2016

Teacher Perceptions of Professional Learning Community Maturity in Catholic Schools

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COLLEGE OF EDUCATION

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Jane-Marie Koelsch

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2016

Abstract

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M.S.Ed., Old Dominion University, 1998

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Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Many Midwestern Catholic schools have implemented professional learning communities (PLCs) to enhance teacher quality and attain school goals. However, not all schools have aligned practices essential to increase maturity in the five PLC dimensions, as defined by Hord. Guided by Hord's framework, this research study investigated teachers' perceptions of PLC maturity in select Catholic schools. A convenience sample allowed an examination of schools engaged in an initiative that included PLCs. Using a sequential explanatory mixed-methods design, the Professional Learning Communities Assessment – Revised was administered to 42 teachers in 4 schools. Quantitative survey data were analyzed using descriptive statistics. Data revealed the dimensions of shared leadership and shared vision and values were most mature in the majority of participating schools. The dimension of shared personal practice was least mature in all participating schools. Demographic data, analyzed using independent sample *t* tests and a series of ANOVAs, showed some demographic factors had significant findings in individual schools but no single factor had a significant finding in all schools. Results of quantitative data analysis provided direction for qualitative interviews. Four teachers participated in interviews that examined PLC practices affecting maturity. Transcribed interviews were coded and 7 themes emerged: supportive administration, teachers as leaders, shared vision, peer teaching, teacher buy in, too many meetings, and improper use of PLCs. PLC training for administrators and teachers could result in positive social change as school staffs learn to align specific instructional practices with an infrastructure that supports increasing PLC maturity. This increased PLC maturity directly determines a school's ability to improve.

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Dedication

I dedicate this work to six individuals that have greatly influenced my desire to learn, teach, and lead.

My grandmother, Lola B. Zickau, a member of Marshall College's graduating class of 1921, earned a college degree at a time when few women pursued higher education. I am proud to follow in her footsteps as an educator. I know she would be so very proud of me.

My mother, Linda Marie Fetty, who believed that books were the best gift for any occasion and that a child's imagination and curiosity should be encouraged and nurtured. For her and the gifts she has given me, I am extremely grateful.

My sister, Kathy Ann Stevens, who ignited my love of learning by teaching me to read when I was just 4 years old. She gave no thought to pedagogy or curriculum but she offered much love and unfailing patience to me--her most willing pupil.

My father, Benjamin L. Fetty, who instilled in me the belief that hard work, discipline, and perseverance are the way to achieve one's dreams. For him, I am truly grateful and exceedingly blessed.

My darling daughter, Jennifer Marie Koelsch Hackett, who has been and continues to be my greatest source of motivation and inspiration. Her encouragement started me on this doctoral path.

Most notably, my husband, Charles David Koelsch, who has supported me through many personal and professional milestones over the past 30 years. I am grateful for his tireless enthusiasm and understanding as I pursued this goal.

Acknowledgements

I extend a heartfelt thank you to the teachers who participated in this study. Your candid opinions, shared perceptions, and professional expertise were invaluable. Additionally, I would like to thank Dr. Dan Peters, Patricia Burbach, and the principals that welcomed me into their schools to conduct this research study.

I would like to thank my doctoral chair, Dr. Ieda Santos. Her support for this project – along with her unceasing encouragement and constructive dialogue – guided me to the successful completion of my dissertation. Also, thanks to my methodologist, Dr. Richard Braley, and my University Research Reviewer, Dr. Keren Meister-Emerich for challenging me to thoroughly examine every aspect of my topic in order to fully develop my research study.

Tremendous thanks to Dr. Karen Tichey, who assisted me in the formation of this study and asked that I someday "pay it forward." I certainly plan to do just that.

Thanks to my Visitation School Family – especially Sr. Sue Andrew, Joan Barnosky, David Kies, Eileen O'Connor, Bridget Winget, and the Intermediate Team – known lovingly as "The View"–for their support of this research study.

Thank you to my son-in-law, Jay Hackett, whose steadfast pursuit of his own advanced degree and certifications served to motivate and inspire me.

Thanks to my sister-in-law, Dr. Patricia Stoudt, who led the way and offered advice and assistance.

A very special thank you to Levi and Max for their love and support.

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Section 1: Introduction to the Study

Introduction

In this age of educational reform, school leaders have been encouraged to create collaborative learning communities within their schools. Noting enhanced teacher participation in the decision making process and the promotion of environments that encourage teachers to try new ideas and strategies, educational researchers and professional leaders' associations have urged school administrators to embrace the collaborative nature of the professional learning community (PLC;Hands, Guzar, & Rodrigue, 2015; Lee, Zhang, & Yin, 2011; Thessin, 2015). PLCs are places where educators work continually to pursue a shared vision and mission focused on improving students' learning, engaging in collaborative activity, developing innovative structures and processes, and taking collective responsibility for student achievement and teacher effectiveness (Chou, 2011; DuFour, 2004; Giles & Hargreaves, 2006; Hord, 2004; Lee, Zhang, & Yin, 2011; Thessin, 2015).

School-based PLCs have great potential for improving instructional practices and positively influencing student learning; however, the task of developing and sustaining a school-based PLC is not easy (DuFour, 2007; DuFour, DuFour, Eaker, & Many, 2006; Graham, 2007; Hord, 1997; Zimmerman, 2006). Currently, the faculty and administration in many schools believe that their organizations are operating as PLCs, but most do not meet the operational criteria required of a learning community (DuFour, 2007; Olivier et al., 2009). In this study, I explored the maturity of PLCs in Catholic schools in one diocese in the state of Missouri and the extent that the practices in those schools reflect

the five dimensions of a PLC. In Section 2, I will present the PLC conceptual framework created by Hord (1997) and explore other relevant literature on PLCs.

Problem Statement

In the state of Missouri, some Catholic schools have aligned specific classroom and school practices with an infrastructure that supports the implementation and growth of PLCs. Other Catholic schools have not employed an alignment that supports PLC implementation. Therefore, the learning communities in many of those schools are not operating at a maturity level that includes all the dimensions of a PLC, as defined by Hord (1997). In this study, I used the Professional Learning Communities Assessment – Revised (PLCA-R;Olivier et al., 2009) survey to explore the perceptions of teachers regarding the maturity level of PLCs in selected Catholic schools in the state of Missouri.

Researchers have noted that confusion among school staff members regarding PLC terminology and the critical attributes that form learning communities have negatively influenced perceptions regarding the potential benefits of PLCs (DuFour, 2007; Olivier et al., 2009). There have been numerous studies that examined the impact of PLCs on school improvement (Chou, 2011; Lomos, Hofman, & Bosker, 2011; Vescio, Ross, & Adams, 2008) and a small number of researchers have described the perception of teachers during the implementation stage of a PLC (Eaker, DuFour, & Burnett, 2002; Giles & Hargreaves, 2006; Wells & Feun, 2007). However, few research studies have considered the perception of teachers in determining whether the critical attributes of a PLC are operational within their schools. The actions that define a PLC rest primarily with teachers and teachers are the majority stakeholders that participate in PLC

implementation. For this reason, I chose to examine teacher's perceptions of PLC maturity in this research study.

Nature of the Study

In this sequential, explanatory, mixed methods research study, I explored the perceptions of teachers on the maturity level of PLCs. The study consisted of two phases: quantitative followed by qualitative. In the quantitative phase, I used a pre-established survey, the PLCA-R (Olivier et al., 2009), to measure the maturity of schools as PLCs. The PLCA-R examines the critical attributes found in the Hord's (1997) five dimensions of a PLC. Dimension maturity is measured by determining the existence of specific factors for school renewal (Olivier et al., 2009). The maturity of the school as a PLC refers to the increasing number of factors, as defined by Hord's dimensions, a school staff performs over time while establishing the PLC. The data from the quantitative phase gave direction to the qualitative phase, which consisted of interviews. The interviews allowed for a deeper exploration and understanding of the research problem. After collecting the data in both phases, I analyzed it by individual schools to focus on the factors, identified in the PLCA-R, that pertain to the level of PLC maturity perceived by each school staff member. A more detailed explanation of the nature of the study will follow in Section 3.

Research Questions

The following quantitative questions guided this sequential explanatory research:

1. What are teachers' perceptions of the maturity level of PLCs in selected Catholic elementary (K–8) schools as measured by the PLCA-R?

2. Is there a significant difference in teachers' perceptions of the maturity level of PLCs in selected Catholic elementary (K–8) by age of the teacher as measured by the PLCA-R?

$H_0$2: There will be no significant difference in teacher's perceptions of the maturity level of PLCs in selected Catholic elementary (K–8) schools by age of the teacher as measured by the PLCA-R.

H_a2: There will be a significant difference in teacher's perceptions of the maturity level of PLCs in selected Catholic elementary (K–8) schools by age of the teacher as measured by the PLCA-R.

3. Is there a significant difference in teachers' perceptions of the maturity level of PLCs in selected Catholic elementary (K–8) by years of teaching experience as measured by the PLCA-R?

$H_0$3: There will be no significant difference in teacher's perceptions of the maturity level of PLCs in selected Catholic elementary (K–8) schools by years of teaching experience as measured by the PLCA-R.

H_a3: There will be a significant difference in teacher's perceptions of the maturity level of PLCs in selected Catholic elementary (K–8) schools by years of teaching experience as measured by the PLCA-R?

4. Is there a significant difference in teachers' perceptions of the maturity level of PLCs in selected Catholic elementary (K–8) by grade level taught as measured by the PLCA-R?

$H_0$4: There will be no significant difference in teacher's perceptions of the maturity level of PLCs in selected Catholic elementary (K–8) schools by grade level taught as measured by the PLCA-R.

H_a4: There will be a significant difference in teacher's perceptions of the maturity level of PLCs in selected Catholic elementary (K–8) schools by grade level taught as measured by the PLCA-R.

The following qualitative question guided this sequential, explanatory, study and was used in the qualitative element of the study to elaborate upon data obtained in the quantitative survey:

5. What teacher actions, as identified in the PLCA-R survey, influence perceptions regarding the maturity of PLCs within the selected Catholic elementary (K–8) schools?

The research objective of the qualitative question was to explain further what actions by teachers, as identified in the PLCA-R survey, influenced perceptions of PLC maturity.

Purpose of Study

The purpose of this sequential, explanatory, mixed methods research study was to assess, through a survey and individual interviews, the level of PLC maturity in select Catholic elementary (K–8) schools in the state of Missouri. I used PLCA-R survey data to measure teacher perceptions of the maturity of each of the five PLC dimensions. I interviewed a sample of the survey participants to investigate what actions, as shown in the survey, influenced perceptions of PLC maturity. I analyzed the data from the survey

and interviews by individual schools. Additionally, I examined the differences in perception between teachers within each school.

Conceptual Framework

I based the conceptual framework for this study on the research of Hord (1997), whose experiences while working in a learning organization similar to those described by Senge (1990), led to the development of the five dimensions of a PLC. Senge posited that the development of five dimensions within an organization would enhance that organization's ability to learn and succeed. Those dimensions were: (a) systems thinking, (b) personal mastery, (c) mental models, (d) building shared vision, and (e) team learning (Senge, 1990). Hord believed that Senge's theory, designed for industry settings, could work in a school setting and so began to focus research on the use of PLCs in educational institutions.

After conducting an extensive review of corporate and educational literature in an effort to examine and identify the critical attributes of a learning community, Hord (1997) defined a PLC as an organizational framework for a school where the administrative and teaching professionals collaborate in order to focus on student learning. Additionally, Hord examined the improvement efforts of a school staff that operated as a PLC. That 10-year study produced five different, intertwined dimensions of a PLC: (a) supportive and shared leadership, (b) collective creativity, (c) shared values and vision, (d) supportive conditions, and (e) shared personal experience (Hord, 1997). Each of those dimensions served as a defining element of educational best practice (Mattos, 2008). Therefore, the implementation of each dimension is essential in the development and sustainability of a

PLC. The five PLC dimensions identified by Hord and expanded by Olivier, Hipp, and Huffman (2003) provided the defining framework for this study.

Hord (1996) developed the School Professional Staff as Learning Community Questionnaire (SPSLCQ) to assess the maturity of a school's PLC as a learning community. Hord, Meehan, Orletsky, and Sattes (1999) noted the extensive use of this instrument by schools and researchers. Huffman and Hipp (2003) noted that many educators using the SPSLCQ identified their schools as operating as PLCs. However, those schools rarely met observable operational criteria (Huffman & Hipp, 2003). Therefore, Olivier, Hipp, and Huffman (2003) developed the Professional Learning Community Assessment (PLCA) to measure PLC maturity by operationalizing the dimensions of a PLC and providing descriptions of how people operate within the community (Huffman & Hipp, 2003). Based on subsequent research, the PLCA reflected some changes to dimensions and attributes and corrected for misalignment between teacher perceptions and actual observations by researchers (Hipp & Huffman). The instrument was later revised (the PLCA-R) to align staff perceptions and day-to-day actions and to more accurately represent phases of development in becoming a PLC: initiating (starting), implementing (doing), and institutionalizing (sustaining; Fullan, 1995; Olivier et al., 2009). I used the PLCA-R for this research study.

