DuFour, 2004, 2014; DuFour, DuFour, Eaker, & Many 2010; DuFour & Marzano, 2011; Hord, 2009; Little, 2006; Vescio, Ross, & Adams, 2008). DuFour, DuFour, Eaker, and Many (2010) defined a PLC 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.11). It is the recurring cycles and continued pursuit of improvement that helps education professionals improve their capacity for students.

Professional Learning Communities

Professional learning communities (PLC), also known as learning communities, is not a new idea or concept. The foundation of a PLC or a learning community was first derived from Meiklejohn in 1932, in which he found the importance for teachers and students to conference with each other (Meiklejohn, 1932). In 1990, Peter Senge discussed learning organizations in his book *The Fifth Dimension*, and then in 1998, DuFour's work at Adlai Stevenson High School in Illinois helped coin the term PLC (DuFour & Eaker, 1998; Senge, 1990). No matter the term, learning communities or PLCs, the idea of educational professionals collaborating together to increase student achievement remains a vital component to the advancement in educational practices and success (DuFour, 2004, 2014; DuFour, DuFour, Eaker, & Many 2010; DuFour & Marzano, 2011; Hord, 2009; Little, 2006; Vescio, Ross, & Adams, 2008). PLCs continue to be a practice that is widely used, but hard to perfect (Hipp, Huffman, Pankake, & Olivier, 2008; Stamper, 2015; Vescio, Ross, & Adams, 2008).

Studies on the effectiveness of PLCs in regard to student achievement show mixed reviews. One reasons for the mixed results is the level at which PLCs have been implemented, (DuFour, DuFour, Eaker, & Many 2010; DuFour & Marzano, 2011; Hipp, Huffman, Pankake, & Olivier, 2008; Supovits, 2002; Little, 2006; Supovits & Christman, 2003). Therefore, one must wonder if education professionals' perceptions match the actual implementation of the PLC. Most researchers cite that educators, building leaders, and district leaders who have a negative perception of PLC's lack commitment or follow through, causing PLC's to fail (Little, 2006; Hipp, Huffman, Pankake, & Olivier, 2008; Supovits, 2002; Supovits & Christman, 2003). Therefore, the opposite is true, meaning that educators, building leaders, and district leaders must commit, foster the development of, and continue to support PLCs in order to reap the benefits of higher student achievement.

There are six dimensions of PLCs that are vital to the formation and sustainment of PLCs: shared mission, vision, values, and goals; collaborative teams focused on learning; collective inquiry; action orientation and experimentation; commitment to continuous improvement; and results orientation (Buffman, Mattos, & Weber, 2009; DuFour, 2004, 2014; DuFour, DuFour, Eaker, & Many 2010; Little, 2006). Furthermore, PLCs must focus on student learning, maintain a culture of collaboration, focus on results of their students, and focus on continuous improvement (DuFour et. al, 2010). Without the implementation of these foundational characteristics, PLCs struggle to reach their desired effect.

Though PLCs must be implemented with the foundation characteristics, the perceptions of those implementing the PLC process greatly impact the success or failure of PLC groups (DuFour, DuFour, Eaker, & Many 2010; DuFour & Marzano, 2011; Hipp, Huffman, Pankake, & Olivier, 2008; Little, 2006; Supovits, 2002; Supovits & Christman, 2003). Therefore, in order to understand the level in which PLCs have been implemented, perceptions of teachers and principals about the level of implementation must be understood.

Problem Statement

The success or failure of PLCs has been linked to the implementation of the PLC process (DuFour, DuFour, Eaker, & Many 2010; DuFour & Marzano, 2011; Hipp, Huffman, Pankake, & Olivier, 2008; Little, 2006; Supovits, 2002; Supovits & Christman, 2003). Perceptions of principals and teachers who are implementing the PLC process also impacts the success or failure of the implementation process (Hipp, Huffman, Pankake, & Olivier, 2008; Supovits, 2002; Little, 2006; Supovits & Christman, 2003). Therefore, in order to understand the level PLCs have been implemented, one must find out the perceptions of those implementing the PLC.

Within one school district in the Rocky Mountain region it is unclear as to whether the PLC process has been implemented with quality, fidelity, intensity, and consistency (QFIC) (Waters & Cameron, 2007). Furthermore, the level at which PLCs have been implemented based on teachers' and principals' perceptions is unclear. In order to better understand where individual grade groups (elementary school, middle school, or high school) are at in the PLC process, the district needs to better understand the level where each of these schools are at in the implementation process of PLCs.

Research Questions

Specific research questions which will guide the study are:

RQ1 What is the level of implementation of PLCs as perceived by teachers within one school district in the Rocky Mountain region?

RQ2 What is the level of implementation of PLCs as perceived by principals within one school district in the Rocky Mountain region?

RQ3 What is the difference, if any, among elementary, junior high, and high school teachers with regards to the level of implementation of PLCs?

RQ 4 What is the difference, if any, among elementary, junior high, and high school principals with regards to the level of implementation?

Scope of the Study

PLCs continue to be a vital component to the advancement in educational practices. However, PLCs also continue to be difficult to maintain and sustain over time (Hipp, Huffman, Pankake, & Olivier, 2008; Stamper, 2015; Vescio, Ross, & Adams, 2008). The PLC structure is practiced in many school districts, but some of those districts struggle to see increased student achievement, increased teacher collaboration, or increased teacher efficacy (DuFour, 2004, 2014; DuFour, DuFour, Eaker, & Many 2010; DuFour & Marzano, 2011; Hord, 2009; Little, 2006; Stamper, 2015; Stegall, 2011; Vescio, Ross, & Adams, 2008). One reason that school districts fail to reap the rewards of the PLC process is due to the lack of implementation with quality, fidelity, intensity, and consistency (QFIC) (Hipp, Huffman, Pankake, & Olivier, 2008; Little, 2006; Supovits, 2002; Supovits & Christman, 2003). Instead, PLCs are presented as a program or an idea, rather than a system with formal practices (Hipp, Huffman, Pankake, & Olivier, 2008; Little, 2006; Supovits, 2002; Supovits & Christman, 2003). In addition, PLCs often fail due to the negative perceptions of administrators and/or teachers (Hipp, Huffman, Pankake, & Olivier, 2008; Little, 2006; Supovits, 2002; Supovits & Christman, 2003).

The scope of this study will cover the level PLCs have been implemented based on the perceptions of teachers and principals who are involved in the PLC process. In addition, this study will provide a self-evaluation tool for districts to use to assess where they are in the PLC implementation process. Furthermore, this study will help identify specific areas where districts can improve upon their current PLC practices. Participants in the study will provide input based on survey questions about their level of PLC training and their perceptions on PLCs.

This study does not focus on the effectiveness of PLCs. There is currently an abundance of research that provides evidence on the effectiveness of PLCs (DuFour, 2004, 2014; DuFour, DuFour, Eaker, & Many 2010; DuFour & Marzano, 2011; Hord, 2009; Little, 2006; Stamper, 2015; Stegall, 2011; Vescio, Ross, & Adams, 2008). In addition, a program’s effectiveness cannot be determined unless the program has been properly implemented. This study will focus on the level PLCs have been implemented based on teachers’ and principals’ perceptions in order to identify what areas are in need of improvement.

The school district in the Rocky Mountain region used in this study was chosen because it has adopted the PLC format. This district was also chosen because the author has invested interest in this district. Since the implementation of PLCs in 2005, the district has invested in a formal PLC training for a large number of certified staff members and has yet to see the expected results. The administrators have also created an improvement plan based on a recent report from the Advance-ED Performance Accreditation company, which cited the need to improve the district's PLC process.

Warrant for the Study

Current research provides evidence on the potential positive effects PLCs have on teacher efficacy, teacher collaboration, and student achievement (DuFour, 2004, 2014; DuFour, DuFour, Eaker, & Many 2010; DuFour & Marzano, 2011; Hord, 2009; Little, 2006; Stamper, 2015; Stegall, 2011; Vescio, Ross, & Adams, 2008). The research also shows that the perceptions of district leaders, building leaders, and educators greatly affect the success of implementing PLCs (Vescio, Ross, & Adams, 2008). However, research in unclear as to how school districts determine the level of PLC implementation based on the perceptions of teachers and principals implementing the PLC process. The findings from this study may help develop a process that school district leaders may follow in order to determine their level of PLC implementation.

For this study, the effectiveness of PLCs was purposely not chosen to investigate. The present research has determined that when PLCs are implemented correctly, then PLCs will be effective at increasing student achievement, teacher efficacy, and teacher collaboration. On the other hand, it is not clearly understood how districts can determine their level of implementation based on teacher and principal perceptions. There has been some research on teachers' perceptions on the implementation of the PLC process, but not teacher and principal perceptions about the level of implementation of PLCs collectively.

Since the beginning of PLC implementation in 2005, the district has not seen evidence of increased student achievement related to the PLC implementation. Although PLC implementation is not the sole variable that has an impact on student achievement, research does show that a district that implements the PLC program properly will see an increase in student achievement (Supovits, 2002; Supovits & Christman, 2003; Vescio, Ross, & Adams, 2008). In addition to the lack of expected student achievement, the school district received feedback in 2015 from the Advance-ED Performance Accreditation agency indicating a need to improve PLC practices. This feedback influenced this district's strategic plan, where the district created a focus of improvement on district-wide PLC practices. As a result of the lack of student achievement data and the feedback from the Advance-Ed Performance Accreditation agency, it has been determined that additional research is needed within this school district to determine what level the PLC process has been implemented in order to improve its practices for students.

Purpose of the Study

The purpose of this study is to identify the extent to which one school district in the Rocky Mountain region has implemented the PLC process based on perceptions from teachers and principals. Data collected from the respondents will include their demographic data (age, gender, grade level, years of experience, years of working in PLCs, prior teacher assignment location before becoming a principal, and formal PLC training) and perceptions of the level of PLC implementation (see Appendix A). The collection of the demographic data is important to the study to identify any commonalities or variances on participants' responses. The second section of the study will consist of a five-point survey questionnaire (1= Never to 5= All the time) that asks respondents to identify what parts of their PLC had been implemented (see Appendix A). PLC implementation was defined by the six categories based on the work of DuFour (DuFour, 2004, 2014; DuFour, DuFour, Eaker, & Many 2010; Vescio, Ross, & Adams, 2008). These six characteristics are shared mission, vision, values, and goals; collaborative teams focused on learning; collective inquiry; action orientation and experimentation; commitment to continuous improvement; and results orientation (DuFour, 2004, 2014; DuFour, DuFour, Eaker,

& Many 2010; Vescio, Ross, & Adams, 2008). The study also seeks to identify target areas and identify suggestions for district leaders, principals, and stakeholders for improving the PLC process within one school district. Furthermore, the findings from the study will be used for future accreditation procedures and for measuring the strategic plan within the school district.