The foundation for the success of a PLC begins with the collaboration that occurs among teachers and administrators (DuFour, DuFour, Eaker, & Many, 2006). The consistent and intentional interaction between peers provides teachers with the support necessary for enhanced professional growth, improved classroom practices, and greater

student achievement (DuFour, DuFour, Eaker, & Many). Additionally, a sense of community within the school is created through this ongoing interaction between peers. Currently, schools are demanding increased accountability and continued growth in student achievement and these demands have made teacher performance critical to stakeholder satisfaction in both public and private schools (Kallemeyn, 2009; Kuchey, Morrison, & Geer, 2009). However, improving teacher quality in Catholic schools is crucial given that stakeholder satisfaction is a catalyst for the sustained enrollment and financial support of the school (Drago-Severson & Pinto, 2009; James, 2007; Kallemeyn, 2009; O'Keefe & Scheopner, 2009).

Operational Definitions

Actions: Specific classroom and school level practices within each dimension that enhance intentional professional learning (Olivier et al., 2009).

Administrator: An individual tasked with the responsibility to manage and supervise school faculty, education programs, and staff development within an assigned school (Senge et al., 2000).

Attributes of a professional learning community (PLC): These features are considered necessary to build a PLC. These include supportive and shared leadership; shared mission, focus, and goals; collective learning and application of learning; continuous inquiry and practice; focus on improvement; and supportive conditions and environment (DuFour & Eaker, 1998; Hord, 1997; Senge et al., 2000).

Catholic school: A parochial school maintained by a Catholic church or organization that delivers a curriculum grounded in Catholic doctrine (John Paul II, 1983).

Collaboration: A joint intellectual effort that systematically analyzes and improves professional practice in order to enhance results for individuals and the collective community (DuFour, DuFour, & Eaker, 2008).

Collective learning and application: Learning that involves all staff members as they acquire new knowledge and skills by working together and sharing practices to improve instructional skills and content knowledge (Hord, 2004).

Elementary school (K–8): An educational institution where Catholic school students receive the first stage of their formal education. These schools typically serve students in grades K–8 (Catholic School Standards Project, 2013).

Maturity of the faculty: An increasing level of effectiveness of PLC characteristics, according to the dimensions used by Hord (1997), performed by staff members that contribute to the implementation and sustainability of the community as it is established over time (Olivier et al., 2009).

Perception: The assumptions or views by a group or individual regarding a specific situation or experience (Senge, 1990).

Professional development: Professional learning aligned with state student academic achievement standards and the improvement goals of the school and local educational agency (National Staff Development Council, 2009).

Professional learning communities (PLCs): Schools where administrators and teachers continually pursue a shared vision and mission focused on improving students' learning, engaging in collaborative activity, developing innovative structures and processes, and taking collective responsibility for student achievement and teacher effectiveness (DuFour, 2004; Giles & Hargreaves, 2006; Hord, 2004; Scott, Clarkson, & McDonough, 2011).

Professional Learning Communities Assessment-Revised (PLCA-R): An instrument used to identify school level practices that enhance intentional professional learning. The PLCA-R provides staff perceptions related to specific practices observed within the school with regard to shared and supportive leadership, shared values and vision, collective learning and application, shared personal practice, and supportive conditions, including both relationships and structures (Olivier et al., 2009).

Secondary school: An educational institution where students receive the second stage of their formal education. These schools typically serve students in Grades 9–12 (Catholic School Standards Project, 2013).

Shared personal practice: A regular examination of a teacher's work by colleagues, including feedback and assistance to improve instruction design and practice (Hord, 2004).

Shared and supportive leadership: A school staff that has been empowered by the admiration to share authority, power, and decision making within the school (DuFour & Eaker, 1998; Hord, 2004).

Shared values and vision: A set of goals and ideals for a learning community that serve to set the direction for making decisions about teaching and learning within the school (DuFour, DuFour, Eaker, & Many, 2006; Hord, 2004).

Supportive conditions: Physical conditions, such as time and place, combined with human capacities, such as trust and respect, that are used to stimulate collegiality and collective learning (DuFour, DuFour, Eaker, & Many, 2006; Hord, 2004).

Survey: A questionnaire used for data collection to provide a quantitative description of trends, attitudes, or opinions of a population by studying a sample of that population (Creswell, 2009).

Teacher: An individual who completes a specified curriculum at a college or university in order to earn professional qualifications or credentials that allows them to provide instruction to students as an occupation (Senge et al., 2000).

Assumptions

I assumed that the teachers in this study understood the terminology used in the survey and were able to determine if a connection exists between participation in a PLC and their instructional practices. Additionally, it was assumed that the questions from the PLCA-R (Olivier et al., 2009) measured the level each school's practices of the critical attributes that are part of a PLC. Finally, it was assumed that participants in this study answered survey and interview questions accurately and honestly based on their own professional experiences.

Limitations

This study used the PLC model depicted in the research of author and researcher, Hord (1997). Use of only one model was a potential limitation to this research study. The use of convenience sampling allowed Catholic schools in Missouri to participate in this study. This type of sampling allowed me to obtain first hand interviews as follow-ups to surveys, but it limited the study and did not ensure that the findings from the sample used in this study could be generalized to any other sample. Additionally, this study was reliant on the perceptions of teachers regarding the observable instructional practices in their schools and some individuals may have felt uncomfortable sharing negative information.

Scope and Delimitations

The participants of this study were K–8 grade teachers in one Catholic diocese in the state of Missouri. The unique demographics of each Catholic diocese may not allow findings to be generalized to other dioceses or educational settings. Participants completing the survey portion of this study answered questions about their own perceptions and these responses may have been reactionary in nature. Additionally, survey research may be susceptible to under- or overrated bias (Fink, 2006).

Significance of the Study

Local Problem Application

This study was significant to me because it assessed the level of PLC maturity in select Catholic elementary (K–8) schools in the Midwest. This assessment utilized the perceptions of teachers. It was significant to the teachers and students in those schools

because it may lead to changes that affect the school's organizational structure, improve teaching practices, and create greater levels of achievement for students.

Professional Application

This study was limited to Catholic elementary (K–8) schools in one diocese in the state of Missouri; however, it may have implications for social change in other Catholic schools or private schools assessing the maturity of their school-based PLCs. The extent to which a school aligns specific school and classroom practices with an infrastructure that supports the implementation and growth of the PLC attributes impacts the maturity of that PLC. The increased maturity of each PLC dimension directly determines a school's ability to improve. By assessing the perceptions of teachers that may negatively affect the growth and implementation of those dimensions, school staffs can identify specific attributes that are in need of improvement. Those changes can promote improved learning for both teachers and students (Drago-Severson & Pinto, 2009; Lomos, Hofman, & Bosker, 2011).

Social Change

Educators in over 6,500 Catholic schools in the United States teach and share their ministry with almost 2 million children (McDonald, 2015). Therefore, the need for research that impacts the daily instructional practices and professional growth of those teachers is essential. Catholic schools often have limited ability to provide educational resources and professional development opportunities to their teachers (Drago-Severson & Pinto, 2009). Information from this study may provide Catholic school faculties, as well as faculties in other private schools, with the knowledge to implement and sustain

PLCs successfully in their schools. Furthermore, findings from this study will provide much needed research for the entire private school community.

Summary

In this study, I examined the perceptions of teachers that influenced the maturity of PLCs in Catholic schools. The introduction presented in Section 1 provides a conceptual framework for the study including Hord's (1997) work that highlights the importance of developing collaborative communities within schools. In Section 2, I provide a historical review of Catholic schools in America and review the literature about PLCs, collaborative practices, and professional development in private schools in order to identify gaps in the literature. Additionally in Section 2, I detail the conceptual framework that was introduced in Section 1 and conclude with a review of literature that supports the current study's research design including the reliability and validity of the PLCA-R. In Section 3, I detail the research design and methodology including participants and variables, rationale for the chosen design, data analysis, and data collection procedures. In Section 4, I present the results of the quantitative and qualitative data collection. Finally, in Section 5, I discuss the findings from this study and provide suggestions about the practices that enhance the maturity of PLCs following implementation.

Section 2: Literature Review

Introduction

In this literature review, I explore Catholic education in the United States; characteristics of professional learning communities; and the implementation, development, and maturation of a school-based PLC. I initiated the search for literature related to the focus of this study using the PsychInfo, EdResearch Online, EBSCO database, Education's Educational Resource Information Center (ERIC) databases as well as Google Scholar and other Walden Library resources. I also acquired resources for this literature review through a search of government documents for publications on Catholic schools and PLCs. I refined the search using the key terms: *Catholic schools, professional learning communities, teacher perceptions, administrator perceptions, professional learning community maturity*, and *collaboration*. I incorporated seminal works from DuFour and Eaker (1998), Fullan (1995), Hord (1997), Senge (1990), and Wenger (1998) into the review. Additionally, the online resource of the Southwest Educational Development Laboratory (SEDL), a nonprofit, educational research corporation, provided literature for this review.

In this section, I provide an historical overview of the role of Catholic schools in the United States. I also present the PLC framework created by Hord (1997) that was later updated by Hord and Tobia (2012), and I explore other relevant literature on PLCs. This exploration includes recent research that examined teacher's perceptions of PLCs and research that supported the benefits of using PLCs as a means to provide collaborative opportunities for teachers to improve instructional practices and positively

influence student learning. There were few studies available that examined teacher's perceptions of PLCs in this manner. Therefore, some of the recent research cited in this research study is more than 5 years old, Additionally, I investigated research that validates the use of Likert scales for analysis of quantitative data from surveys. Finally, in this literature review, I examine the evolution of PLCs in education, how these collaborative communities are operationalized within schools, and *PLC maturity* and the factors that influence the effective development of a school's PLC.

History of American Catholic Schools

Colonists established Catholic schools in America in the 17th century to provide religious education for their children (Hallinan, 2002; Hunt, 2005). Most of these schools served the children in southern colonies that had large Catholic settlements (Hunt, 2005). At that time, the northern colonies were under English rule and public schools in that region had a strong, Protestant orientation (Cattaro, 2002; Hallinan, 2005; Hunt, 2005). As the population in the northern colonies grew, large numbers of Catholic students began attending the public schools in those areas (Hunt, 2005). The influence of the English on the public schools remained for two and a half centuries (Cattaro, 2002). During the Fourth Provincial Council of Baltimore in 1840, Catholic bishops noted that Catholic students often encountered difficulty in public schools due to the Protestant orientation (Cattaro, 2002; Hallinan, 2005; Hunt, 2005). Those concerns initiated a movement to establish parochial schools as a means to protect the faith of immigrant, Catholic children (Hallinan, 2005; Hunt, 2005).

As concerns about the Protestant influence in schools mounted, The American Catholic Bishops from the Third Plenary Council of Baltimore issued a Pastoral Letter that identified the creation of a Parish school as a goal for all Catholic parishes (Goldschmidt & Walsh, 2013; Hallinan, 2005; James, 2007; Russo, 2009). The council went so far as to mandate that every Catholic child attend a Catholic school (Goldschmidt & Walsh, 2013; Russo, 2009). Catholics continued to found parochial schools and provided students a rudimentary education and instruction in the Catholic faith (Hallinan, 2002; Hunt, 2005). However, despite the commitment of bishops, the vowed religious and clergy who taught in the schools, and the financial support of parishioners, the goal of providing a Catholic school education for every Catholic child was never realized (Hunt, 2005; Watzke, 2005).

Following the Second Vatican Council in 1962, the enrollment of Catholic schools in the United States reached an all-time high at 5.6 million students (Hunt, 2005; Watzke, 2005). That enrollment represented 12% of all K–12 students in the United States (Hunt, 2005). After 1965, Catholic school enrollment began a continuous downward trend due to religious, political, and societal changes (Carr & Decker, 2015; Goldschmidt & Walsh, 2013; James, 2007; Kallemeyn, 2009). In addition to declines in enrollment, the numbers of vowed religious teachers in Catholic schools continued to drop significantly (Fuller & Johnson, 2014; Kallemeyn, 2009). By the 2004–2005 school year, 95% of full-time professional staff in Catholic schools consisted of lay teachers (Hunt, 2005; James, 2007; McDonald, 2015). The growing dependency on lay teachers had major consequences for Catholic schools.

The costs associated with the increase of lay teachers significantly impacted school budgets and forced parish schools to rely on tuition to finance the cost of school operations (Drago-Severson & Pinto, 2009; Hunt, 2005; James, 2007; Mulaney, 2014; O'Keefe & Scheopner, 2009). Harris (2000) noted that "Catholic schools have evolved from a Church-funded endeavor managed by professed religious to a system of largely parent-funded programs for a diminishing portion of the Catholic school population" (p. 56). Historically, 100% of the financial support for a Catholic school was by the parish (Hunt, 2005). However, that support had declined steadily for years (James, 2007; Mulaney, 2014).

School closures due to a lack of monetary and personal resources plagued Catholic schools for several decades (Borrero, 2010; Carr & Decker, 2015; Harris, 2000; James, 2007; Kallemeyn, 2009). Catholic schools in urban areas were particularly hard hit (Borrero, 2010; Carr & Decker, 2015; Goldschmidt & Walsh, 2013; Kallemeyn, 2009; Nelson, 2000). In 2005, The United States Conference of Bishops addressed these issues in their publication, *Renewing Our Commitment to Catholic Elementary and Secondary Schools in the Third Millennium*. The Notre Dame Task Force on Catholic Education responded to this statement in 2006, issuing the report, Making God Loved, Known, and Served. Outlining recommendations to enact a renewed commitment to Catholic education, the Task Force noted that a lack, or perceived lack, of academic excellence had contributed to enrollment declines in many Catholic schools (Notre Dame Task Force, 2006). The Task Force initiative called for an investment in the "research, development, and implementation of effective assessment, curriculum, and instruction in

Catholic schools" (Notre Dame Task Force, 2006, p. 286). Recommendations from the Task Force included provisions to provide professional development workshops for teachers and principals on curriculum development, instruction, and assessments (Notre Dame Task Force, 2006). In an effort to incorporate the Task Force's recommendations, many Catholic schools began to investigate and implement collaborative communities as a means to provide ongoing professional development (Borrero, 2010). Presently, the collaborative communities found in many Catholic schools use the PLC model based on Hord's (1997) research.

Overview of Professional Learning Communities (PLCs)

Professional development takes many forms. In the industry sector, for example, Wenger (1998) introduced the idea of community practice as a powerful means of professional development. Knowledge gained through the collaborative practices of individuals within an organization becomes that organization's most important resource (Wenger, 1998). Lave and Wenger (1991) developed communities of practice in order to provide a perspective on learning and the acquisition of knowledge within a social context (Seaman, 2008). The community of practice concept was defined by Wegner, McDermott, and Snyder (2002) as "groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis" (p. 4). The community of practice is distinguished from other types of communities by this shared practice. The members of a community of practice are informally bound by their joint enterprise and through their mutual engagement in those activities (Berry, 2011; Wenger, 1998). The shared

repertoire of routines, sensibilities, artifacts, and vocabulary produced through this engagement develops over time (Berry, 2013; Hur & Brush, 2009; Seaman, 2008; Wenger, 1998). Wenger advanced the idea that organizations could support communities of practice by recognizing the practices that sustain them, such as giving members of an organization time to participate in community activities and creating an environment that values and acknowledges the community. The concept of knowledge management as a resource was of great interest to business leaders and was embraced by the corporate world (Seaman, 2008; Thompson, Gregg, & Niska, 2004). That interest led to additional research on the topic of knowledge management.

Numerous management studies in the 1980s focused on the learning organization as a means to utilize the collective knowledge of a group to complete workplace activities. Senge (1990) sought to influence the long-term impact of this research and create a sustained effort for organizational improvement. Senge hypothesized that the utilization of learning organizations allowed groups of people to look beyond their individual perspectives and develop the ability to focus on the overall organizational goal. Additionally, Senge theorized that the development of five dimensions within an organization would enhance an organization's ability to learn and succeed. These dimensions are systems thinking, personal mastery, mental models, building shared vision, and team learning (Senge, 1990). This enhanced focus would allow members of a learning organization to see how problems could be solved and recognize how their individual actions may add to that solution.

Although the aforementioned theorists focused on collaborative learning organizations in the corporate world, others focused on the concept of collaborative learning in educational organizations. The use of PLCs in educational organizations was documented as early as 1927, when Meiklejohn formed a 2-year experimental college at the University of Wisconsin (Kellogg, 2003). Additionally, the concept of an educational organization that embraces inquiry, reflection, and self-evaluation was also presented in the 1929 work of Dewey (Stoll, Bolam, McMahon, Wallace, & Thomas, 2006). Driven in part by the management studies of the 1980s, numerous educational researchers began to examine the impact of collaborative practices and learning organizations in schools (Darling-Hammond, 1994; DuFour & Eaker, 1998; Hord, 1997; Kruse, Louis, & Bryk, 1994; Little, 1990; Newmann & Wehlage, 1995; Riveros, 2012; Rosenholtz, 1989). Encouraged by the results of those early studies, researchers began to focus on PLCs as a means to improve teaching and learning.

Purpose of PLCs

For the past two decades, educational researchers have touted PLCs as a means to transform schools and bring about educational reform. Current literature collectively illustrates that participation in a workplace environment where administrators support a structure that allows teachers to work collaboratively with other team members promotes teacher capacity and improves teaching and learning (Eaker, DuFour, & DuFour, 2002; Hord, & Tobin, 2012; Lambert, 2003; Lee, Zhang, & Yin, 2011; Opfer & Pedder, 2011; Owen, 2014; Sherman, 2009; Stoll, 2011; Vescio et al., 2008). Additionally, educational researchers considered the use of PLCs to be the most effective model to ensure

continuous school improvement (DuFour & Eaker, 1998; Fullan, 1995; Hord & Sommers, 2008; Manthey, 2008; Sanders, Goldenberg, & Gallimore, 2009; Wei, Darling-Hammond, Andree, Richardson, & Orphanos, 2009). However, confusion regarding terminology and the elements of various models has stalled the effectiveness of PLCs in many schools.

Definition of PLC

Currently, there is no agreement on a single definition for PLCs. For example, Newmann and Wehlage (1995) defined PLCs as "school staff members taking collective responsibility for achieving a shared educational purpose, and collaborating with one another to achieve that purpose" (p. 1). Fullan (2005) described PLCs as having collective professional judgment, with strong external connections to knowledge in a demanding culture. DuFour et al. (2006) defined PLCs as "collaborative teams whose members work independently to achieve common goals linked to the purpose of learning for all" (p. 3). Hord (1997), who has been credited with coining the term, professional learning community, and conceptualizing the use of PLCs to bring about educational improvements, defined a PLC as an organizational framework for a school where the administrative and teaching professionals collaborate in order to focus on student learning (Wells & Feun, 2007). Although many educators understand that working collaboratively is part of a learning organization, there is some confusion regarding the term, PLC.

DuFour and Eaker (1998) attempted to provide clarification and consistency to the concept of PLCs by defining each word in the phrase. They defined professional as

"someone with expertise in a specialized field;" learning as an "ongoing action" that engages members "in the ongoing study and constant practice that characterize an organization committed to continuous improvement;" and community as a group of people linked by common interests in an "environment that fosters mutual cooperation, emotional support, and personal growth" (DuFour & Eaker, 1998, p. xi–xii). The model created by DuFour and Eaker became the foundation from which numerous schools began the implementation of PLCs and is the definition that I used to guide this research study.

Essential Elements of PLCs

The misunderstanding regarding PLCs is not limited to the lack of a universal definition of the phrase. The differences in the names used by various researchers and the differing characteristics of various models has also resulted in PLCs that differ significantly between schools and districts, as well as confusion for schools attempting to implement or evaluate the success of school-based PLCs (Dever & Lash, 2013). Despite the fact that each professional learning community is distinctive to its environment, Buysse, Sparkman, and Wesley (2003) noted that learning communities are grounded in two assumptions. First, knowledge gained through the learning organization is situated in the day-to-day experiences of teachers and honed through critical reflection with peers. Second, the professional knowledge of teachers actively engaged in PLCs will improve and enhance their students' learning. A review of the literature reveals that these assumptions can be identified in most of the widely known models and although the characteristics within the models are named differently, the content of those

characteristics are often similar (DuFour & Eaker, 1998; Hord, 1997; Kruse, Louis, & Bryk, 1994; Newmann & Wehlage, 1995; Owen, 2014; Senge et al., 2000;).

In *School's That Learn* (2000), Senge's learning orientation approach to improving organizations specifically to schools was extended. The authors (Senge, Cambron-McCabe, Lucas, Smith, Dutton, & Kleiner, 2000) noted that the five key disciplines outlined in Senge's previous work were not short-term steps to reform like many other school improvement efforts but ongoing practices that are necessary for an organization to experience a fundamental shift in mindset. Continual use of the key disciplines: systems thinking, personal mastery, mental models, shared vision, and team learning would create the necessary mind shift within an organization that allows its members to expand their capacity and become lifelong learners.

Kruse, Louis, and Bryk (1994) created a school-based learning community model based on Senge's research. Their model contained the following dimensions: (a) reflective dialogue between teachers, (b) de-privatization of practice, (c) sustained and collective focus on student learning, (d) collaboration between faculty related to pedagogy and curriculum, (e) and shared norms and values (p. 2). The researchers noted that schools exhibiting these five common dimensions valued individually held knowledge and used self-appraisal, reflection, and dialogue to create organizational knowledge aimed at improving student achievement (Louis & Kruse, 1995).

Utilizing information derived from a comprehensive review of school reform initiatives, leadership theories, business change processes, the school improvement process, and numerous educational case studies, as well as DuFour's experiences as a

practitioner, DuFour and Eaker (1998) developed a new model of a professional learning community. Their model contained the following characteristics: (a) shared mission, vision, and values; (b) collective inquiry; (c) collaborative teams; (d) action orientation and experimentation; (e) continuous improvement; and (f) results orientation (p. 25–29). Additionally, DuFour and Eaker noted that PLCs are built upon three ideas: (a) ensure that students learn, (b) create a culture of collaboration, and (c) focus on results.

As Project Director at the SEDL, Hord (1997) conducted an extensive review of corporate and educational literature to examine and identify the critical attributes of a PLC. Additionally, Hord conducted a 10-year study to examine the improvement efforts of a school staff operating as a PLC. Hord (1997) noted that results of the SEDL study revealed five intertwined dimensions of a PLC and a new model of school culture and organization that actively supported educational change and improvement, advancing the idea that the creation of learning communities in schools could serve as an impetus for change.

Each PLC model referenced in this literature review has specific PLC characteristics. The most common characteristics within the various models are an emphasis on student learning and sustained collaborative practice among teachers. Additionally, most researchers note that shared leadership and a shared purpose are PLC characteristics. Hord's (1997) model, with its five interdependent dimensions, shares more common characteristics with the various models discussed throughout the literature than any other model does. Therefore, I used the following dimensions, identified by Hord, for this research study. Here, I discuss each dimension separately but they work

interdependently. Practices required of one dimension impact the practices in other dimensions.

Shared and supportive leadership. Supportive and shared leadership requires administrators to participate democratically with staff members, sharing power, authority, and decision-making. Leadership is an essential element to school improvement and numerous educational researchers have noted the importance of shared leadership when making decisions that impact student learning (Gray, Mitchell, & Tarter, 2014; Hipp & Huffman, 2003; Hord & Tobia, 2012; Thornton & Wansbrough, 2012). Walstrom and Louis (2008) noted that supportive and shared leadership does not relegate the school administrator to an insignificant role within the school but instead allows administrators to participate democratically with staff members, sharing power, authority, and decision-making. Walstrom and Louis stressed that when teachers are permitted to make decisions about instruction and share their instructional leadership with school administrators there is a significant effect on the quality of teachers' instructional practice. Darling-Hammond's (1994) research indicated that that administrative bureaucracy and increased regulations have done little to transform schools, but instead have served to stifle teachers' ability to make appropriate instructional decisions based on their own understanding of learning and teaching. Teachers working in collaboration with administrators and parents could bring about positive changes in schools (Gray, Mitchell & Tarter, 2014; Louis & Marks, 1998; Smith, 2010; Wei, Darling-Hammond, Andree, Richardson, & Orphanos, 2009).

Shared beliefs, values and vision. The shared beliefs, values and vision are developed with an unwavering commitment to student learning and are consistently articulated and referenced in the work of the staff. This shared vision creates an image of what is important to the organization and its members and it drives the formation of policies, procedures, and strategies (Hord & Tobia; 2012). Developed among stakeholders, a shared vision creates a responsibility to work collectively and assists in building the momentum necessary to effect change (Giles & Hargreaves, 2006; Hipp & Huffman, 2010; Hord & Sommers, 2008; Louis, 2008; Lunenburg, 2010; Sherman, 2009; Vescio et al., 2008). Printy (2008) believed that the act of creating a shared school vision served to guide teacher collaboration, provide support for their daily efforts, and protect them from external interference. A vision declared by the current administrator or outside entities of the school is reliant upon those parties for implementation and is incapable of moving the organization forward beyond the tenure of those parties (Lunenburg, 2010; Reeves, 2009).

Collective learning and its application. Collective learning and the application of learning collectively seeks new knowledge, skills, and strategies that are applied to student learning. Hord and Sommers (2008) described the process as professionals working collectively to determine what common practices and content knowledge was needed to teach their students effectively. Using these new practices to impart the required content knowledge is the application of teachers' learning. Stoll et al., (2006) noted that teachers in schools with highly collaborative environments often change their classroom practices to positively impact student achievement. Teachers collaboratively

using data derived from student work to decide which practices to employ in the classroom (Caskey & Carpenter, 2012; Louis, 2008; Stoll, 2011) accomplish this.

Shared personal practice. Shared personal practice involves the review of teacher behaviors by peers. The subsequent feedback and peer assistance supports individual and community improvement. Louis and Kruse (1995) described this type of peer review as the deprivitization of practice. This peer review is non-evaluative in nature but provides teachers with a continuous cycle of reflection focused on the development of each students' learning and progress (Daniel, Auhl & Hastings; 2013; Hipp & Huffman, 2010; Hord & Sommers, 2008; Stewart, 2014; Vescio et al., 2008).

Supportive conditions. Supportive conditions include both human and structural capacities that support collective learning and a collegial atmosphere. Human capacities include trust, respect, shared vision, and input in the decision making process (Cranston, 2011; Gray, Mitchell, & Tarter, 2014; Gray & Summers, 2015). The other set of supportive conditions include a variety of physical or structural conditions such as time and space for staff to meet and examine practices, school size, proximity of staff to one another, and well-developed communication systems (Hord & Tobia, 2012; Schechter, 2012).