Study Foundations

The foundation of this study is rooted in DuFour's model of PLCs. DuFour (2014 & 2004) states that there are six characteristics of a functional PLC teams: shared mission, vision, values, and goals; collaborative teams focused on learning; collective inquiry; action orientation and experimentation; commitment to continuous improvement; and results orientation. The basis of this study will investigate the level PLCs have been implemented based on teachers' and principals' perceptions using the six characteristics of PLC teams. Though other scholars have identified fewer characteristics (Hord, 2008; Hord & Sommers, 2008; Watson, 2014), DuFour's six characteristics will be used as the basis for this study because his characteristics are widely used throughout education and the district the study is taking place was trained in the DuFour model.

Review of Literature

The literature review is separated in to three sections. Section one describes the history of professional learning communities (PLCs), in order to provide a basic understanding of the formation of PLCs. Sections two reviews the different characteristics of PLCs. Depending on the scholar, there are different characteristics that make up a PLC. For the purpose of this study, DuFour's six characteristics were used. Furthermore, each characteristic will be implemented into the interview questions that will be used to determine teachers' and principals' perceptions of their PLC implementation. Section three reviews the research on teachers' and principals' perceptions and is needed to determine the level of importance their perceptions plays into the success or failure of PLCs.

History of PLCs

Public education continues to gradually evolve over time based on the economic, political, and social factors that the country faces at that time. Following World War II, the nation experienced a population surge, leading to an explosion of youth entering public education in the 1950s and putting more pressure on the education system. At the end of the decade, the Russians released Sputnik (Hewitt, 2006). After the release of Sputnik, the United States' Federal Government was quick to launch the space race and quickly put pressure on public schools to increase their focus on math and science (Hewitt, 2006). In addition to political factors, economic factors, and societal factors, such as the Brown vs. The Board of Education of Topeka Kansas court case also changed the landscape of public education. In 1983, US Department of Education released the publication *A Nation at Risk*, which concluded that the nation's public-school system was in need of repair (US Department of Education, 1983). The release of the US Department of Education's publication caused an onslaught on school reform that continued into the 1990s.

In the 1990s, public school agencies saw a major need for school reform in the areas of accountability, assessments, standards, school finance, and teacher training programs (Hurst, Tan, Meek, & Sellers, 2003). At the beginning of the 1990s, only about 20 states had English/Language Arts standards, and by the end the decade, 49 states had English/Language Arts standards. In addition, the 1990s brought about educational reform in the way of educational finance, which caused a states to be more equitable with their funding models (Hurst, Tan, Meek, & Sellers, 2003). Furthermore, the 1990s brought about a focus on teacher licensure standards (Council of Chief State School Officers, 2000). In fact, by the end of the decade, almost all of the states had updated or created standards for obtaining a teacher license (Council of Chief State School Officers, 2000). Perhaps the greatest shift in school reform in the 1990s was shift from educational inputs to educational outputs (Hurst, Tan, Meek, & Sellers, 2003). These educational outputs came in the form of student achievement scores on high stakes testing (Hurst, Tan, Meek, & Sellers, 2003). As a result, more pressure was being placed on public education systems to increase student achievement.

While these changes were taking shape across the country, the term PLCs had not been coined, but the basis for PLCs was starting to take off. The characteristics of PLCs were not first derived from educational practices, but from business practices created by Senge's (1990) book. In Senge's (1990) book *The Fifth Discipline*, he describes five major themes for learning organizations which improved employee capacity: personal mastery, mental models, shared vision, team learning, and system thinking. Shared vision is the process in which leaders and employees create a focus that all participants in the system work towards (Senge, 1990). Mental models are the process of understanding employees thinking in order to determine change or reframe that thinking in order to generate success (Senge, 1990). Personal mastery is the process of helping employees become more self-aware in order to help improve interpersonal skills (Senge, 1990). Team learning is the process in which employees share their insights, thinking, and experiences in order to improve upon their current practice (Senge, 1990). System thinking is the process of identifying all aspects that come from potential change to ensure that necessary supports are in place (Senge, 1990).

Though Senge's work was not designed to enhance education, his five characteristics laid the foundations for what would become PLCs. In Blacklock's (2009) study, he used Senge's major themes, and found that high performing schools in Texas had the same characteristics. The significance of Blacklock's finding demonstrates the close relationship between Senge's characteristics and the characteristics of PLCs. Furthermore, Blacklock's finding demonstrate the importance of Senge's characteristics, and thus characteristics of PLCs, in improving student improvement.

In 1992, Brandt released an article, in which he interviewed Hank Levin, on a process that helped schools become learning communities. At the time, Hank Levin was a Stanford professor of education and economics, and was nationally recognized as one of the foremost leaders in educational innovation (Brandt, 1992). The overall process called for schools to identify problems collaboratively, work to create solutions collaboratively, create a shared vision, and share leadership (Brandt, 1992). Though these are not all of the identified characteristics of PLCs, the process that Hank was using was essentially the characteristics of PLCs.

It was not until 1998, that DuFour and Eaker coined the term Professional Learning Communities from DuFour's work with Adlai Stevenson High School. DuFour's work with Adlai Stevenson High School transformed a school, and ultimately a school district, from average student achievement to high student achievement. His method of increasing student achievement was grounded in a focus on student learning and teacher collaboration. From DuFour's and Eaker's (1998) work, they identified three big ideas: ensure that students learn, build a culture of collaboration, and focus on results. From here, the idea of PLCs grew into a process for education professionals to follow to increase student achievement and professional practice.

Characteristics of PLCs

DuFour's book, *Learning by Doing* (2006), identified six characteristics of PLCs: shared mission, vision, and goals; collaborative teams focused on learning; collective inquiry; action orientation and experimentation; commitment to continuous improvement; and results orientated. Other scholars have identified similar characteristics: collective responsibility; reflection; collaboration; and group and individual professional learning (Hord, 2008; Hord & Sommers, 2008; Watson, 2014). Based on the research, the language used to describe the characteristics of PLCs are heavily dependent on the researcher. Therefore, this study will use DuFour's identified characteristics as the basis for determining the level of implementation.

Shared Mission, Vision, and Goals

The use of creating a shared mission, vision, and goals is not a new idea in education. Most scholars agree that organizations need to establish a shared mission, vision, and goals (Eaker, DuFour, & DuFour, 2002; DuFour, DuFour, Eaker, & Karhaneck, 2004; Fullan, 2008; Buffum, Mattos, & Weber; 2009; Marzano & Waters, 2009). In addition, scholars note that one of the first pieces of implementation for new and existing leaders in any capacity is the development of share, mission, vision, and goals (Fullan, 2008; Marzano & Waters, 2009). Mission, vision, and goals are critical implementation pieces because of their ability to unite, ground, and focus staff members towards a common purpose (Eaker, DuFour, & DuFour, 2002; DuFour, DuFour, Eaker, & Karhaneck, 2004; Fullan, 2008; Buffum, Mattos, & Weber; 2009; Marzano & Waters, 2009). The establishment of mission, vision, and goals are a fundamental component needed in order for PLCs to function correctly.

According to DuFour (2004), the formation of the PLC model requires a cultural and philosophical shift from current practices. Historically, public education has been centered around individual teacher practices with limited focus on student result from those practices. PLCs are focused around student learning (DuFour & Eaker, 1998; DuFour, DuFour, Eaker, & Karhaneck, 2004; DuFour, 2004, 2014). Teaching is the delivery of instruction, while student learning is the desired outcome. Though the delivery of instruction is an important piece in increasing student achievement, focusing on student learning drives and determines the delivery of instruction, meaning that student learning should drive teacher pedagogy. Therefore, the primary function of PLCs, and subsequently the mission, vision, and goals of PLC groups, must focus on student learning (DuFour & Eaker, 1998; DuFour, DuFour, Eaker, & Karhaneck, 2004; DuFour, 2004, 2014; DuFour & Marzano, 2011). In this critical first step, PLC group members must identify what the purpose of their PLC group is, along with establishing what each group member will adhere too.

Marzano, Waters, and McNulty in 2005 completed a meta-analysis is which they looked at the characteristics of building leaders who operated in high and low performing schools. The results of their study concluded that building principals who are able to lead their schools in creating a shared mission, vision, and goals have a higher positive effect on student achievement than school who did not have leaders with these skills. In another meta-analysis study completed Marzano and Waters (2009), in which they looked at the characteristics of district leaders who lead high performing district, concluded that district leaders who were able to develop a shared mission, vision, and goals had higher positive effect size on student achievement. The findings from these studies further support that schools and districts who have a shared mission, vision, and goals have higher student achievement scores. Furthermore, these studies support the importance of PLCs that have the shared mission, vision, and goals characteristic.

Collaborative Teams Focused on Learning

The second characteristic of the PLCs is the use of collaborative teams that are focused on student learning and educator learning (DuFour & Eaker, 1998; DuFour, DuFour, Eaker, & Karhaneck, 2004; DuFour, 2004, 2014; Hipp, Huffman, Pankake, & Olivier, 2008; Hord, 2009; Killion, 2015). Collaboration teams are defined as members working interdependently together to achieve common goals (DuFour et al., 2002; DuFour, DuFour, Eaker, & Karhaneck, 2004; DuFour, 2004, 2014; Hipp, Huffman, Pankake, & Olivier, 2008; Hord, 2009; Killion, 2015). The use of collaborative teams is another shift from traditional education practices (DuFour, DuFour, Eaker, & Karhaneck, 2004; DuFour, 2004, 2014). For years, educators have been operating in silos (DuFour, DuFour, Eaker, & Karhaneck, 2004; DuFour, 2004, 2014). Educators have historically taught independently without much interaction with other education professionals. This traditional stagnant approach has been shown to have a negative effect on student learning (DuFour, DuFour, Eaker, & Karhaneck, 2004; DuFour, 2004, 2014).

Collaborative teams focused on student learning is the heart of PLCs. In a meta-analysis conducted by John Hattie (2012), in which he reviewed numerous independent studies on education, found that collaborative teams had a positive effect on student achievement. Though Hattie's meta-analysis was limited to the studies he investigated and there was no way of determining if the studies he used followed the collaborative method, one can conclude that collaboration has become a best practice in education. Furthermore, other studies have found similar results, citing that collaborative teams that focus on student learning have a positive effect on student achievement (Supovits, 2002; Supovits & Christman, 2003; Vescio, Ross, & Adams, 2008; Killion, 2015). Along with having a positive effect on student achievement, scholars have also linked collaboration to an increase in teacher efficacy (Goddard, Hoy, & Woolfolk, 2000; Shaughnessy, 2004; Chang, 2015). Efficacy is the belief that one has the necessary skills and ability to complete a desired function (Goddard, Hoy, & Woolfolk, 2000; Shaughnessy, 2004; Chang, 2015). Scholars have found that teacher efficacy to have a strong correlation to student achievement (Goddard, Hoy, & Woolfolk, 2000; Shaughnessy, 2004; Chang, 2015). When teachers have high efficacy, student learning is obtained. Lower teacher efficacy can lead to a decline in student achievement. In a study conducted by Eberle (2011), he found that teachers who had higher perceived self-efficacy had better student achievement scores than teachers with lower reported self-efficacy.

Creating a successful collaborative team is difficult. Often members of a collaborative team share information about their day, vent about frustration, and discuss specific incidents of the school day (Holmstrom & Krumm, 2015). When this practice happens teachers and principals are not collaborating but merely sharing the events of their day. In a qualitative study completed by Holmstrom and Krumm (2015), found that teachers should be using their collaborative sessions focused on reflection. In addition, the study also found that teachers who actively reflected on their practices in their collaborative sessions had a greater understanding of their instruction and led to an increase in practices for assessing student learning (Holmstrom & Krumm, 2015). It is worth mentioning that the number of teachers and principals who have adopted collaborative models is limited in the research. Therefore, there is no way of knowing how many teachers and principals across the country that actually follow the collaborative process.

Collective Inquiry

Collective inquiry is defined as the process educators use to build shared knowledge and learn together (All Things PLC, 2016). Therefore, in order for collaboration to work to its fullest potential, the PLC team must establish a culture and climate that is conducive for education professionals to share ideas, concerns, knowledge, and skills (DuFour, DuFour, Eaker, & Karhaneck, 2004; DuFour, 2004, 2014). One way to achieve a positive culture shift is for educational leaders to connect staff towards a common purpose, build capacity, remain transparent, and to care deeply for their staff (Fullan, 2008). This sharing of skills, information, and knowledge in an environment free of judgement and ridicule allows for the collaborative process of interdependent work towards common goals to take place.

In one qualitative study completed by Kazemi and Franke (2004), found that teachers that actively participated in collective inquiry, centered around student work, reported greater teacher learning. This teacher learning thus transferred into a greater teacher belief in meeting students' needs (Kazemi & Franke, 2004). The significance of this shows the positive relationship between collective inquiry and teacher belief to meet student needs.

Action Orientation and Experimentation

Action orientation and experimentation is the method of identifying specific activities and processes, and then testing those activities and processes over time (Eaker, DuFour, &

DuFour, 2002; DuFour, DuFour, Eaker, & Karhaneck, 2004; Buffum, Mattos, & Weber; 2009; Marzano & Waters, 2009; Coghlan & Brannick, 2010). In addition, action orientation and experimentation is also known as an action research project (DuFour, DuFour, Eaker, & Karhaneck, 2004; Coghlan & Brannick, 2010). Completing an action research project requires the individuals completing the action research project to identify the context and purpose of the study, constructing the study, planning the study, implementing the study, and evaluating the study (Coghlan & Brannick, 2010). Action research projects have shown to be an effective method of research, mainly because the individuals completing the action research have buy in into the process and outcomes (Coghlan & Brannick, 2010). In addition, scholars agree that the action research process is a best practice for educational systems attempting to improve upon their current approach (Eaker, DuFour, & DuFour, 2002; DuFour, DuFour, Eaker, & Karhaneck, 2004; Coglan & Brannick, 2010).

The use of action orientation and experimentation is another cultural shift that educational professionals must make when implementing the PLC process (DuFour, DuFour, Eaker, & Karhaneck, 2004). Within this process, educators must change their focus from adopting any pre-fabricated program to fix their current situation, to a continuous pursuit of studying their practices through action research.

There are challenges for school leaders when generating a cultural shift. Often those challenges come in the form of managing change. In the book *District Leadership that Works: Striking the Right Balance*, by Marzano and Waters (2009), the authors provide a table demonstrating the differences between the two orders of change:

First-Order Change	Second-Order Change
• Is perceived as an extension of the past	• Is perceived as a break with the past

• Fits with existing paradigms	• Lies outside existing paradigms
• Is consistent with prevailing values and norms	• Conflicts with prevailing values and norms
• Can be implemented with existing knowledge and skills	• Requires the acquisition of new knowledge and skills
• Requires resources currently available to those responsible for implementing the innovations	• Requires resources currently not available to those responsible for implementing the innovations
• Maybe be accepted because of common agreement that the innovation is necessary	• May be resisted because only those who have a broad perspective of the school see the innovation as necessary

It is important for school leaders to recognize what order of change their staff falls in when instituting a culture shift (Marzano & Waters, 2009). Therefore, in order for action orientation and all other characteristics of PLCs to take root, teacher leaders and principals must provide the appropriate support to help teachers and staff move towards a positive culture.

Commitment to Continuous Improvement

Each PLC member must have a commitment to continuous improvement (Eaker, DuFour, & DuFour, 2002; DuFour, DuFour, Eaker, & Karhaneck, 2004). The education profession is often seen as a skill one masters, but in reality, it is the continuous pursuit of improvement (Eaker, DuFour, & DuFour, 2002; DuFour, DuFour, Eaker, & Karhaneck, 2004). It is basic human nature for people to take on new skills and then practice that skill until it is perceived to be mastered (Weinschenk, 2013). Though human nature is not solely focused on taking on new skills and mastering it, the desire to master a new skill remains a fundamental component human behavior (Weinschenk, 2013). This basic human function to master a skill must be adapted in order to form a culture of continuous improvement (Eaker, DuFour, & DuFour, 2002; DuFour, DuFour, Eaker, & Karhaneck, 2004). Therefore, PLC groups must have a cultural and philosophical shift away from the idea of mastery and shift to one of continuous improvement through collaboration, collective inquiry, and action orientation.

Results Orientated

The final characteristic of the PLC model is results-oriented. In order for PLC groups to operate as they are intended, the PLC group must have a mindset focused on results (DuFour & Eaker, 1998; DuFour, DuFour, Eaker, & Karhaneck, 2004; DuFour, 2004, 2014; DuFour & Marzano, 2011). Again, the results-oriented characteristic is a cultural shift from current practices (DuFour & Eaker, 1998; DuFour, DuFour, Eaker, & Karhaneck, 2004; DuFour, 2004, 2014; DuFour & Marzano, 2011). Traditionally, educators have focused on the pieces that are out of their control which tends to lead to an educators' removal of responsibility (DuFour, DuFour, Eaker, & Karhaneck, 2004; DuFour, 2004). Changing the culture to one of results-based on student achievement helps maintains the responsibility of student learning on the educators. In addition, a results-oriented commitment helps educators recognize, accept, and adapt practices that are not yielding the desired outcomes.

Teachers' Perceptions and Principals' Perceptions

Numerous studies have been conducted on the effectiveness of PLCs in regards to student achievement (Supovits, 2002; Supovits & Christman, 2003; Vescio, Ross, & Adams, 2008). In one study conducted by Vescio, Ross, and Adams (2008), in which they examined 10 U.S. studies and one European study on the effectiveness of PLC groups with respect to student achievement, found that the combined studies showed a positive relationship between PLCs and student achievement. In addition, the researchers also concluded that the positive relationship could have been, in part, due to the Hawthorn Effect, which is when positive results are caused by participants' involvement (Vescio, Ross, & Adams, 2008). Therefore, scholars believe that the effect of PLCs on student achievement may not be a direct relationship, but an indirect one based on perceptions (Vescio, Ross, & Adams, 2008).

Perceptions are individuals' interpretation of the world around them (Vescio, Ross, & Adams, 2008; Contreras, 2011; Pendergast, Garvis, & Keogh, 2011). Just like a fingerprint, each persons' perceptions are unique to them. Teachers' and principals' perceptions are critical to understanding PLCs and their implementation. In a study conducted by Contreras (2011), she found that not only do educators' perceptions matter, but can also lead to increase in a wider student achievement gap when the perceptions are negative. In another study by Vescio, Ross, and Adams (2008), concluded that educators' who have a positive perception of PLCs often had higher student achievement. Therefore, the level at which PLCs have been implemented must be based on the perceptions of teachers and principals.

Implementation of PLCs

Perhaps the most challenging component of PLCs is the implementation process (DuFour & Eaker, 1998; DuFour, DuFour, Eaker, & Karhaneck, 2004; DuFour, 2004, 2014; DuFour & Marzano, 2011). In one study conducted in 2002 and 2003, researchers were unable to find a positive relationship between PLCs and student achievement (Supovits, 2002; Supovits & Christman, 2003). One reason for the lack of evidence was that the schools implementing PLCs lacked staff commitment and implementation (Little, 2006; Hipp, Huffman, Pankake, & Olivier, 2008; Supovits, 2002; Supovits & Christman, 2003). Therefore, based on the number of studies that found a positive relationship between PLCs and student achievement, one can conclude that PLCs that have not increased student achievement are most likely a result of a lack of proper implementation.

Studying PLCs implementation is not without its limitations. In one quantitative study, Johnson (2011), found that there was limited data on teacher perceptions and the implementation of PLCs. Johnson (2011) studied one school district that was beginning the implementation of

PLCs and surveyed teachers prior to the implementation and again after one year of implementation. The major reason for the lack of empirical data in Johnson's study was due to the limited time frame the participants in the study had at implementing PLCs. Therefore, determining the level of implementation of PLCs based on teachers' and principals' perceptions requires an investigation of a school district who has attempted the PLC process for multiple years. This study attempts to determine the level of implementation of PLCs based on the perceptions of teachers and principals within one school district.