Schools often identify themselves as PLCs and assume that full implementation of all necessary practices to institutionalize each dimension has occurred. However, Hord (2004) noted that while many schools practiced these PLC dimensions to some degree, most failed to fully implement or refine all of the dimensions within the model. Additionally, Hord and Sommers (2007) explained that none of the dimensions of a PLC

is mutually exclusive and the exclusion of any part of the model significantly affects a school's ability to transform into a PLC. Current literature has shown numerous benefits for establishing PLCs (DuFour, 2004; DuFour, DuFour, Eaker, & Karhanek, 2004; Harris & Jones, 2010; Hipp & Huffman, 2004; Peppers, 2015; Thompson, Gregg, & Niska, 2004; Vescio et al, 2008). Therefore, fully implementing PLC practices can only enhance those benefits.

Benefits of PLCs

The work of many researchers has shown a positive correlation between PLCs and student achievement (Bausmith & Barry, 2011; DuFour, 2004; DuFour et al., 2004; DuFour & Eaker, 1998; Harris & Jones, 2010; Hipp & Huffman, 2004; Louis, 2008; Peppers, 2015; Rosenholtz, 1989; Thompson, Gregg & Niska, 2004; Vescio et al, 2008). This correlation is due in part to the common mission of a PLC that does not measure classroom success by teaching but on student learning. (DuFour, 2004; DuFour et al., 2004). Through continuous, structured teacher collaboration, teachers are able to create benchmarks for student performance, examine data culled from student work, individually tailor student instruction, and implement practical interventions for students who fail to meet prescribed benchmarks (DuFour et al., 2004; Manthey, 2008, Spillane, 2012). This collaboration serves to enhance the content and quality of teaching and improve student learning (Eaker et al., 2002; Spillane, 2012). Furthermore, research by Hord (1997) and Lee, Smith, and Croninger (1995), noted that student outcomes in schools with PLCs reflected decreased dropout rates, lower instances of absenteeism and fewer classes skipped, increased learning that was distributed more equitably, greater

academic gains in core content areas, and smaller achievement gaps among students in different subgroups.

In addition to the student benefits derived from PLCs, researchers noted that the collaborative nature of the community is beneficial for teachers (DuFour, Eaker & DuFour, 2005; Hord, 1997; Hord, Meehan, Opfer, & Pedder, 2011; Orletsky & Sattes, 1999; Peppers, 2015; Sherman, 2009). Little (1982) found that when teachers had opportunities for collaborative inquiry, they were able to learn collectively and develop a shared body of knowledge. This collaborative inquiry provided teachers with a means to keep abreast of current research while learning new skills and methods from peers (Daniel, Auhl, & Hastings, 2013; Stewart, 2014). This is particularly important for schools that do not have the financial resources to provide teachers with formal professional development. Often this new information is essential for teachers trying to address the needs of particular students in their classes (DuFour et al., 2004; Louis, 2008). Additionally, numerous researchers have shown a positive correlation between PLCs and teacher morale (DuFour, 2004; DuFour et al., 2004; DuFour & Eaker, 1998; Harris & Jones, 2010; Hipp & Huffman, 2004; Wenger, McDermot, & Snyder, 2002). Hord (1997) also found that teachers involved with PLCs showed increased knowledge of the content material, greater ability to adapt teaching methods and differentiating instruction, and displayed an increased commitment to making lasting changes.

Noting that the act of teaching and the performance level of individual teachers were inexplicably linked to the organization where the teaching occurred, Rosenholtz (1989) held that teacher quality and student achievement were better when there was

evidence of collaboration through collaborative teacher networks. A growing number of researchers and educators support the idea that transforming schools into PLCs creates the essential framework for continuous school improvement (Mindich & Lieberman, 2014). Furthermore, the leadership capacity developed within these PLCs assists schools in developing administrative succession plans that will allow leaders to come and go while improvement efforts progress, and the learning of both adults and students continues (Daniel, Auhl, & Hastings, 2013; Lambert, 2003).

Although PLCs have growing support in the education community from practitioners and researchers, there is still a need to monitor and assess the outcomes and maturity of these collaborative organizations. Efforts to develop collaboration within schools must be deliberate (Thessin & Starr, 2012). Changes in school leadership, personnel attrition, and inconsistent professional development can significantly alter the state of a school's PLC (Hallinger & Heck, 2010). Monitoring the implementation and maturation is essential to continuous improvement (Thessin & Starr, 2011). Recent research illustrates the inconsistencies between staff perceptions of PLC implementation and the actual maturation of the learning organization.

Prior Research Studies on PLC Perceptions

Lippy and Zamora (2012) conducted a quantitative study designed to examine the perceptions of teachers and administrators on the depth and consistency of PLC implementation between 12 different middle school buildings in one large metropolitan school district. The district-wide improvement initiative that called for the implementation of PLCs provided little in the way of common district expectations

beyond some changes to teacher practice that moved the focus from teaching content to student learning. Additionally, schools received minimal staff development beyond a general understanding of practices found in PLCs. This resulted in PLC implementations that look vastly different in each school. Using the 52-item PLCA-R (Hipp & Huffman, 2003) to collect survey data, Lippy and Zamora determined the level of implementation for PLC practices in each individual school. Data were analyzed with descriptive statistics and a regression analysis. Data indicated that two PLC dimensions, Shared values and vision and Supportive conditions (relationships), reflected a greater level of implantation in the system and in individual schools. However, conflicting data indicated that teachers from various schools might have interpreted survey statements quite differently.

The strength of the shared values and vision dimension provides evidence that the schools were positive in their efforts to implement the PLC initiative. Therefore, the lack of consistency between schools indicates that a vision created at the school level without common expectations from the district resulted in the development of foundations for the initiative that are remarkably different between schools. This lack of consistency was also apparent in the supportive conditions – relationships dimension. Caring relationships and achievement, two of the practices within this dimension, received a high degree of agreement in all schools. However, the practices of a culture that encourages risks and united effort for a positive change, garnered the least support in this dimension. This could indicate that relationships within the school are congenial but do not have the depth required to be considered collaborative. This depth is required in order to develop the

type of ownership of instruction that is essential for continuous improvement. The study found that these inconsistent results demonstrated a lack of understanding of the purpose and function of PLCs by both teachers and administrators.

Siguroardottir (2010) conducted a study that examined PLC effectiveness and found there were significant correlations between a school's level of effectiveness and the maturity of its PLC. This mixed methods research study examined the issue of PLC effectiveness from different perspectives. Siguroardottir conducted a correlational study of two schools to determine their effectiveness as assessed by student results on a national achievement test. Additionally, Siguroardottir conducted an experimental study on a third school to determine whether an intervention designed to gain insight into the process of improving a PLC would have an impact on student academic outcomes. The study population consisted of three public schools in Iceland. Siguroardottir collected qualitative data for the study through interviews and observations of participants and non-participants. A 52-item survey collected the quantitative data. Siguroarddottir administered the survey at the beginning of the intervention and again, two years later. The survey instrument measured teacher's perception regarding the presence of specific actions within the school that indicated the presence of nine PLC variables discussed in the literature. Findings also indicated that efforts to improve a PLC could improve a school's level of effectiveness.

Siguroardottir (2010) noted some contradictions in the data, specifically the survey results measuring PLC maturity. Although, survey results measured the PLCs at varying levels of maturity, observations indicated that neither school PLC was very

mature. This lack of maturity was due to the absence of specific actions required by each PLC dimension. So, while one school's PLC may have been "more mature" and the school deemed "more effective" this was just a matter of one school being more effective and mature than other schools in the study.

While conducting a study of teacher's perceptions regarding the presence of PLC characteristics in United Arab Emirates (UAE) schools, Al-Taneiji (2009) found similar inconsistencies between teacher's survey responses and interviews. At the time of the study, the Ministry of Education in the UAE had adopted a vision that focused on the implementation of new teaching pedagogies, standardizing curricula between emirates and providing teachers with professional development. In a mixed-methods research study, Al-Taneiji examined to what extent PLCs were evident in some UAE schools and what factors had contributed to or impeded the development of PLCs in those schools. Al-Taneiji used the PLCA to collect the quantitative data (Hipp & Huffman, 2003). Teachers in 15 UAE schools in different emirates completed the 45-item survey to assess teachers' perceptions of the PLCs in their individual schools. Then qualitative data were collected through interviews with 18 teachers. Three randomly selected teachers from six different schools participated in the interviews in an effort to inform the quantitative data and provide additional insight into the PLC journey taken by each of these schools. Interviews consisted of open-ended questions.

Analyzed data from Al-Taneiji's (2009) study produced themes based on professional learning community characteristics. The survey results indicated that only supportive structures and supportive and shared leadership were evident in the

participating schools. However, interviews with participants revealed that the school vision did not guide teachers' practices. None of the teachers interviewed had participated in the development of the vision and most could not recall the actual vision statement for their school. Most participants noted that principal developed the vision statement and distributed it to the staff. Additionally, the school principal was responsible for creating teaching schedules, determining course loads and the assignment of extra administrative duties for teachers. Although survey results indicated, supportive structures were in place, teachers affirmed that current workloads did not allow teachers an opportunity to work collaboratively, reflect or examine their practice with peers. Furthermore, 90% of participants said that their school principals felt that professional development was a waste of time and therefore, did not allocate time for it.

Review of Methodology

The methodology for this research was a sequential, explanatory strategy in the implementation of a mixed method research design. Currall and Towler (2003) noted that a mixed method design involves the sequential or simultaneous use of both qualitative and quantitative data collection and/or data analysis techniques. Teddlie and Tashakkori (2006) further explained mixed method design as "research in which the investigator collects and analyzes data, integrates the findings, and draws inferences using both qualitative and quantitative approaches or methods in a single study or program of inquiry" (p. 15). In this part of the literature review, I will compare methodologies used in previous research in an effort to explain the selection of my research methodology.

In a quantitative study, Seo and Han (2012) used survey data to explore the "extent to which schools in Seoul, Korea exhibit the characteristics of professional learning communities and the correlations between professional learning community and teacher, student, and parent satisfaction with schools" (p. 281). This methodology allowed Seo and Han to use data from a survey that had been previously administered by the Seoul Metropolitan Office of Education to gather information about the current state of schools in Seoul. Creswell (2009) noted that survey designs provide a quantitative description of trends, attitudes or opinions of a population. Seo and Han's conducted data analysis at the individual school level and the means of each school were used in the analysis of data. Descriptive analyses of PLC dimensions were conducted to determine which schools exhibited PLC characteristics. Then, a one-way analysis of variance was conducted to determine if there were differences in PLC maturity between schools at the elementary, middle school, and high school levels. Finally, the researchers examined the correlation between PLC and teacher, student, and parent satisfaction (Morel, 2014). The information obtained by this research study provided statistical data that indicated schools in Seoul, Korea did "exhibit the characteristics of PLCs to some extent" and "the measure of a school's PLC is significantly correlated with teacher satisfaction" (Seo & Han, 2012, p. 291). However, there was little correlation between PLCs and student and parent satisfaction with schools. This study contained no qualitative data that would explain the varying extent of PLC maturity in the individual schools or the lack of student and parent satisfaction with schools.

In a qualitative case study approach, Kilbane (2009) explained that the goal of the research design was to "use a phenomenological approach to draw conclusions" (p. 190). Kilbane (2009) stated that the decision to use this style of methodology helped him "consider the current status of the schools as learning communities including . . . factors that might have influenced their current status" (p. 190). The collective case study approach helped Howell (2010) "describe four schools as learning communities four years after they participated in a four year comprehensive school reform effort" (p. 190). The collective case study allowed the researcher to illustrate the status of the schools through interviews and other qualitative methods. Data analysis used two coding schemes. This permitted the researcher to examine the characteristics of learning communities and the perspectives of the teachers regarding their professional practices. Coding the data enabled the researcher to sort data by concept of the content, theme or event (Rubin & Rubin, 2005). However, the information obtained from this collective case study contained no statistical data. The findings and accompanying discussion presented themes that emerged from interviews and additional qualitative data.

In a similar study, Cheng and Ko (2012) used a single case study design to determine how to institutionalize a PLC in a selected case school. This study involved interviews with teachers and the school administrator, researcher observations, review of the school development plan and school reports. The researchers also took part in professional development activities and maintained a journal containing observations and details of these events. Analysis of this journal, along with the interview transcripts and observations, provided triangulated data. Even though this research gave triangulated data

of both teacher and administrator perceptions, the case study did not include any statistical data. This study was of particular interest to me because it dealt with teacher and administrator perceptions during the implementation of a PLC. I did review additional case study examples that involved the evaluation of school-based PLCs and used a similar methodology (Jacobs & Yendol-Hoppey, 2010; Leclerc, Moreau, Dumouchel, & Sallafranque-St-Louis, 2012; Liebman, Maldonado, Lacey, & Thompson, 2005). These case studies focused on staff perceptions that dealt with the implementation and maturity of a PLC but none of the studies included statistical data. I decided against using a qualitative case study approach for my research because it would not allow me to adequately determine the stage of PLC implementation at each school, as well as provide suggestions for continued growth of collaborative practices.