Theoretical Framework

The theoretical framework for this study is based on the work of DuFour's 2006 work. DuFour (2006) indicates six characteristics of PLCs: shared mission, vision, and goals; collaborative teams focused on learning; collective inquiry; action orientation and experimentation; commitment to continuous improvement; and results orientation. It is important to mention that other scholars have identified different or additional characteristics. Other such characteristics include: collective responsibility; reflection; collaboration; and group and individual professional learning (Hord, 2008; Hord & Sommers, 2008; Watson, 2014). Though some researchers may view these as other or additional characteristics of PLCs, these characteristics are found in DuFour's model and are discussed in the literature review. Furthermore, Crow (2008) states, "a professional learning community requires intention, a focus on learning, a focus on results, a commitment of collegiality and a willingness to reshape a school's culture" (p. 8). Other scholars have identified similar or additional characteristics of functional PLC teams, but this study's theoretical framework will be grounded in the DuFour's characteristics.

This study uses DuFour's theoretical framework for PLCs as a guiding force, primarily because the district has historically and currently uses the DuFour model for implementing the PLC model. The use of DuFour's model is with some limitations. Over the past 20 years, PLC have been a large topic in education and a topic that has been heavily researched. The sole use of DuFour's framework versus a conceptual framework based on multiple PLC authors, limits this study's ability to identify other potential characteristics that may or may not need to be implemented. Furthermore, DuFour's PLC characteristics will be used based on the ease of use for developing the survey, the ease of use of comparison purposes, and the ease of use for the participants.

Methods

This study attempts to examine the level of implementation of PLCs based on the perceptions of teachers and principals within one school district it the Rocky Mountain region by answering the following research questions: (a) what is the level of implementation of PLCs as perceived by teachers within the school district; (b) what is the level of implementation of PLCs as perceived by principals within the school district; (c) what is the difference, if any, among elementary schools, junior high schools, and high school teachers with regards to the level of implementation of PLCs; (d) what is the difference, if any, among elementary, junior high, and high school principals with regards to the level of implementation of PLCs. The perceived implementation will also be examined based on selected demographic variables: age, years of teaching, training in the PLC process, years spent participating in PLCs, and school level. Finally, this study will describe potential suggestions for teachers, principals, and senior leadership to improve upon their PLCs within school district. The following section describes the research design, population, theoretical framework, methodology, and sampling.

Research Design

This study will use a nonexperimental correlation research design in order to describe the relationship between level of implementation of PLCs and teachers' ratings, and the level of implementation of PLCs and principals' ratings within one school district. A nonexperimental quantitative research design will be used for its ability to quantify the participants' ratings and its ability to make generalizations about an entire population from a sampled group (Creswell, 2014). Furthermore, this design will be used to quantify the level PLCs have been implemented in one school district in the Rocky Mountain region.

A five-point survey will be used to determine the level at which PLCs have been implemented in the school district based on the perceptions of teacher and principals. A cross-sectional design will be used in order to determine the level of implementation of PLCs at one point of time (Fink, 2003). A researcher-developed survey, based on DuFour's (2006) six characteristics of PLCs, and modified from Brucker's 2013 study, will be used to collect the empirical data. Participates will use a five-point scale to rate the degree at which the six characteristics of PLCs have been implemented within their school. The survey will also be used to collect demographic data.

Population

Currently, the school district services more than 13,000 students, has 34 schools, and has more than 2,000 certified, part-time, and classified staff. The population for this study will consist of teachers and principals within one school district in the Rocky Mountain region.

Participation in the study will be volunteer and no incentives will be offered for partaking in the study. Each participant will receive an email with general information about the study, a request for their participation, an Internet link to the survey, and procedures the author will take to ensure their identities and responses will be confidential. This population was chosen because they represent the three major grade levels (high school, middle school, and elementary), they are the teachers and principals in the schools who are implementing the PLC process, and they are teachers and principals within the same school district.

Limitation of the Population

The population sample that will be used for this study is with some limitations. The school district has 47 building principals and more than 1,000 teachers, with the majority of teachers and principals being elementary. For the purpose of this study all building level principals and teachers will be surveyed. The number of teachers and principals investigated in this study could result in skewed overall perception of the teachers and principals in the school district. If skewness presents, based on graphing the distribution, log transformation will be utilized to normalize the data. Furthermore, this study will investigate only teachers and principals within same school district. Though the data from this study will provide this district with relevant data, the lack of another school district's population limits the findings and subsequent suggestions for improving the implementation of PLCs to the district being studied.

Sampling

Within the school district there are 24 elementary schools and seven secondary schools, with 47 building level administrators and over 1,000 teachers. For the purpose of this study, all building level principals and teachers will be sampled. Surveying all the principals and teachers is necessary in order to accurately represent the population and determine the level of PLC implementation.

Instrument

The survey instrument was modified from Brucker's 2013 survey and will consist of three sections. Section one will consist of demographic questions: age, grade level, number of years operating in a PLC, number of years in education, and gender. Section two will consist of 20 PLC implementation indicator items, in which participants will be asked to rate the level of the implementation based on a five-point scale (Brucker, 2013). In section three, participants will be asked to respond to two open-ended questions that relate to their experience in implementing the PLC process. (Brucker, 2013) The 20 indicator items will be derived from DuFour's six characteristics, and three indicators items will be identified for each characteristic (Brucker, 2013).

In a study completed by Brucker (2013), she investigated the perceived effectiveness and implementation of PLCs in one school district. In her investigation she created a survey questionnaire using indicators based on the characteristics of PCLs (Brucker, 2013). Based on Brucker's results, the more PLCs were implemented the more effective they became. This is relevant to this study because the methodology used by Brucker is similar to this study.

To ensure validity, the survey questionnaire will be reviewed by a panel of PLC and educational experts prior to implementation (Brucker, 2013). The panel will be asked if the 20 indicators accurately reflects PLCs characteristics within the school district. In addition, the panel will consist of the district's curriculum director, the district's four superintendents, and two of the University of Wyoming College of Education professors.

Reliability. The major reliability concern for this study is consistency reliability. A Cronbach Alpha will be used to ensure consistency reliability. Cronbach Alpha essentially helps determine the scale or survey's reliability or how consistent the respondents rated the survey questions. Ensuring this study reliability will also come from using similar survey questions as previous studies (Brucker, 2013). By mimicking previous studies surveys, ensures the consistency of this study.

Validity

Internal validity. This study attempts to determine the level at which PLCs have been implemented with the school district based on teachers and principals rating. Therefore, to ensure internal validity, this study will sample only teachers and principals within the same district and use survey question indicators of characteristics of PLCs. Teachers and principals will rate their answers to indicator questions, thus representing the participants' scores of the survey questions.

External validity. To ensure external validity, all the teachers and principals within the district will be sampled. In addition, the demographic data collected by the survey will be used to ensure that a thorough representation of the whole population of teachers and principals within the district is represented. Therefore, the results of this study can be generalized to the entire school district. Results from this study can also be generalized to the entire education population to the state in which the school district resides. The state has a relatively small population of residence compared to the other 49 states, a relative homogeneous racial makeup, and all school districts have to follow state education policy. Meaning that the sample of teachers and principals within the studied district can be generalized to other school districts within the.

Data Collection

Permission will be obtained from school district's superintendent prior to distributing the survey. Once permission has been obtained, an email will be sent to all principals seeking their participation in the study. Principals have the option to forward on the email to his or her teachers so that they could participate in the study. All email addresses will be obtained through the state's department of education website, which contains all active education administrators' email addresses. The email will contain a brief description of the study, information about how participants will remain anonymous, information about how the data will be used and destroyed after the study, and a link to an electronic survey. Participants will have 30 days to complete the survey and two reminder emails (Appendix D) will be sent out to participants encouraging respondents to participate. Once the 30-day timeline has passed, the participants' responses will be exported from the electronic survey to a statistical software program for data analysis. Microsoft Excel will be used for data analysis.

Data Analysis

For research questions one and two, data will be collected from each indicator, and analyzed by mean scores and standard deviations. A Cronbach Alpha will be computed to ensure that the respondents rating is accurate to the survey question. For research question three and four, a one-way ANOVA will be used determine the variation among the groups (elementary, junior high, or high school) with the participant's perceptions of the level of PLC implementation.

Data will be coded by the respondents rating their answers to survey questions based on a five-point scale: (1) never, (2) seldom, (3) sometimes, (4) most of the time, and (5) always. Once the participants rate their answers, the corresponding score will be used as the quantitative data to then be analyzed through statistical software. This data will then be used to compute the mean and standard deviation. For coding the variance, teachers who have been educating in their current school from the start of implementing. Open ended questions will be used to verify quantitative data and help provide suggestions to next steps. It is important to mention that the start date for implementing PLCs within this district was in 2005.

Limitations

The main limitation to this study is the teachers' and principals' ratings to the level of implementation of PLCs. There is a chance that the participants' responses are not an accurate representation of the level of implementation.

Conclusion

This study attempts to investigate the level of implementation one school district has implemented PLCs based on teachers' and principals' ratings. Fifty principals and more than a thousand teachers from across the school district will be sampled. Each participants' involvement will be voluntary, and each participant will receive an email with background information about the study and a link to online survey generator. A nonexperimental quantitative research design will be employed using a five-point scale. The purpose for using a nonexperimental research design is its ability to quantify the ratings of the participants. The five-point survey will collect both empirical data and demographic data. Sampling of the participants will be based on the respondents' occupation within the school district. This means that only teachers and principals within the district will be sampled for this study. The data collected from the survey will used to generate means, standard deviation, and correlation. The remaining two sections will focus on the data analysis, results, and potential suggestions for improvement in PLCs.

Results

The purpose of this study was to determine the level of PLC implementation based on teachers' and principals' perceptions within one school district in the Rocky Mountain region. In addition, this study sought to determine, if any, the difference among elementary, junior high, and high school teachers and principals with regards to the level of PLC implementation. A Cronbach α was used to determine the internal reliability of the study and was determined to be 0.89, which is an acceptable value (Field, 2009). Findings of this study are organized into participants, findings for each of the four research questions, and summary of the findings.