Based on a statement from Creswell (2009) that a mixed method strategy would provide more insight from the combination of both qualitative and quantitative research than either form by itself, I selected a mixed method research design. A small number of research studies on this topic have used a mixed method design. The existing mixed method research focused on student achievement, administrative leadership, or select school populations. None of the existing studies involved PLCs in Catholic schools or independent/private schools in the United States. Therefore, I wanted to enhance the current research by examining PLC maturity in Catholic schools utilizing the perceptions of teachers.

Likert Scale Responses

The perceptions of teachers were examined in this study using a mixed method sequential explanatory approach. The quantitative portion of the study employed the PLCA-R survey. This survey instrument contains a Likert scale. Likert scales are a common ratings format for surveys and questionnaires. These scales were created by Likert to scientifically measure psychological attitudes (Uebersax, 2006.) Likert wanted to develop a method to measure attitudes that could be interpreted on a metric scale (Uebersax, 2006). These psychometric response scales are most commonly seen ranging from "Strongly Disagree" on one end to "Strongly Agree" on the other end (Allen & Seaman, 2007). Respondents indicate their level of agreement with a particular statement utilizing an ordinal scale (Harwell & Gatti, 2001). A numeric value is assigned to each level on the scale, commonly starting at one and incremented by one for each additional level (Harwell & Gatti, 2001). For this research study, data collected with a Likert scale was used to assessed the maturity of a school's PLC as a learning community by measuring teacher's perceptions of specific school practices.

Although it is acknowledged that Likert-type items yield ordinal data, with median being the relevant descriptive statistic, such items are frequently descriptively analyzed with mean and standard deviation (Boone & Boone, 2012; Clason & Dormody, 1994). Another common procedure is to treat each Likert scale as continuous. In these cases, a mean and standard deviation are often reported for each of the Likert-scale questions and the items are ranked according to the means (Dittrich, Francis, Hatzinger & Katzenbeisser, 2007). In Likert's original paper, he clearly noted that there might be an

underlying continuous variable whose value characterized the respondents' opinions or attitudes and this underlying variable was interval level (Allen & Seaman, 2007).

Boone and Boone (2012) noted that the analysis of Likert-type data and Likert scale data require unique data analysis procedures. Likert-type data are expressed as numbers that illustrate a "greater than" correlation but how much greater is not implicit (Boone & Boone, 2012; Jamison, 2004). Therefore, Likert-type items are measured on the ordinal scale using descriptive statistics that include mode or median for central tendency and frequencies for variability (Boone & Boone, 2012; Clason & Dormody, 1994; Jamieson, 2004). Likert scale data are analyzed on the interval measurement scale because these items are produced by calculating a composite score. These composite scores are the sum or mean from four or more Likert-type items (Bertram, 2007; Boone & Boone, 2012). Descriptive statistics for interval scale items, such as these, include the mean for central tendency and standard deviation for variability (Boone & Boone, 2012).

A review of the literature produced three recent studies where researchers utilized the interval measurement scale to analyze data collected with the PLCA-R. In their examination of PLC implementation in one district's middle schools, Lippy and Zamora (2012) administered the PLCA-R survey to 196 teachers in 12 middle schools. Descriptive statistics and a regression analysis were used to analyze the data and determine what PLC dimensions had the greatest and least level of integration in individual schools and the district overall. A composite score or mean was created for each PLC dimension in each individual school. The mean and standard deviation of all schools were calculated and then disaggregated by each school. This analysis allowed the

researchers to examine the implementation of each PLC dimension by individual school and compare the varying degrees of implementation between schools.

Two recent dissertation studies also used the interval measurement scale to analyze data collected with the PLCA-R. Deffenbaugh's (2011) descriptive research study focused on the implementation of PLC dimensions in schools that participated in the Missouri Professional Learning Communities Project. Using the PLCA-R survey, the researcher collected data to determine teachers' perceptions of the depth of PLC implementation in their individual schools after participating in the project. Analysis was conducted on data collected using an interval measure scale. Mean item responses were calculated for all survey respondents and sorted according to the six PLC dimensions. This analysis allowed the researcher to examine the implementation of each PLC dimension in schools that participated in the Missouri Professional Learning Communities Project, as well as compare the varying degrees of implementation of each PLC dimension.

In another dissertation study that used an interval measure scale with data collected from the PLCA-R, Jaques (2010) investigated the perceptions of elementary principals while implementing PLCs during a district-wide initiative. The mean scores for each PLC dimension were calculated for each participating school. The mean scores for each PLC dimension within a school were averaged to create an overall mean score. Interviews with select principals and analysis of documents were also conducted in order to triangulate case study data. This analysis allowed the researcher to examine the experiences of principals that implemented and sustained PLCs in their schools.

These recent studies were of particular interest to me because they dealt with the perceptions of administrators and teachers during PLC implementation. Additionally, these studies informed my own data analysis using the PLCA-R, which calculates the means and standard deviations for teachers on a school-by-school basis and describes the average perceptions of practices that contribute to the development and sustainability of a school's PLC, as well as the perceived strength of those practices.

Summary

Section 2 contains an historical overview of Catholic schools in the United States, an overview of the literature on the history of PLCs, the purpose of PLCs, and the essentials elements of PLCs. Additionally, I provided an explanation of the five PLC dimensions, the benefits of PLCs, and a review of studies related to my research topic and methodology. Finally, I have provided research that validates the use of Likert scales for analysis of quantitative data from surveys. Section 3 contains further discussion of the methodology used in the study.

Section 3: Research Methodology

Introduction

In Section 3, I explain the mixed method, sequential, explanatory approach and rational. I also provide information regarding the setting for the study, the sample population, the research questions, and instrumentation. Additionally, I explain the protection of participant's rights, researcher's role, data collection and analysis. Section 3 will also explain the methodology used to conduct this study in order to address the following questions:

1. What are teachers' perceptions of the maturity level of PLCs in selected Catholic schools as measured by the PLCA-R?
2. Is there a significant difference in teachers' perceptions of the maturity level of PLCs in selected Catholic elementary (K–8) by age of the teacher as measured by the PLCA-R?
3. Is there a significant difference in teachers' perceptions of the maturity level of PLCs in selected Catholic elementary (K–8) by years of teaching experience as measured by the PLCA-R?
4. Is there a significant difference in teachers' perceptions of the maturity level of PLCs in selected Catholic elementary (K–8) by grade level taught as measured by the PLCA-R?
5. What teacher actions, as identified in the survey, influence perceptions regarding the maturity of PLCs in selected Catholic schools?

Research Design and Approach

In this study, I used a sequential, explanatory, mixed methods design with both qualitative and quantitative methods. The typical use of a mixed methods design is to explain, clarify, and interpret the results of the quantitative data analysis through the collection and analysis of qualitative data (Creswell, 2009). This design is useful when the quantitative data analysis yields unanticipated results (Creswell, 2009). Creswell (2009) noted that "straightforward nature of this design is one of its main strengths" and this mixed methods approach is "easy to implement because the steps fall into clear, separate stages" (p. 211). Ivankova, Creswell, and Stick (2006) also noted that this strategy allows the researcher to use the quantitative data and its subsequent analysis to provide a general understanding of the research problem by exploring the participants' views with more depth. Data sources for this study included a quantitative survey and qualitative semistructured interviews with a sample of participants who completed the survey. In this study, I gave priority to the quantitative data collection and integrated the two methods during the interpretation phase of this study (Creswell, 2009; Morgan, 1998). Ivankova, Creswell, and Stick noted that priority refers to the approach a researcher gives more weight or attention to during the data collection and analysis of a study. In this study, I used the qualitative data to provide a more detailed description of the quantitative data and assist in interpreting the quantitative results (Creswell, 2009; Merriam, 2002). This approach to data collection provided a deeper understanding of each participant's perception in a PLC and was the rationale for using this approach (Creswell, 2009; Johnson & Onwuegbuzie, 2004). Additionally, Creswell (2009) has

noted that the sequential explanatory approach is straightforward in nature, and as a novice researcher, the ease in implementing this approach appealed to me.

I collected data sequentially. I first implemented the quantitative component, followed by the qualitative component. In the quantitative phase, the survey data collection used an electronic version of the PLCA-R. I obtained written permission from the authors to use this instrument (Appendix A). I administered this pre-existing survey (Appendix B) to certified teachers working in instructional positions from multiple schools within a single diocese in the state of Missouri. The survey was administered in a manner that assured anonymity and prevents identification of participants. The PLCA-R examines the perceptions of school staff members to assess the maturity of schools as PLCs (Olivier et al., 2009). Additionally, the PLCA-R assists school personnel in identifying the existence of practices, as well as the strength of those practices, that contribute to the development and sustainability of a school PLC (Olivier et al., 2009). These practices align with the five dimensions of PLCs, as identified by Hord (1996). I then analyzed electronic data from each school. Overall scores and scores for each PLC dimension were calculated for individual schools. I used SPSS software to complete all calculations. The analyzed data from the quantitative phase gave direction to the qualitative phase.

The qualitative phase consisted of semistructured interviews with select teachers. The semistructured interviews had an open and flexible framework to promote focused, two-way communication. Merriam (2002) noted that semistructured interviews employ flexibly worded questions that contain a mix of structured and unstructured questions. I

developed an interview protocol (Appendix C) with questions adapted from *Reculturing Schools as Professional Learning Communities* (Huffman & Hipp, 2003). I piloted the questions with a panel of three colleagues to determine if they were appropriate to gather the data needed for this study and to protect against researcher bias. Questions were revised based on feedback obtained from the pilot test. This interview protocol (Appendix C) contains common questions that I used for all interviews at every school. When necessary, I tailored interview questions to address the quantitative survey results from individual schools.

I was responsible for collecting all interview data. Individuals that volunteered to participate in the qualitative interviews were not offered the same anonymity provided to survey participants. However, they were assured that their responses were confidential and private. I conducted the scheduled interviews in person at each individual school site. The purpose of the interviews was to obtain an explanation of the quantitative findings and gain additional information about factors that influenced the levels of maturity shown by a school's staff as a PLC. I digitally recorded the interviews, which were then transcribed by a professional transcriptionist. Member checking was conducted to verify the accuracy of the transcripts and confirm that participants' stories were portrayed correctly (Fraenkel & Wallen, 2003). Then, I coded the qualitative data and grouped the information into thematic categories that informed the quantitative data. Creswell (2009) noted that in the sequential explanatory approach the quantitative and qualitative data are separate but connected. After the collection and analysis of each data type, I interpreted and reported the entire analysis.

Setting and Sample

The population for this study was drawn from the school staffs of Catholic elementary (K–8) schools in one midwestern diocese. Gravetter and Wallnau (2005) defined a population as "the set of all individuals of interest in a particular study" (p. 3). This diocese is comprised of three high schools, 25 elementary schools, and eight early childhood centers. The diocese employs approximately 525 teachers. Taking part in the study were 104 teachers from four elementary (K–8) schools in one diocese in the Midwest. I only chose participants from schools that used PLCs at the time of the study. All certified teachers working in an instructional capacity in those schools had the opportunity to take the quantitative survey, based on the willingness of their school's head administrator to participate in the research study. I obtained permission to conduct the study and a signed letter of cooperation from principals at each participating school (Appendix D). Additionally, eligible teachers from each participating school had an opportunity to participate in the qualitative interviews.

Cohen, Manion, and Morrison (2007) defined convenience sampling as the process of selecting participants based on their convenience to the researcher. In this research study, use of a convenience sample was justified because I had easy access to the schools in this diocese. Additionally, an opportunity existed to examine schools within a single diocese already engaged in a change initiative that used PLCs. Study participants were required to be certified teachers, employed by a Catholic school in one dioceses in the Midwest. Support staff and noncertified teaching assistants that perform clerical or office tasks were not included in the study because their services were not used

uniformly throughout all schools in the diocese. The participating schools used PLCs to provide staff development and to address school improvement goals.

Context and Strategies

After obtaining approval from the Walden Institutional Review Board (IRB) to conduct the study, I sought and gained permission from the superintendent of schools before conducting any research . Once I received permission, I contacted school administrators in the diocese via e-mail. This e-mail included an invitation to participate in the survey, an explanation of the studies purpose, requirements for participation, as well as procedures for assuring informed consent, anonymity, and confidentiality for all participants. After receiving approval from building principals, I began the quantitative sequence of this research study.

Quantitative Sequence

After I identified schools for this study, I obtained a list of e-mails for all certified teaching staff at each school. Using those e-mail addresses, I forwarded a link to an electronic survey program to each qualified staff member. The link contained an invitation to participate in an online survey and an informed consent form for participants. The informed consent form provided background information, explained the voluntary nature of the study, explained risks and benefits of being in the study, and explained that no compensation would be provided for study participants. Confidentiality measures and contact information were also provided. Those staff members were able to click the link, complete the PLCA-R survey, and have their responses electronically

recorded. Using this electronic survey maximized the efficiency and speed of the survey distribution and data collection.

The PLCA-R is a preexisting survey instrument that consists of statements about practices that can occur in schools (Olivier et al., 2009). The survey uses a 4-point Likert scale ranging from 1 = Strongly Disagree to 4 = Strongly Agree. I used this instrument to assess the strength of a school's PLC as a learning community by determining the strength of practices within each PLC dimension. The PLCA-R reports scores along the following five dimensions: Shared and supportive leadership, shared values and vision, collective learning and application, shared personal practice, supportive conditions (relationships & structures).

The PLCA-R has been administered in numerous school districts throughout the United States (Olivier et al., 2009). Professional staff at varying grade levels have used this formal diagnostic tool to gather information on staff perceptions relating to specific practices observed at the school level (Olivier et al., 2009). The widespread use of the PLCA-R has provided an opportunity to review each of the dimensions for internal consistency (Olivier et al., 2009). Additionally, initial and subsequent studies have provided ongoing validation for this instrument (Olivier et al., 2009). In a recent analysis of the PLCA-R, Olivier et al. (2009) noted that an internal consistency test, resulting in the following Cronbach Alpha reliability coefficients for factored subscales (n = 1209), was confirmed: shared and supportive leadership (.94), shared values and vision (.92), collective learning and application (.91), share personal practice (.87), supportive

conditions--relationships (.82), supportive conditions –structures (.88), and a one-factor solution (.97).

I used SPSS software to conduct descriptive statistics to report the central tendencies and spread of the five dimensions of the PLCA-R as reported by participant surveys. Means and standard deviations were calculated for teachers on a school-by-school basis. These were used to describe the average perceptions of practices that contribute to the development and sustainability of a school's PLC, as well as the perceived strength of those practices. Dimensions were calculated by taking the average of the corresponding Likert-scaled survey questions. Standard deviations were presented to determine the level of consistency in teacher responses. After reviewing the analyzed survey data, I decided to complement Research Question 1 by analyzing the demographic data with independent sample *t* tests and a series of ANOVAs to determine whether significant differences existed in the five dimensions of PLCs by the various demographic categories. Descriptive statistics, *t* tests, and ANOVAs were reported in table format. The complete set of the raw survey data is securely stored in my home on a password protected, laptop computer.

Qualitative Sequence

The qualitative phase of this research study consisted of interviews with select teachers. The purpose of the interviews was to gain a greater understanding of the descriptive data through triangulation. This method allowed the researcher to "map out, or explain more fully, the richness and complexity of human behavior by studying it from more than one standpoint" (Cohen, Manion & Morrison, 2007, p. 150). Using the same

e-mail list used to identify participants for the quantitative sequence, an invitation to participate in the qualitative interviews and an informed consent form was sent to each qualified staff member. Four teachers from the participating schools volunteered to participate in the interviews. Each interview lasted approximately 1 hour and participants were interviewed individually. Individual interviews produce significant amounts of information from an individual's perspective (Hancock & Algozzine, 2006). An interview protocol was developed with common questions for all interviews. This protocol was used at each school. When necessary, interview questions were tailored to address the quantitative survey results from individual schools.

Prior to each interview, I reviewed the informed consent form with each participant and confirmed their consent to be recorded, as well as answered any questions participants may have regarding the interview process. All interviews were digitally recorded. This ensured that all spoken data was preserved for analysis (Merriam, 2002). I have stored all copies of the interview data in a locked cabinet and a password protected laptop in my home, which is available to participants viewing upon request. Transcripts from the interviews were e-mailed to each participant to verify the accuracy of the transcript as recommended by Fraenkel and Wallen (2003).

Data Analysis Plan

Data were collected from certified staff working in an instructional position within a single diocese in the state of Missouri. Quantitative data included responses to the PLCA-R survey and were imported to SPSS version 22.0 for Windows. Descriptive statistics were first used to outline the demographics within the sample. Means and

standard deviations were calculated to describe any continuous demographic information, such as age. Frequencies and percentages were calculated for any categorical demographic information, such as gender (Howell, 2010). Additionally, as the research evolved, I decided to conduct an independent sample *t* tests and a series of ANOVAs to determine whether significant differences existed in the five dimensions of PLCs by the various demographic categories. As for the qualitative component, thematic analysis was performed.

Pre-Analysis Data Screening

Quantitative data were screened for accuracy and missing data. Descriptive statistics and frequency distributions were conducted to determine that responses were within possible range of values. Cases with missing data were examined for non-random patterns.

Research Question 1

To assess Research Question 1, descriptive statistics were conducted to report the central tendencies and spread of the five dimensions of the PLC-R as reported by teachers in Missouri Catholic schools. Means and standard deviations were calculated for teachers on a school-by-school basis. These were used to describe the average perceptions of practices that contribute to the development and sustainability of a school's professional learning community, as well as the perceived strength of those practices. Means and standard deviations are the appropriate descriptive statistics to report for continuous level data (Howell, 2010).

The five PLC dimensions examined are share and supportive leadership, shared values and vision, collective learning and application, shared personal practice, and supportive conditions. The dimension of supportive conditions represented two individual scores: supportive relationships and supportive structures. These dimensions were calculated by taking the average of the corresponding Likert-scaled survey questions, where responses ranged from 1–strongly disagree to 4–strongly agree. Standard deviations are presented to determine the level of consistency in teacher responses.

When the goal of the research is to present the participants' responses in order to address the research question(s), descriptive statistics are the appropriate analyses (Cohen, Manion & Morrison, 2007). Descriptive statistics include means and standard deviations for continuous data (i.e., the six PLCA-R scores). Means describe the mathematical average term for a continuous item (Gravetter & Wallnau, 2005). Standard deviations describe the spread of those terms by approximating the average distance from the mean (Gravetter & Wallnau, 2005). When the goal of the research is to try to make judgments regarding the probability that an observed difference between the variables of interest are dependable or the result of chance, inferential (parametric and non-parametric) statistics are conducted (Cohen, Manion, & Morrison, 2007). Power analyses (sample size and effect size) can be conducted when inferential analyses are used but not with descriptive statistics (Trochim, 2006).

While conducting my research, it became obvious that I needed to look at the demographics within each school to determine whether specific demographic factors affected PLC maturity. In order to examine the demographic data and further assess

research question one, inferential statistics were conducted to determine whether significant differences existed in the five dimensions of PLCs by the various demographic categories. Accordingly, additional quantitative research questions were added in order to test a null hypothesis.

Research Questions 2 and 3

To assess Research Questions 2 and 3, a series of independent sample *t* tests were conducted to determine whether significant differences existed by the age of teachers or years of teaching experience. An independent sample *t* test is an appropriate statistical analysis when the goal of the research is to evaluate significant differences in a continuous dependent variable between a dichotomous independent variable (Tabachnick & Fidell, 2012).

Research Question 4

To assess Research Question 4 a series of ANOVAs was conducted. This analysis also determined whether significant differences existed in the five dimensions of PLCs by grade levels taught by teachers participating in the study, a series of ANOVAs was conducted. An ANOVA is an appropriate statistical analysis when the goal of the research is to measure for significant differences in a continuous dependent variable between an independent variable with at least two groups (Tabachnick & Fidell, 2012).

Research Question 5

Research Question 5 was assessed through the qualitative portion of the study. Data from the qualitative interviews were used to explain the quantitative results and

examine the perceptions gathered for research question one in greater detail. Stake (2010) noted that qualitative data is interpretive, experimental, situational, and personalistic. Qualitative data is interpretive in that the researchers' goal is to understand the meaning participants have constructed about their experiences in a particular setting (Merriam, 2002). The researcher must strive to obtain a depth of understanding through analysis (Merriam, 2002). Through its empirical nature, qualitative data can be experimental in that it is developed through the experiences of others (Stake, 2010). Additionally, it can also be viewed as situational as participants' experiences occur at different times and in different locations. The uniqueness of these situations typically cannot be supported by the generalizations presented in quantitative data (Merriam, 2002). Finally, qualitative data can be personalistic because it strives to understand multiple perceptions and find the commonalities while examining the differences in situational experiences (Stake, 2010). For these reasons, I selected the qualitative approach for this research question.

This qualitative methodology used an interpretive approach. The interpretive approach is appropriate when the goal of research is to understand how participants make meaning of a situation in order to provide more detailed descriptions of the experiences as they are perceived (Creswell, 2007; Merriam, 2002). This approach comes from a need to understand teacher perceptions of practices that contribute to the development and sustainability of a school's professional learning community. As such, the process examined is the perception of the school's professional learning community. The interpretive approach allowed me to examine a broad range of potential perceptions and to assess commonalities between those of each of the interviewees.

Interpretive qualitative research seeks to understand the world in which individuals live or work (Creswell, 2007). It emphasizes the meaning of experiences for a number of individuals (Creswell, 2009). Interpretive research relies as much as possible on participants' views of the situation, rather than starting with a theory (Creswell, 2007). Interpretive studies seek to describe the lived experiences of a process for several individuals. As such, all individuals in the study should have experienced the same process (Creswell, 2007). The interpretive approach allows for a fresh perspective from which to examine perceptions of maturity regarding each school's PLC from teacher viewpoints. It is for these reasons that a qualitative, interpretive approach was appropriate. Additionally, Creswell (2009) stated the researcher must organize all data for analysis, thoroughly read all data collected, and develop a coding process to validate the accuracy of the information collected. Once the initial steps are completed, the researcher can begin to extract themes and subsequently derive and interpret meaning from the qualitative research.

Prior to beginning the analysis, data obtained from qualitative interviews and answers written in the open comments section of the PLCA-R survey were thoroughly read through to obtain an understanding of the overall tone of the responses. As data were read through and examined, patterns and meaningful themes began to emerge. The process of reading and re-reading the responses was done until saturation was achieved. Saturation was achieved once no additional information emerged from the read-throughs. Throughout the process, the commonalities that emerged were clustered into meaningful units. Once the final round of meaningful units was established, supportive texts were

used to illustrate the revealed themes from those units. The knowledge extracted was used to demonstrate an understanding and awareness of internal perceptions of a school's PLC environment. Multiple perspectives are presented, allowing for the examination of different perceptions and attitudes pertaining to the effect of these practices on a school's PLC.

In order to obtain feedback for all or most of the perceptions, qualitative sample sizes must be of sufficient size. Obtaining this degree of perceptions will result in saturation. Glaser and Strauss (1967) recommended the practice of saturation for qualitative studies to obtain an appropriate sample size. In qualitative research, there is no definitive number to determine the appropriate sample size of a study. However, saturation is the point when the addition of study participants will not add any appreciable data, new perspectives, or information to the results (Corbin & Strauss, 2008). Guest, Bunce, and Johnson (2006) noted that the more homogeneous the sample, the easier it is to achieve saturation. This is the result of overlap in the experiences of the participants. According to Fusch and Ness (2015), researchers can assure saturation is met by conducting additional interviews if new information arises in the final analysis of the data.

Researcher's Role

I am a former school administrator in the Midwestern diocese where this research study took place. In my role as an administrator, I served on various diocesan committees and provided professional development sessions on differentiated instruction to teachers and staff members employed by the diocese. The relationship between the participants

and the researcher is professional, and there are no personal relationships between the parties involved. However, I bring certain biases to this research study. While serving in my past position as a school administrator, I initiated the implementation of PLCs in my school. The successful implementation and continuing maturity of a school's PLC is of great interest to me. It is my opinion that the continuing maturity of a school-based PLC contributes to the continuing success of school-wide goals. Therefore, my former school was excluded from this research study. It is important that my opinions were not stated or displayed in a manner that would cause participants to answer questions to please me, leading to a distortion of the data. Every effort was made to ensure objectivity in the collection, interpretation, and analysis of data.

Ethical Issues

Consideration was given to various ethical issues for this study. Permission to conduct the study was obtained from the diocesan superintendent of Schools. Once permission was obtained, then the permission of each individual principal was obtained. A consent form was developed for participants that provided information regarding the purpose of the study and informed them that study participation was strictly voluntary. For the quantitative portion of the study, participants were advised that by submitting the 52-item electronic survey titled, *Professional Learning Community Assessment - Revised (PLCA-R)*, they were giving agreement and consent to participate in this study. Additionally, participants were informed that quantitative data, completed on www.SEDL.org, would not be linked to individual participants. For the qualitative portion of the study, an informed consent form with participant's signature was obtained

from each participant prior to the interview. Confidentially was guaranteed to each participant and participants were informed that digitally recorded interviews would be transcribed by a professional transcriptionist that had signed a confidentially agreement. Additionally, participants could withdraw from the study at any time.

Summary

I explained the methodology for this study in this section. This study used a sequential, explanatory, mixed method design to assess the level of PLC maturity in select Catholic schools in Missouri. I described the research design in detail as well as the population, instrumentation, plan for analysis, and role of the researcher. The data obtained from this process and the data analysis process are explained in the following section.

Section 4: Results

Introduction

The purpose of this mixed method, sequential, explanatory research study was to assess the maturity level of PLCs in select Catholic elementary (K–8) schools in the state of Missouri. A survey was used to gather data for this assessment. Additionally, a sample of survey participants were interviewed to investigate what actions, as shown in the survey, influenced perceptions of PLC maturity.

I gathered data with priority given to the quantitative data and then integrated the two methods during the interpretation phase of this study (Creswell, 2009; Morgan, 1998). In the quantitative portion of the study, I gathered statistical data using a pre-existing survey instrument (Appendix B) with a goal of answering the research question. The author of the survey granted permission to use the survey (Appendix A). The data gathered represents the perceptions of the Catholic school teachers' relating to specific practices observed at the school level. The qualitative data were used to provide a more detailed description of the quantitative data and assist in interpreting the quantitative results (Creswell, 2009; Merriam, 2002). The goal of this data collection approach was to provide a greater understanding of participant's perceptions of maturity in a PLC.