Participants

The second section of the survey focused on demographic data: occupation (teacher or principal), years of experience, number of years participating in PLCs, grade-level group (elementary, junior high, and high school), and level of PLC training. This data is represented in Table 1 and Table 2. The school district has 24 elementary schools and seven secondary schools, with 47 building-level administrators and over 1,000 teachers. Of those 31 schools, there are 12 junior high principals, 13 high school principals, and 22 elementary principals. There are almost an equal number of elementary teachers as secondary teachers (high school and junior high teachers combined). Therefore, it was expected to have almost an equal number of junior high and high school participants, and almost the same number of elementary participants when compared to junior high and high school combined.

Figure 1

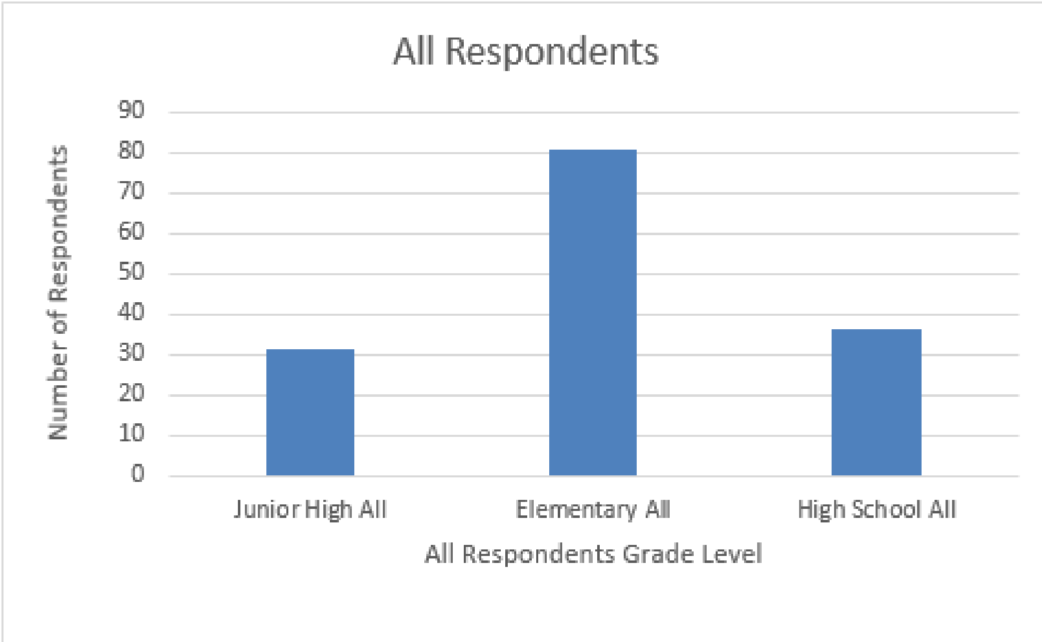

Figure 1. This graph indicates an almost equal distribution of participants that work in the elementary grades (*n*= 81), and where participants in junior high (*n*= 31) and high school (*n*=36) are combined (*n*= 66).

Figure 2

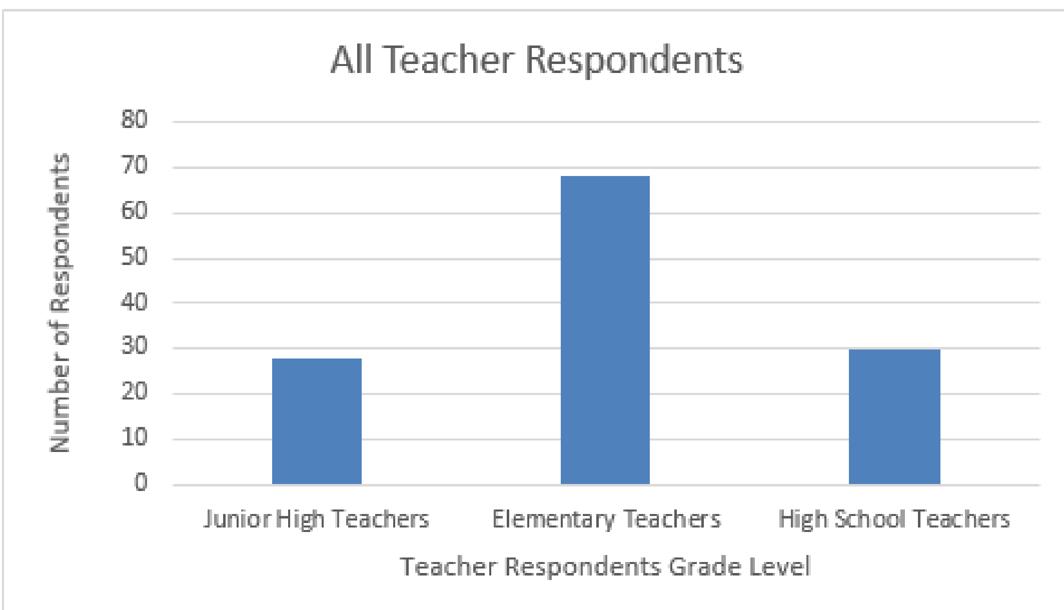

Figure 2. This graph indicates an almost equal distribution of participants that work in the elementary grades (*n*= 68), and where participants in junior high (*n*= 28) and high school (*n*=30) are combined (*n*= 58).

Figure 3

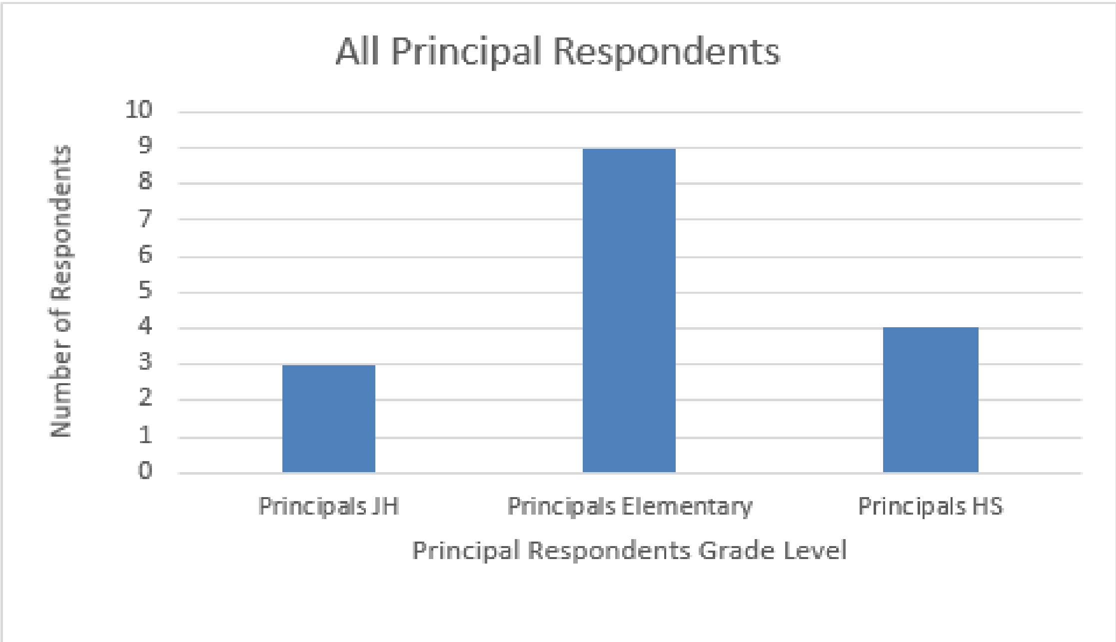

Figure 3. This graph indicates an almost equal distribution of participants that work in the elementary grades (*n*= 9), and where participants in junior high (*n*= 3) and high school (*n*=4) are combined (*n*= 7).

For this study, there were 165 total participants (>16% response rate). Of those participants,128 were teachers (77.58%), 68 were elementary teachers (41.21%), 28 were junior high teachers (16.97%), and 30 were high school teachers (18.18%). Teacher respondents' experience level ranged: 1-34 years (*M*=13.17, *n*= 148), years participating PLCs ranged: 1-26 years (*M*= 9.65, *n*= 126), and 148 teachers (89.96%) stated that they had some level of PLC training.

Table 1

Demographic Characteristics of Participants I

Demographic Characteristics	*n*	% of Sample	% of Subgroup
Teacher Subgroup	128	77.58	
Elementary	68	41.21	53.13
Junior High	28	16.97	21.88
High School	30	18.18	23.44
Principal Subgroup	18	10.91	
Elementary	9	5.54	50.00
Junior High	3	1.82	16.67
High School	4	2.42	22.22

Note: n=165

Of the 165 total respondents, 18 were principals (10.91%), 9 elementary principals (5.45%), 3 junior high principals (1.82%), and 4 high school principals (2.24%), and 2 principal respondents who did not identify their grade-level group. Principal respondents' experience level ranged: 1-25 years (*M*= 10.11, *n*= 18), years participating in PLC ranged: 7-20 years (*M*=11.83, *n*= 18), and all principals reported that they had some level of PLC training.

Table 2

Demographic Characteristics of Participants II

Demographic Characteristics	n	range	*M*
Years of Experience			
Teachers	148	1-34	13.17
Principals	18	1-25	10.11
Years of Participating in PLCs			

Teachers	126	1-26	9.65
Principals	18	7-20	11.83

Note: The difference in *n* values for teachers is due to some participants not answering the survey question.

Research Question One

Research question one states, “What is the level of implementation of PLCs as perceived by teachers within the school district?” All participants rated their perceived level of PLC implementation based on a 20-statement indicator using a five-point scale where 1= never, 2= seldom, 3= sometimes, 4= most of the time, and 5= all the time. Each of the 20-statement indicators related to one of Dufour’s six PLC characteristics. This was done in order to determine what level each of the characteristics have been implemented. Descriptive statistics were used to determine the teacher participants’ perceived level of PLC implementation. These statistics are outlined in Table 3. Teachers identified three of the six characteristics with a mean score greater than 3.75: “collaborative teams focused on learning” (*M*= 3.86, *SD*= 0.96), “action orientation and experimentation” (*M*= 3.96, *SD*= 1.04), and “commitment to continuous improvement” (*M*=3.99, *SD*= 0.90). The teachers also identified two characteristics with a mean score greater than 3.00 and less than 3.75: “shared mission, vision, values, and goal” (*M*= 3.68, *SD*= 1.12) and “results orientation” (*M*= 3.74, *SD*= 1.11). The last characteristic, “collective inquiry” (*M*= 2.92, *SD*= 1.05) had the lowest mean score.

Table 3

Mean and Standard Deviation of All Teachers Perceptions of PLC Implementation

6 Characteristics of PLCs	*M*	*S.D.*
Shared mission, vision, values and goals	3.68	1.12

Collaborative teams focused on learning	3.86	0.96
Collective inquiry	2.92	1.05
Action orientation and experimentation	3.96	1.04
Commitment to continuous improvement	3.99	0.90
Results orientation	3.47	1.11

Note: Participants response scale ranged from 1= never to 5= all the time.

From this data "collective inquiry" and "results orientation" have the two lowest mean scores, while "commitment to continuous improvement" and "action orientation and experimentation" have the highest mean scores. This does not mean that the characteristics with the lowest mean scores are not being implemented and that the highest mean characteristics are being implemented; but rather, components of those characteristics are perceived to be implemented and not implemented. Table 4 shows how each survey indicator was tied to a characteristic.

There are portions of the PLC characteristics being implemented based on teacher perceptions. For the first characteristic, "shared mission, vision, values, and goals", each of the four indicator statements had mean scores greater than 3.00, with one indicator, "norms have been established and adhered to" with a mean score greater than 4.00 (*SD*= 0.86). Teacher participants identified PLC characteristic two, "collaborative teams focused on learning" as an area that has been implemented. Statement indicator five, "meetings are often used to talk about personal issues and/or are venting sessions", is a negative statement (*M*= 2.29, *SD*= 0.83). Therefore, with respect to statement five, the lower the mean score the greater the perception that the indicator was being implemented. For PLC characteristic three, "collective inquiry", indicator statements, "the principal is in attendance" (*M*= 2.38, *SD*= 0.95) and "members share current research within the group" (*M*=2.74, *SD*= 0.98) demonstrated that teacher perceptions of these two indicator statements were that these areas have not been completely implemented. PLC characteristic four, "action orientation and experimentation", had all three indicator statements with a mean score higher than 3.49, with statement, "teachers are encouraged to share ideas and suggestions" (*M*=4.43, *SD*= 0.83) having the highest mean score. The fifth PLC characteristic, "commitment to continuous improvement", was represented by three indicator statements, "student achievement data and progress is discussed" (*M*= 3.61, *SD*= 1.00), "teachers are receptive to new strategies/ approaches" (*M*= 3.97, *SD*= 0.85), and "teachers know what students need to learn" (*M*= 4.40, *SD*= 0.63). From these indicators, teachers perceived that they were implementing this PLC characteristic some to most of the time. The last PLC characteristic, "results orientation", had the second lowest collective mean score with indicator statement "examples of student work are shared and discussed" (M= 3.15, SD= 1.05) with the lowest mean score. Based on all three indicator statements' mean scores, teachers perceived that they have only implemented this characteristic sometimes.

Table 4

Mean and Standard Deviations of All Teachers' Responses to Survey Statements

Statement: Within your PLC...	*M*	*S.D.*
Shared mission, vision, values and goals		
1. norms have been established and adhered to.	4.14	0.86
2. the team has developed and monitored goals for the PLC.	3.30	1.16
3. the mission of the school is known and is used to guide the PLC.	3.33	1.21
4. the team's goals are aligned with the values and goals of the school.	3.95	0.96

Collaborative teams focused on learning		
5. meetings are often used to talk about personal issues and/or are venting sessions.	2.29	0.83
6. teachers collaborate to improve their teaching practices.	3.90	0.98
7. teachers are held accountable by each other.	3.85	1.00
8. responsibility is shared among teachers.	4.00	1.01
Collective inquiry		
9. the principal is in attendance.	2.38	0.95
10. difficult problems are talked about, but no strategies or approaches are developed to solve them.	2.38	0.81
11. members share current research within the group.	2.74	0.98
Action orientation and experimentation		
12. teachers engage in critical dialogue about their teaching experiences.	3.50	0.88
13. teachers are encouraged to share ideas and suggestions.	4.43	0.83
14. the principal is supportive.	3.79	1.21
Commitment to continuous improvement		
15. student achievement data and progress is discussed.	3.61	1.00
16. teachers are receptive to new strategies/ approaches.	3.97	0.85
17. teachers know what students need to learn.	4.40	0.63
Results Orientation		

18. data is used to improve student learning.	3.75	1.06
19. formative assessments are developed to assess student learning.	3.50	1.15
20. examples of student work are shared and discussed.	3.15	1.05

Note: Participants' response scale ranged from 1= never to 5= always. Statements 5 and 10 are written in negative verse. Each statement is grouped with their respectful characteristic. It should be noted that this is not the order the survey was displayed to participants.

Research question one conclusion. From the indicator statements, teachers within the school district perceived that portions of the six characteristics of PLCs have been implemented. Furthermore, there are components of the PLC characteristics that have been implemented and components that have not. From the data, teachers perceived the following indicators of the PLC characteristics have been implemented most of the time: norms have been established and adhered to, responsibility is shared among teachers, teachers are encouraged to share ideas and suggestions, and teachers know what students need to learn. In addition, the data revealed the teachers perceived that their principal is seldom in attendance for PLC meetings and members seldom share research within their PLC. Collectively, the perceptions of teachers indicated that the PLC characteristics are sometimes implemented completely.

Research Question Two

Research question two states, "What is the level of implementation of PLCs as perceived by principals within the school district?" Descriptive statistics were used to determine the principal participants' perceived level of PLC implementation. These statistics are outlined in Table 5. Principals identified one PLC characteristic, "action orientation and experimentation" (M= 3.76, SD= 0.73) with a mean score above 3.75, and one characteristic, "collective inquiry" (M= 2.69, SD= 0.67) with a mean score below 2.75. The remaining PLC characteristics: "shared mission, vision, values, and goals" (M= 3.58, SD= 0.87), "collaborative teams focused on learning” (*M*= 3.26, *SD*= 0.81), “commitment to continuous improvement” (*M*= 3.67, *SD*= 0.64), and “results orientation” (*M*= 3.31, *SD*= 0.67), all have mean scores that suggest that these PLC characteristics are sometimes implemented.

Table 5

Mean and Standard Deviation of All Principal Perceptions of PLC Implementation

6 Characteristics of PLCs	*M*	*S.D.*
Shared mission, vision, values and goals	3.58	0.87
Collaborative teams focused on learning	3.26	0.81
Collective inquiry	2.69	0.67
Action orientation and experimentation	3.76	0.73
Commitment to continuous improvement	3.67	0.64
Results orientation	3.31	0.67

Note: Participants response scale ranged from 1= never to 5= always.

Again, the overall means for the six PLC characteristics do not necessarily mean that the entire characteristics was being implemented or not being implemented. In Table 6, the indicator statements that related to the six characteristics showed that portions of the characteristics are perceived to have been implemented and not implemented. From the indicator statements, principals within the district perceived a lower implementation rate than teachers. For the first PLC characteristic, “shared mission, vision, values, and goals”, principals perceived that indicator statement, “the team has developed and monitored goals for the PLC” (*M*= 2.89, and *SD*= 0.83), “the mission of the school is known and is used to guide the PLC” (*M*= 2.94, *SD*= 0.80), “the principal is in attendance” (*M*= 2.67, *SD*= 0.59), and “members share current research within the group” (*M*= 2.33, *SD*= 0.69) have seldom been implemented. While indicator statements thirteen, “teachers are encouraged to share ideas and suggestions” (*M*= 4.00, *SD*= 0.69) and fourteen, “the principal is supportive” (*M*= 4.00, *SD*= 0.69) indicated that principals perceived that these have been implemented most of the time. All the other indicator statements had mean scores above 2.94 but less than 4.00, revealing principals’ perception to be that these areas have sometimes been implemented.

Table 6

Mean and Standard Deviations of All Principals’ Responses to Survey Statements

Statement: Within your PLC...	*M*	*SD*
Shared mission, vision, values and goals		
1. norms have been established and adhered to.	3.83	0.62
2. the team has developed and monitored goals for the PLC.	2.89	0.83
3. the mission of the school is known and is used to guide the PLC.	2.94	0.80
4. the team’s goals are aligned with the values and goals of the school.	3.56	0.70
Collaborative teams focused on learning		
5. meetings are often used to talk about personal issues and/or are venting sessions.	2.61	0.61
6. teachers collaborate to improve their teaching practices.	3.50	0.62
7. teachers are held accountable by each other.	3.22	0.73
8. responsibility is shared among teachers.	3.53	0.62
Collective inquiry		
9. the principal is in attendance.	2.67	0.59

10. difficult problems are talked about, but no strategies or approaches are developed to solve them.	2.94	0.54
11. members share current research within the group.	2.33	0.69
Action orientation and experimentation		
12. teachers engage in critical dialogue about their teaching experiences.	3.28	0.57
13. teachers are encouraged to share ideas and suggestions.	4.00	0.69
14. the principal is supportive.	4.00	0.69
Commitment to continuous improvement		
15. student achievement data and progress is discussed.	3.61	0.70
16. teachers are receptive to new strategies/ approaches.	3.44	0.70
17. teachers know what students need to learn.	3.94	0.42
Results Orientation		
18. data is used to improve student learning.	3.28	0.83
19. formative assessments are developed to assess student learning.	3.39	0.61
20. examples of student work are shared and discussed.	3.28	0.57

Note: Participants' response scale ranged from 1= never to 5= always. Statements 5 and 10 are written in negative verse. Each statement is grouped with their respectful characteristic. It should be noted that this is not the order the survey was displayed to participants.

Research question two conclusion. Overall, principals perceived that the PLC characteristic, "collective inquiry", was the least implemented characteristic, which teachers also perceived. Principals also perceived that PLC characteristic "action orientation and experimentation" was the highest implemented characteristic, which teachers also perceived as being implemented. The remaining PLC characteristics all had mean scores that fell in the range of sometimes implemented. From this data, principals perceived that PLCs are not always being implemented with all the characteristics.