In this section, I provide the results of the analyses of the quantitative survey, demographic data, and the qualitative interviews. The data from the demographic analysis is presented first. Next, I present the data gathered from the quantitative survey . Data gathered from interviews with select teachers is presented last.

The research process began after I received approval from Walden's Institutional Review Board (Walden University Institutional Review Board Approval Number 04-17-15-0144039), the superintendent of the participating diocese, and individual school principals. I electronically surveyed participants from four different Catholic elementary schools using the PLCA-R (Olivier et al., 2009). The 52-item survey consists of statements about practices that can occur in schools and uses a 4-point Likert scale ranging from 1 = Strongly Disagree to 4 = Strongly Agree. I used the instrument to gather statistical data regarding teachers' perceptions of PLC maturity in their schools. In addition to the survey items, participants were asked five demographic questions. This electronic data collection used the SEDL hosting site. SEDL administers the online version of the PLCA-R survey. Survey data were then imported from the SEDL hosting site into the SPSS software program and analyzed to determine mean and standard deviation.

Sample

The population for this study was drawn from the faculties of four Catholic elementary (K–8) schools in a Midwestern diocese. I used a convenience sample to choose participants for this research study. Easy access to the schools in the diocese justified the use of the convenience sample (Cohen, Manion, & Morrison, 2007). At the time of the study, each of the four participating schools used PLCs to provide a framework for teachers to work together interdependently to improve classroom practices and address the individual needs of their students. A total of 104 certified teachers, working in an instructional capacity in the participating schools, had the opportunity to

take the quantitative survey. Forty-two quantitative surveys were returned. Additionally, each of the 104 certified teachers received an invitation to participate in the qualitative interviews. Four teachers consented to be interviewed. The number of interviewees was small, but employing a convenience sample allowed an examination of schools within a single diocese engaged in a change initiative using PLCs. In addition, numerous participants in each of the participating schools commented in the open sections of the survey and I used those comments in the qualitative analysis. To assure that saturation was met within this sample, each qualitative theme that emerged was fully explained until such a time that no new information significantly added to those themes (Corbin & Strauss, 2008). Obtaining saturation is easier with a more homogeneous sample due to the commonality in participant experiences (Guest, Bunce, & Johnson, 2006). Additionally, a study conducted by Francis et al. (2010) indicated that saturation has been met after a researcher conducts three interviews with no new themes emerging.

Quantitative Results

I sent an invitation to complete the PLCA-R survey to 104 certified teachers working in an instructional capacity in four Catholic elementary schools (K–8) in a Midwestern diocese. A total of 42 surveys were returned, for a 40.78% response rate. The survey had participants from each of the four schools taking part in the research study. Twelve teachers from School A completed the survey, 14 from School B, seven from School C, and nine teachers from School D. All surveys were complete. Therefore, I did not have to eliminate any surveys due to insufficient answers and used all 42 surveys in the data analysis. Prior to presenting the quantitative and qualitative results, the next

section will present the demographics for all survey participants and the demographics for survey participants at each participating school.

Demographics for All Study Participants

The frequencies and percentages of the demographics for all participants in the study, which includes gender, age, and religion, grade level where participants are currently teaching, and years of teaching experience are presented in Table 1.

Table 1

Frequencies and Percentages of Demographics for All Participants

Demographic	*n*	%
Gender		
Male	3	7
Female	39	93
Age Group		
Less than 30 years of age	7	17
30 – 40 years of age	12	29
41 – 50 years of age	6	14
51 – 55 years of age	8	19
Over 55 years of age	9	21
Religion		
Catholic	33	79
Other	9	21
What grade level do you teach? (teachers had multiple responses)		
Elementary	27	64
Middle School/Junior High	9	21
Both	6	14
How many years of teaching experience do you have?		
0 – 3	8	19
4 – 10	8	19
11 – 15	4	10
16 – 20	7	17
21 – 25	4	10
More than 26	11	26

Note. Due to rounding error, percentages may not sum to 100%.

As seen in Table 1, the majority of the participants were female (39, 93%). Most were between 30 and 40 years of age (12, 29%). The majority of the participants were

Catholic (33, 79%). The majority of the participants taught at the elementary grade level (27, 64%). Most participants had more than 26 years of teaching experience (11, 26%).

Demographics for Individual Schools

Table 2 presents the frequencies and percentages of the demographics for School A (n = 12). These demographics include gender, age, religion, grade level where participants are currently teaching, and years of teaching experience.

Table 2

Frequencies and Percentages of Demographics for School A

Demographics for School A	*n*	%
Gender		
Male	1	8
Female	11	92
Age Group		
Less than 30 years of age	4	33
30 – 40 years of age	1	8
41 – 50 years of age	2	17
51 – 55 years of age	2	17
Over 55 years of age	3	25
Religion		
Catholic	8	67
Other	4	33
What grade level do you teach? (teachers had multiple responses)		
Elementary	8	67
Middle School/Junior High	3	25
Both	1	8
How many years of teaching experience do you have?		
0 – 3	5	42
4 – 10	1	8
11 – 15	2	17
16 – 20	1	8
21 – 25	1	8
More than 26	2	17

Note. Due to rounding error, percentages may not sum to 100%.

As indicated in Table 2, the majority of the participants in School A school were female (11, 92%). Most participants were less than 30 years of age (4, 33%). The majority of the participants were Catholic (8, 67%). The majority of the participants

taught at the elementary grade level (8, 67%). Most participants had between 1 – 3 years of teaching experience (5, 42%).

The frequencies and percentages of the demographics for School B (n = 14) are shown in Table 3. The demographics include gender, age, religion, grade level where participants are currently teaching, and years of teaching experience.

Table 3

Frequencies and Percentages of Demographics for School B

Demographics for School B	*n*	%
Gender		
Male	2	14
Female	12	86
Age		
Less than 30 years of age	0	0
30 – 40 years of age	5	36
41 – 50 years of age	2	14
51 – 55 years of age	4	29
Over 55 years of age	3	21
Religion		
Catholic	11	79
Other	3	21
What grade level do you teach? (teachers had multiple responses)		
Elementary	7	50
Middle School/Junior High	3	21
Both	4	29
How many years of teaching experience do you have?		
0 – 3	1	7
4 – 10	3	21
11 – 15	2	14
16 – 20	2	14
21 – 25	2	14
More than 26	4	29

Note. Due to rounding error, percentages may not sum to 100%.

As presented in Table 3, the majority of the participants in School B were female (12, 86%). Most were less than 30 years of age (5, 36%). The majority of the participants were Catholic (11, 79%) and taught at the elementary grade level (7, 50%). Most participants had more than 26 years of teaching experience (4, 29%).

Table 4 presents the frequencies and percentages of the demographics for School C (n = 7). These demographics include gender, age, religion, grade level where participants are currently teaching, and years of teaching experience.

Table 4

Frequencies and Percentages of Demographics for School C

Demographics for School C	*n*	%
Gender		
Male	0	0
Female	7	100
Age Group		
Less than 30 years of age	2	29
30 – 40 years of age	4	57
41 – 50 years of age	1	14
51 – 55 years of age	0	0
Over 55 years of age	0	0
Religion		
Catholic	6	86
Other	1	14
What grade level do you teach? (teachers had multiple responses)		
Elementary	5	71
Middle School/Junior High	1	14
Both	1	14
How many years of teaching experience do you have?		
0 – 3	2	29
4 – 10	2	29
11 – 15	0	0
16 – 20	2	29
21 – 25	0	0
More than 26	1	14

Note. Due to rounding error, percentages may not sum to 100%.

As seen in Table 4, all participants in School C were female (7, 100%). Most participants were between 30–40 years of age (4, 57%). The majority of the participants were Catholic (6, 86%) and taught at the elementary grade level (5, 71%). Most participants had between 0–3 years of teaching experience (2, 29%), between 4–10 years of experience (2, 29%), and between 16–20 years of experience (2, 29%).

Table 5 shows the frequencies and percentages of the demographics for School D (n = 9). These demographics include gender, age, and religion, grade level where participants are currently teaching, and years of teaching experience.

Table 5

Frequencies and Percentages of Demographics for School D

Demographics for School D	*n*	%
Gender		
Male	0	0
Female	9	100
Age Group		
Less than 30 years of age	1	11
30 – 40 years of age	2	22
41 – 50 years of age	1	11
51 – 55 years of age	2	22
Over 55 years of age	3	33
Religion		
Catholic	8	89
Other	1	11
What grade level do you teach? (teachers had multiple responses)		
Elementary	7	78
Middle School/Junior High	2	22
Both	0	0
How many years of teaching experience do you have?		
0 – 3	0	0
4 – 10	2	22
11 – 15	0	0
16 – 20	2	22
21 – 25	1	11
More than 26	4	44

Note. Due to rounding error, percentages may not sum to 100%.

As indicated in Table 5, all participants in School D were female (9, 100%). Most participants were over 55 years of age (3, 33%). The majority of the participants were Catholic (8, 89%) and taught at the elementary grade level (7, 78%). Most participants had more than 26 years of teaching experience (4, 44%).

Descriptive Statistics

This section presents the quantitative results to answer Research Question 1. Descriptive statistics of continuous variables for all participating schools are presented in Table 6. Included in these descriptive statistics are the mean scores and standard deviations for the following PLC dimensions: shared and supportive leadership, shared values and vision, collective learning and application, shared personal practice, and supportive conditions.

Table 6

Descriptive Statistics of Continuous Variables for All Schools

Composite Scores	*Min.*	*Max.*	*M*	*SD*
School A				
Shared and Supportive Leadership	2.36	3.91	2.92	0.53
Shared Values and Vision	2.56	3.89	3.03	0.42
Collective Learning and Application	2.70	3.60	3.13	0.29
Shared Personal Practice	2.29	3.14	2.61	0.31
Supportive Conditions	2.07	3.60	2.89	0.45
School B				
Shared and Supportive Leadership	1.91	3.64	2.77	0.49
Shared Values and Vision	1.67	3.44	2.62	0.29
Collective Learning and Application	1.70	3.20	2.64	0.41
Shared Personal Practice	2.14	3.14	2.62	0.29
Supportive Conditions	2.40	3.53	2.85	0.33
School C				
Shared and Supportive Leadership	1.91	2.91	2.49	0.34
Shared Values and Vision	2.33	3.00	2.59	0.21
Collective Learning and Application	2.30	2.80	2.57	0.18
Shared Personal Practice	2.00	2.86	2.45	0.36
Supportive Conditions	2.27	3.20	2.69	0.35
School D				
Shared and Supportive Leadership	1.91	3.82	3.15	0.61
Shared Values and Vision	2.44	3.89	3.20	0.56
Collective Learning and Application	2.10	3.80	3.07	0.55
Shared Personal Practice	2.00	4.00	2.78	0.63
Supportive Conditions	2.40	3.33	2.91	0.37

As shown in Table 6, the highest mean scores for School A were in the dimensions of shared and supportive leadership ($M = 2.92$, $SD = 0.53$) and collective learning and application ($M = 3.13$, $SD = 0.29$). School A's lowest mean score was in the dimension of shared personal practice ($M = 2.61$, $SD = 0.31$). The mean scores for School A are not in close proximity, ranging from 2.61 to 3.13.

Table 6 also indicates that School B scored their highest mean scores in the dimensions of shared and supportive leadership ($M = 2.77$, $SD = 0.49$) and supportive conditions ($M = 2.85$, $SD = 0.33$). School B's lowest means scores were in the dimensions of shared values and vision ($M = 2.62$, $SD = 0.29$) and shared personal practice ($M = 2.62$, $SD = 0.29$). The mean scores in the five PLC dimensions at School B are in close proximity to each other, ranging from 2.62 to 2.85.

As reported in Table 6, the highest mean scores for School C were in the dimensions of supportive conditions ($M = 2.69$, $SD = 0.35$) and shared values and vision ($M = 2.59$, $SD = 0.21$). School C's lowest means score was in the dimension of shared personal practice ($M = 2.45$, $SD = 0.36$). The mean scores from School C are also in close proximity, ranging from 2.45 to 2.69.

Table 6 shows that School D scored their highest mean scores in the dimensions of shared values and vision ($M = 3.20$, $SD = 0.56$) and shared and supportive leadership ($M = 3.15$, $SD = 0.61$). School D's lowest means score was in the dimension of shared personal practice ($M = 2.78$, $SD = 0.63$). The mean scores for School D are not in close proximity, ranging from 2.78 to 3.20.

As can be determined by Table 6, School C had the lowest mean scores in each of the five dimensions. School C's mean scores were shared and supportive leadership (M = 2.49, SD = 0.34), shared values and vision (M = 2.59, SD = 0.21), collective learning and application (M = 2.45, SD = 0.36), shared personal practice (M = 2.45, SD = 0.36), and supportive conditions (M = 2.69, SD = 0.35). Additionally, Table 6 indicates that School A had the largest range between mean scores, ranging from 3.13 to 2.61. School B had the smallest range between mean scores, ranging from 2.62 to 2.85.