Research Question Three

Research question three stated, “What is the difference, if any, among elementary, junior high, and high school teachers with regards to the level of implementation of PLCs?” A one-way analysis of variance (ANOVA) was used to determine if there was a statistically significant difference between the three teacher groups’ mean scores based on their perception of the level the PLC characteristics were implemented. Descriptive statistics were also used to determine if any relationships emerged. Table 7 identifies the descriptive statistics for the three respondent groups (elementary teachers, junior high teachers, and high school teachers) based on each groups’ perception of the level the PLC characteristics had been implemented. The PLC characteristics, “collective inquiry” had the lowest mean scores for elementary teachers (*M*= 2.97, *SD*=1.04), junior high teachers (*M*= 3.06, *SD*=1.05), and high school teachers (*M*= 2.66, *SD*=1.07). In addition, the PLC characteristic, “results orientation”, had the second lowest mean scores for elementary teachers (*M*= 3.73, *SD*=1.03), junior high teachers (*M*= 3.34, *SD*=1.17), and high school teachers (*M*= 3.04, *SD*=1.09). This data coincides with Table 3, in that teachers perceived that “collective inquiry” and “results orientation” are areas that have been less implemented.

Table 7

Mean and Standard Deviation of Elementary, Junior High, and High School Teachers: Perceptions of PLC Implementation

	Elementary		Junior High		High School	
6 Characteristics of PLCs	*M*	*SD*	*M*	*SD*	*M*	*SD*
Shared mission, vision, values and goals	3.83	1.07	3.53	1.02	3.52	1.14

Collaborative teams focused on learning	3.94	0.89	3.83	1.02	3.63	1.08
Collective inquiry	2.97	1.04	3.06	1.05	2.66	1.07
Action orientation and experimentation	3.95	1.07	4.06	1.03	3.94	0.99
Commitment to continuous improvement	4.10	0.86	3.88	0.94	3.83	0.95
Results orientation	3.73	1.03	3.34	1.17	3.04	1.09

Note: Participants response scale ranged from 1= never to 5= always

The one-way ANOVA revealed that there was not a significant effect difference between the teacher groups (elementary, junior high, and high school) based on the level of PLC implementation at the $p < .05$ level [$F(2,57) = 0.64$, $p = 0.533$]. Therefore, the null hypothesis cannot be rejected.

Research question three conclusion. Elementary, junior high, and high school teachers perceived that of the six characteristics of PLCs, “collective inquiry”, was seldom to sometimes implemented. All the other PLC characteristics were perceived to have been implemented some to most of the time. In addition, elementary, junior high, and high school teachers’ perceptions where not significantly different among the three groups. Therefore, the difference among the three groups was that their perceptions were all similar when rating the level of PLC implementation.

Research Question Four

Research question four stated, “What is the difference, if any, among elementary, junior high, and high school principals with regards to the level of PLC implementation?” The same steps used to determine the relationships for teachers was used for the three principal groups, elementary, junior high, and high school. A one-way analysis of variance (ANOVA) was used to determine if there was statistically significant difference between the three principal groups’ mean scores based on their perception of the level PLC characteristics. Descriptive statistics were also used to determine if any relationships emerged. Table 8 identifies the descriptive statistics for the three principal respondent groups (elementary, junior high, and high school) based on each groups' perception to the level of implementation for each PLC characteristics. Again, the PLC characteristic, "collective inquiry" had the lowest mean scores for implementation as perceived by elementary principals (*M*= 2.81, *SD*= 0.62), junior high principals (*M*= 2.67, *SD*= 0.87), and high school principals (*M*= 2.40, *SD*= 0.52). The highest rated PLC characteristic, "action orientation and experimentation", had mean scores of *M*= 3.85, *M*= 4.00, and *M*= 3.58 for elementary principals (*SD*= 0.62), junior high principals (*SD*= 0.71), and high school principals (*SD*= 0.76) respectfully.

Table 8

Mean and Standard Deviation of Elementary, Junior High, and High School Principals: Perceptions of PLC Implementation.

	Elementary		Junior High		High School	
6 Characteristics of PLCs	*M*	*SD*	*M*	*SD*	*M*	*SD*
Shared mission, vision, values and goals	3.42	0.84	3.58	0.67	3.13	0.89
Collaborative teams focused on learning	3.51	0.56	3.58	0.51	3.19	0.66
Collective inquiry	2.81	0.62	2.67	0.87	2.50	0.52
Action orientation and experimentation	3.85	0.72	4.00	0.71	3.58	0.67
Commitment to continuous improvement	3.89	0.51	3.44	0.73	3.50	0.67
Results orientation	3.41	0.57	3.56	0.73	3.17	0.72

Note: Participants response scale ranged from 1= never to 5= always.

Like the teacher groups, the one-way ANOVA revealed that there was not a significant difference among the principal groups (elementary, junior high, and high school) based on the level of PLC implementation of $p < .05$ level [$F(2,57) = 1.37$, $p = 0.26$]. Therefore, the null hypothesis cannot be rejected.

Research question four conclusion. Like the teachers' group, the principal group also perceived that the "collective inquiry" was the least implemented PLC characteristic. Furthermore, principals overall perceived that the PLC characteristics have been less implemented than teachers. The principal group all shared similar perceptions as to the level PLC characteristics, sometimes to most of the time, have been implemented.

Discussion

Professional Learning Communities (PLC) have long been supported in the literature as a fundamental component to increase student achievement, teacher collaboration, and teacher efficacy (DuFour, 2004, 2014; DuFour, DuFour, Eaker, & Many 2010; DuFour & Marzano, 2011; Hord, 2009; Little, 2006; Stamper, 2015; Stegall, 2011; Vescio, Ross, & Adams, 2008). The research also shows that the perceptions of district leaders, building leaders, and educators greatly affect the success of implementing PLCs (Vescio, Ross, & Adams, 2008). This study, limited to quantitative methods, was conducted in order to determine the level PLCs have been implemented within one school district based on teachers' and principals' perceptions.

The results of this study indicate that most teachers and all principals within the school district have been trained in the PLC process and have had multiple years of implementation. In addition, teachers and principals perceived that there are components of the PLC characteristics that have been implemented. Of the six PLC characteristics, teachers and principals perceived that "collective inquiry" and "results orientation" are the two lowest PLC implemented characteristics. In contrast, "action orientation and experimentation" and "commitment to continuous improvement" where perceived to be the most implemented PLC characteristic.

Though there are different PLC characteristics that were perceived to be implemented more than others, it is important to mention that no group, teachers or principals, indicated a perception of complete implementation of a PLC characteristic regardless of grade-level group (elementary, junior high, and high school). This can be interpreted to mean that complete PLC implementation has not occurred within the district, and that no entire PLC characteristic has been implemented either.

Although no PLC characteristic had been completely implemented within the school district, there are components of the PLC characteristics that teachers and principals perceived to have been implemented. Teachers perceived that indicator statements: “norms have been established and adhered too”, “responsibility is shared among teachers”, “teachers are encouraged to share ideas and suggestions”, and “teachers know what students need to learn” have been implemented within their PLCs. On the other hand, principals perceived that indicator statements: “teachers are encouraged to share ideas and suggestions” and “principal is supportive” have been implemented.

The results from research questions three and question four indicated that there was not a significant difference between teacher grade-level groups (elementary, junior high, and high school) and principal grade-level groups. These results further confirm the data from the whole-group results of teachers and principals. Though there was no significant difference among the groups, it is important to mention that both high school teachers and high school principals perceived their level of PLC implementation to be lower than elementary and junior high teachers and principals. Furthermore, high school principals and junior high principals had a larger degree of difference among their perceptions than elementary principals to high school principals. For teachers, junior high and high school, perceptions were very similar while elementary teachers' perceptions had a larger degree of difference when compared to high school and junior high teachers.

Recommendations

Given the increased focus and pressure to raise student achievement scores while increasing teacher collaboration and efficacy, it is imperative that districts determine the level their PLCs have been implemented. The results of this study provide a starting point and a focal point for the district to start improving their PLC practice. In addition, this study can also help other districts within state, as the school district studied, is the largest school district in the state. Other districts with similar demographics and similar PLC practices can also benefit from this study in determining their level of implementation.

Along with quantitative data to determine participants perceptions, three open-ended questions were asked of the participants in order to gain insight into potential recommendations. The first statement. "Please describe the extent your PLC has been implemented", revealed 19% of the teacher participants indicated that they felt that PLCs had been completely implemented within their PLC. While 65% believe they are partially implemented and 15% indicated that they had not implemented PLCs within their group. The second open-ended question, "Do you believe in the PLC process? What might be some ways to improve or what might be another process?", indicated that 100% of principals believe in the PLC process, while 91% of teachers believe in the PLC process. Respondents indicated that some ways to improve the PLC process included: additional time to meet as a PLC, additional training, principals attendance in PLCs, and an increase in fidelity. The last open-ended question, "What limitations or successes, if any, have you experienced in implementing PLCs?", revealed successes of increased student achievement, increased teacher efficacy, and a positive culture. Other participants indicated that some limitations were limited time, lack of belief in the PLC process, lack of use of student data, and a lack of all members completing the required PLC work.

It is recommended that the school district continue to provide professional development to new and existing staff. It may also be beneficial for the district to offer specific PLC trainings based on each school's need. The district could also provide professional development around how to include principals within PLC meetings, how to use student data to drive instruction, and how to create and monitor their PLCs goals.

Data-driven instruction has long been identified as a best practice in education (DuFour & Eaker, 1998; DuFour, DuFour, Eaker, & Karhaneck, 2004; DuFour, 2004, 2014; DuFour & Marzano, 2011). Given the PLC format, this is the best place for teachers to collaborate and discuss student results in order to identify instructional strategies and next steps to improve student understanding. Without data-driven instruction, teachers may not employ the correct practices to show student growth. Furthermore, PLCs should create and monitor goals for their PLC that align with their school's goals (DuFour & Eaker, 1998; DuFour, DuFour, Eaker, & Karhaneck, 2004; DuFour, 2004, 2014; DuFour & Marzano, 2011). This is done to help focus the PLC meetings so that other items do not corrupt the PLC process.

Principal attendance in PLCs is critical to the development and advancement of the PLC (DuFour & Eaker, 1998; DuFour, DuFour, Eaker, & Karhaneck, 2004; DuFour, 2004, 2014; DuFour & Marzano, 2011; Buttram & Farley-Ripple, 2014). Though their role is not to run the PLC, principals are the building instructional leader; therefore, they are needed in each PLC to help provide instructional leadership (DuFour & Eaker, 1998; DuFour, DuFour, Eaker, & Karhaneck, 2004; DuFour, 2004, 2014; DuFour & Marzano, 2011; Buttram & Farley-Ripple, 2014). In addition, increased principal presence in PLCs could potentially increase the use of data-driven instruction and focus on PLC goals, thus improving the other two lower indicated items in this study.

The school district may also benefit from following the Active Implementation Framework (Ryan Jackson, Fixsen, & Ward, 2018). The framework consists of five practices: usable practices, implementation teams, implementation drivers, implementation stages, and improvement cycles (Ryan Jackson, Fixsen, & Ward, 2018). Based on the data collected from the study, the school district leaders and building principals could benefit from continued study of the implementation stages and cycles of the PLC process. Though this study attempted to examine what stage PLCs have been implemented, continued review and improvement will result in an increased PLC implementation (Ryan Jackson, Fixsen, & Ward, 2018).

Limitations

One of the limitations of this study was that not every teacher and principal within the district participated. Though there were 165 participants in the study, there is a chance that the participants in the study did not accurately perceive the level of PLC implementation.

It is important to mention that, while some PLC characteristics and some PLC characteristic indicators have been perceived by teachers and principals to have been implemented, the Hawthorn Effect must be considered (Vescio, Ross, & Adams, 2008). This means that respondents often have the social desirability to represent themselves or a group in a positive light. Therefore, there is also a chance that the level of PLC implementation within the district is lower than the perceived rating from the respondents.

Suggestions for Further Research

The finding and implications of this study could result in additional research in how PLCs are implemented and additional tools for determining the level that PLCs have been implemented. Suggestions for further research might include:

1. Researchers may want to explore the level at which smaller and larger school districts have implemented PLCs.
2. Researchers may want to explore the amount of time teachers spend in PLCs and the overall level PLCs that have been implemented.
3. Researchers may want to explore the PLC implementation based on principals who attend their school's PLCs and principals who do not.
4. Researchers may want to explore additional PLC characteristic indicators.

Conclusion

The purpose of this study was to determine the level to which PLCs have been implemented within one school district in the Rocky Mountain region based on teacher and principal perceptions. Based on the results of the study, teachers and principals both perceived that there were characteristics of the PLC and indicators of the PLC characteristics that were both implemented and not implemented. Furthermore, there was not a significant difference among elementary, junior high, and high school teachers and principals. The findings from the study also indicated that additional staff development on PLCs and a focus for principals to attend PLCs is needed within the district.

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Appendix A

Survey Instrument

Part A: PLC Implementation

Using the scale provided, please rate your PLC team's characteristics in terms of their current level of implementation. If you are a member of multiple PLC teams, please choose one and use that PLC team as a reference for your ratings.

Level of Implementation Rating

1. Never
2. Seldom
3. Sometimes
4. Most of the time
5. All the time

Within your PLC…

1. …student achievement data and progress is discussed	1	2	3	4	5
2. …the principal is in attendance	1	2	3	4	5
3. …norms have been established and adhered to	1	2	3	4	5
4. …data is used to improve student learning	1	2	3	4	5
5. …the team has developed and monitored goals for the PLC	1	2	3	4	5
6. …meetings are often used to talk about personal issues and/or are venting sessions	1	2	3	4	5
7. …teachers collaborate to improve their teaching practices	1	2	3	4	5

8. …teachers are receptive to new strategies/ approaches	1	2	3	4	5
9. …difficult problems are talked about, but no strategies or approaches are developed to solve them	1	2	3	4	5
10. …the mission of the school is known and is used to guide the PLC	1	2	3	4	5
11. …members share current research within the group	1	2	3	4	5
12. …teachers know what students need to learn	1	2	3	4	5
13. …teachers engage in critical dialogue about experiences	1	2	3	4	5
14. …formative assessments are developed to assess student learning	1	2	3	4	5
15. …teachers are encouraged to share ideas and suggestions	1	2	3	4	5
16. …examples of student work are shared and discussed	1	2	3	4	5
17. …the principal is supportive	1	2	3	4	5
18. …responsibility is shared among teachers	1	2	3	4	5
19. …teachers are held accountable by each other	1	2	3	4	5
20. …the team's goals are aligned with the values and goals of the school	1	2	3	4	5

Part B: Open Ended Response Questions

Directions: Please respond to the following questions

1. Please describe the extent your PLC has been implemented.

2. Do you believe in the PLC process? How might it improve or what might be another process?

3. What limitations or successes, if any, have you experienced in implementing PLCs?

Part C: Background Information – Please provide the following information

1. Are you a teacher or a principal?

   _____Teacher_____Principal_____Other

2. What school in the district do you currently work at? If you work in more than one please select your home school.

   ___________School

3. Teachers: How many years have you been teaching full time, including this current school year? Principals please proceed to question 4.

   _____ Years

4. How many years have you been a principal? If you are not a principal please move to question 5. Principals, move to question 6 next.

   _____ Years

5. Which best describes the content you currently teach?

   ____

6. How many years have you been participating in PLCs? Please include this current year.

_____ Years

7. Please indicate which best describes the level of training/ staff development you have received in PLCs.

_____ Single formal PLC training_____ Multiple formal PLC trainings

_____ Informal PLC training_____ Never received PLC training

Appendix B

IRB Approval Letter

UNIVERSITY OF WYOMING

Vice President for Research & Economic Development
1000 E. University Avenue, Department 3355 • Room 305/308, Old Main • Laramie, WY 82071
(307) 766-5353 • (307) 766-5320 • fax (307) 766-2608 • www.uwyo.edu/research

December 7, 2018

James Whitehead
Doctoral Candidate
Educational Leadership
University of Wyoming

Courtney McKim
Associate Professor
Professional Studies
University of Wyoming

Protocol #20181207JW02221

Re: IRB Proposal *"The Level of Implementation of Professional Learning Communities Based on Principals' and Teachers' Perceptions"*

Dear James and Courtney:

The proposal referenced above qualifies for exempt review and is approved as one that would not involve more than minimal risk to participants. Our exempt review and approval will be reported to the IRB at their next convened meeting on December 20, 2018.

Any significant change(s) in the research/project protocol(s) from what was approved should be submitted to the IRB (Protocol Update Form) for review and approval prior to initiating any change. Further information and the forms referenced above may be accessed at the "Human Subjects" link on the Office of Research and Economic Development website: http://www.uwyo.edu/research/human-subjects/index.html.

You may proceed with the project/research and we wish you luck in the endeavor. Please feel free to call me if you have any questions.

Sincerely,

Nichole Person

Nichole Person
Staff Assistant, Research Office
On behalf of the Chairman,
Institutional Review Board

Appendix C

Survey Cover Letter

Dear Colleague,

I am requesting your assistance in completing a research study through the University of Wyoming. The study attempts to determine the level at which Professional Learning Communities (PLCs) have been implemented within the school district. Teachers and principals of randomly selected schools are being asked to participate in the study.

Please complete the survey by clicking on the link below. The survey should take no more than 10 minutes to complete. While completing the survey please use your current content or grade level PLC team to determine your responses. One possible benefit for participating in study is that you will be reflecting on your PLC team's practices. The potential risk for participating in the study is minimal but could include stating identifiable information in the open ended question portion of the survey. Please note that all individual responses and potential identifying information are kept confidential and will not be shared. Participation in the study is entirely volunteer and you may choose to discontinue your participation at any time. By clicking on the survey link you are giving consent to participate in the study.

If you have any questions regarding the study and/or survey, please email me at james.whitehead@laramie1.org

[web link to survey]

Thank you for your consideration and support,

James Whitehead
Doctoral Candidate, Educational Leadership
University of Wyoming
Laramie, Wyoming

Appendix D

Email to Participants

James D Whitehead
Recipients emails go here
Dear Colleague,

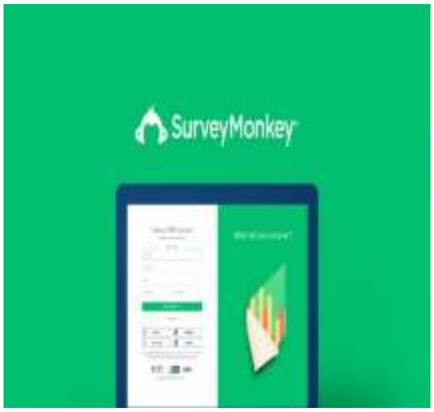
I am requesting your assistance in completing a research study through the University of Wyoming and in partnership with [removed district's name]. The study attempts to determine the level at which Professional Learning Communities (PLCs) have been implemented within the school district, based on **teacher and principal** perceptions. All principals within the [district] are being asked to participate in the study. Please forward this on to your teachers if you would like them to participate, so that we may receive their input as well.

Please complete the survey by clicking on the link below. The survey should take no more than 10 minutes to complete. While completing the survey please use your current content or grade level PLC team to determine your responses. One possible benefit for participating in study is that you will be reflecting on your PLC team's practices. The potential risk for participating in the study is minimal but could include stating identifiable information in the open ended question portion of the survey. Please note that all individual responses and potential identifying information are kept confidential and will not be shared. All report outs will be by school and whole district. School names will be altered so that they are not identifiable. Participation in the study is entirely volunteer and you may choose to discontinue your participation at any time. By clicking on the survey link you are giving consent to participate in the study. [The district] will be using information gathered from this study to evaluate its PLC processes and will not be used to evaluate individuals or schools.

Please complete the survey by 2/22/2019.

If you have any questions regarding the study and/or survey, please email me at Jwhiteh5@uwyo.edu

https://www.surveymonkey.com/r/HX389HZ



[The Level of Implementation of Professional Learning Communities Based on Principals' and Teachers' Perceptions]

www.surveymonkey.com

Take this survey powered by surveymonkey.com. Create your own surveys for free.

Thank you for your consideration and support,

James

James Whitehead
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