Demographic Analysis for the Dimensions of PLCs – Independent Tests

During the data analysis phase of my research, it became obvious that I needed to look at the demographics within each school to determine whether PLC maturity was impacted by a specific demographic category. Using data collected from the demographic portion of the quantitative survey, the demographic fields of age of teacher, years of teaching experience, and grade taught by teacher were analyzed. This analysis allowed me to determine whether these factors attributed to a significant difference in the five dimensions of PLCs at any of the participating schools.

Due to the small sample size, the demographic fields of gender and religion were not analyzed. In each of the participating schools, the participants were overwhelmingly female and Catholic. An independent sample t test needs a relatively close number of participants in each group in order to interpret significant findings (Creswell, 2009, Merriam, 2002).

Independent Sample *t* tests for Five Dimensions of PLCs by Age of Teachers

A series of independent sample *t* tests were conducted to determine whether significant differences existed in the five dimensions of PLCS by the age of teachers. An independent sample *t* test is an appropriate statistical analysis when the goal of the research is to evaluate significant differences in a continuous dependent variable between a dichotomous independent variable (Tabachnick & Fidell, 2012). The independent grouping variable for this analysis corresponds to age (1 = 40 years and less; 2 = 41 years and greater). The continuous dependent variables correspond to the five dimensions of PLCs. This section answers Research Question 2.

Table 7 presents results of the statistical data from statistical tests by age of

Table 7

Descriptive Statistics by Age of Teachers for School A

Descriptive Statistics by Age of Teachers - School A	Age Group	N	Mean	Std. Deviation	Std. Error Mean
Shared & Supportive Leadership	40 years old and younger	5	2.5455	.18182	.08131
	41 years and older	7	3.1948	.54401	.20562
Shared Values & Vision	40 years old and younger	5	2.7111	.16851	.07536
	41 years and older	7	3.2540	.40933	.15471
Collective Learning & Application	40 years old and younger	5	2.9000	.21213	.09487
	41 years and older	7	3.3000	.21602	.08165
Shared Personal Practice	40 years old and younger	5	2.4571	.23474	.10498
	41 years and older	7	2.7347	.31329	.11841
Supportive Conditions	40 years old and younger	5	2.6133	.33797	.15114
	41 years and older	7	3.0952	.42139	.15927

teachers for School A.

As indicated in Table 7, the highest mean scores for School A were in the dimensions of collective learning and application (M =3.3, SD = .21602) and shared values and vision (M = 3.254, SD = 40933). Both of these mean scores were in the 41 years or older age group. The lowest mean scores for School A were in the dimensions of shared and supportive leadership (M =2.5455, SD = .18182) and shared personal practice (M = 2.4571, SD = 18182). Both of these mean scores were in the 40 years and younger age group. Then independent sample t tests for the Five Dimensions of PLCs by Age of Teachers for School A were conducted.

The results of testing the hypotheses are presented in Table 8.

Table 8

Independent Sample t tests *for Five Dimensions of PLCs by Age of Teachers for School A*

Source	Shared and Supportive leadership		Shared value vision		Collective learning		Shared personal practice		Supportive conditions	
	t	*p*	*t*	*p*	*t*	*p*	*t*	*p*	*T*	*P*
School A	-2.54	.029	-2.77	.020	-3.19	.010	-1.67	.127	-2.11	.061

The results did indicate a significant difference in some dimensions. Those dimensions are shared and supportive leadership, $t(10) = -2.54$, $p = .029$; shared values and vision, $t(10) = -2.77$, $p = .020$; and collective learning and application, $t(10) = -3.19$, $p = .010$. The results did not indicate a significant difference in the dimensions of shared personal practice, $t(10) = -.67$, $p = .127$, and supportive conditions, $t(10) = -2.11$, $p = .061$. Based on this test of the hypothesis, I reject the Null.

Table 9 presents results of statistical data from statistical tests by age of teachers for School B.

Table 9

Descriptive Statistics by Age of Teachers for School B

Source	Age Group	N	Mean	Std. Deviation	Std. Error Mean
Shared & Supportive Leadership	40 years old and younger	5	2.6727	.34973	.15641
	41 years and older	9	2.8283	.56306	.18769
Shared Vision & Values	40 years old and younger	5	2.6667	.20787	.09296
	41 years and older	9	2.7901	.53126	.17709
Collective Learning & Application	40 years old and younger	5	2.5600	.16733	.07483
	41 years and older	9	2.6778	.50442	.16814
Shared Personal Practice	40 years old and younger	5	2.4571	.15649	.06999
	41 years and older	9	2.7143	.31944	.10648
Supportive Conditions	40 years old and younger	5	2.7200	.15916	.07118
	41 years and older	9	2.9185	.38265	.12755

As presented in Table 9, the highest mean scores were in the dimensions of supportive conditions (M = 2.9185, SD = .38265) and shared and supportive leadership (M = 2.8283, SD = .56306). Both mean scores were in the 41 years and older age group. The lowest mean scores were in the dimensions of collective learning and application (M = 2.56, SD = .16733) and shared personal practice (M = 2.4571, SD = .38265). The mean score in the dimension of collective learning and application was in the 40 years and

older age group. The mean score in the dimension of shared personal practice was in the 40 years and younger age group.

Then independent sample *t* tests for the five dimensions of PLCs by age of teachers in School B were conducted. Those results are presented in Table 10.

Table 10

Independent Sample t tests *for Five Dimensions of PLCs by Age of Teachers for School B*

Source	Shared & Supportive leadership		Shared value vision		Collective learning		Shared personal practice		Supportive conditions	
	t	*p*	*T*	*p*	*t*	*p*	*t*	*p*	*T*	*P*
School B	-0.56	.589	-0.49	.632	-0.50	.627	-1.67	.121	-1.09	.296

As seen in Table 10, the results for each dimension for School B were shared and supportive leadership, $t(12) = -0.56$, $p = .589$; shared values and vision, $t(12) = -0.49$, $p = .632$; collective learning and application, $t(12) = -0.50$, $p = .627$; shared personal practice, $t(12) = -1.67$, $p = .121$; and supportive conditions, $t(12) = -1.09$, $p = .296$. As determined by Table 10, the results of the *t* tests for independent samples indicate that a significant difference did not exist in any of the five PLC dimensions. Based on this test of the hypothesis, I reject the Null.

Table 11 presents results of statistical data from statistical tests by age of teachers for School C. As seen in Table 11, the highest mean scores were in the dimensions of supportive conditions ($M = 3.0$, $SD = 0.0$) and shared and supportive leadership ($M = 2.9091$, $M = 0.0$). Both of these mean scores were in the 41 years and older age group. The lowest mean scores were in the dimensions of shared values and vision ($M = 2.3333$,

Table 11

Descriptive Statistics by Age of Teachers for School C

Dimension	Age Group	N	Mean	Std. Deviation	Std. Error Mean
Shared and Supportive Leadership	40 years old and younger	6	2.4242	.31840	.12999
	41 years and older	1	2.9091	.	.
Shared Values & Vision	40 years old and younger	6	2.6296	.19458	.07944
	41 years and older	1	2.3333	.	.
Collective Learning and Application	40 years old and younger	6	2.5833	.19408	.07923
	41 years and older	1	2.5000	.	.
Shared Personal Practice	40 years old and younger	6	2.3810	.34602	.14126
	41 years and older	1	2.8571	.	.
Supportive Conditions	40 years old and younger	6	2.6333	.34960	.14272
	41 years and older	1	3.0000	.	.

SD = 0.0) and shared personal practice (*M* = 2.3810, *SD* = .34602). The mean score in the dimension of shared values and vision was in the 41 years and older age group. The mean score in the dimension of shared personal practice was in the 40 years and younger age group.

Then independent sample *t* tests for the five dimensions of PLCs by age of teachers for School C were conducted. Those results are presented in Table 12. As indicated in Table 12, the results for each dimension for School C were shared and supportive leadership, $t(5) = -1.41$, $p = .218$; shared values and vision, $t(5) = -1.41$, $p = .218$; collective learning and application, $t(5) = 0.40$, $p = .707$; shared personal practice, $t(5) = -1.27$, $p = .259$; and supportive conditions, $t(5) = -0.97$, $p = .376$. As can be determined by Table 12, the results of the *t* tests for independent samples indicate a

Table 12

Independent Sample t tests *for Five Dimensions of PLCs by Age of Teachers for School C*

Source	Shared & Supportive leadership		Shared value vision		Collective learning		Shared personal practice		Supportive conditions	
	t	*p*	*t*	*p*	*t*	*p*	*t*	*p*	*T*	*P*
School C	-1.41	.218	1.41	.218	0.40	.707	-1.27	.259	-0.97	.376

significant difference did not exist in any of the five PLC dimensions. Based on this test of the hypothesis, I reject the Null.

Table 13 presents results of statistical data from statistical tests by age of teachers for School D.

Table 13

Descriptive Statistics by Age of Teachers for School D

Dimension	Age Group	*N*	Mean	Std. Deviation	Std. Error Mean
Shared and Supportive Leadership	40 years old and younger	3	2.6667	.77317	.44639
	41 years and older	6	3.3939	.37994	.15511
Shared Values and Vision	40 years old and younger	3	2.6667	.38490	.22222
	41 years and older	6	3.4630	.43556	.17782
Collective Learning and Application	40 years old and younger	3	2.5000	.45826	.26458
	41 years and older	6	3.3500	.32711	.13354
Shared Personal Practice	40 years old and younger	3	2.2857	.49487	.28571
	41 years and older	6	3.0238	.56725	.23158
Supportive Conditions	40 years old and younger	3	2.4667	.06667	.03849
	41 years and older	6	3.1333	.18856	.07698

As presented in Table 13, the highest mean scores were in the dimensions of shared values and vision (M = 3.4630, SD = .43556) and shared and supportive leadership

(*M* = 3.3939, *SD* = .37994). Both of the mean scores in these dimensions were in the 41 years and older age group. The lowest mean scores were in the dimensions of supportive conditions (*M* = 2.4667, *SD* = .06667) and shared personal practice (*M* = 2.2857, *SD* = 49487). Both of the mean scores in these dimensions were in the 40 years old and younger age group.

Then independent sample *t* tests for five the dimensions of PLCs by age of teachers for School D were conducted. Those results are presented in Table 14.

Table 14

Independent Sample t tests *for Five Dimensions of PLCs by Age of Teachers for School D*

Source	Shared & Supportive leadership		Shared value vision		Collective learning		Shared personal practice		Supportive conditions	
	t	*p*	*t*	*p*	*t*	*p*	*t*	*p*	*T*	*P*
School D	-1.97	.090	-2.67	.032	-3.25	.014	-1.91	.098	-5.77	.001

As presented in Table 14, the results indicate significant differences in the dimensions of shared values and vision, $t(7) = -2.67$, $p = .032$; collective learning and application, $t(7) = -3.25$, $p = .014$; and supportive conditions, $t(7) = -5.77$, $p = .001$. As determined by Table 14, significant differences did not exist in the dimensions of shared and supportive leadership, $t(7) = -1.97$, $p = .090$, and shared personal practice, $t(7) = -1.91$, $p = .098$. Based on this test of the hypothesis, I reject the Null.

Table 15 contains the results of the independent sample *t* tests by age of teachers for all participating schools. As seen in Table 15, even though statistical differences existed in mean scores of some of the five dimensions of PLCs by age of teachers in

Table 15

Independent Sample t tests *by Age of Teachers for All Schools*

Source	Shared & Supportive leadership		Shared value vision		Collective learning		Shared personal practice		Supportive conditions	
	t	*p*	*t*	*p*	*t*	*p*	*t*	*p*	*T*	*P*
School A	-2.54	.029	-2.77	.020	-3.19	.010	-1.67	.127	-2.11	.061
School B	-0.56	.589	-0.49	.632	-0.50	.627	-1.67	.121	-1.09	.296
School C	-1.41	.218	1.41	.218	0.40	.707	-1.27	.259	-0.97	.376
School D	-1.97	.090	-2.67	.032	-3.25	.014	-1.91	.098	-5.77	.001

School A and School D, the results of the independent sample *t* tests in School B and School C did not indicate significant differences in any of the five dimensions. Additionally, the independent sample *t* tests did not indicate significant differences between shared personal practice mean scores between age groups in any of the four participating schools. Based on this data, I failed to reject the Null Hypothesis.

Independent Sample *t* tests for Five Dimensions of PLCs by Years of Teaching Experience

I conducted a series of independent sample *t* tests to determine whether significant differences existed in the five dimensions of PLCS by years of teaching experience. The independent grouping variable for this analysis corresponds to years of teaching experience (1 = 1 – 15 years, 2 = more than 15 years). The continuous dependent variables correspond to the five dimensions of PLCs. This section answers Research Question 3.

Table 16 presents the statistical data from statistical tests results by years of teaching experience for School A.

Table 16

Descriptive Statistics by Years of Teaching Experience for School A

	Years of Teaching Experience	*N*	*Mean*	*Std. Deviation*	*Std. Error Mean*
Shared & Supportive Leadership	1 - 15 years	8	2.6932	.36343	.12849
	More than 15 years	4	3.3864	.55732	.27866
Shared Values Vision	1 - 15 years	8	2.8333	.25888	.09153
	More than 15 years	4	3.4167	.44790	.22395
Collective Learning & Application	1 - 15 years	8	3.0125	.22952	.08115
	More than 15 years	4	3.3750	.26300	.13150
Shared Personal Practice	1 - 15 years	8	2.4821	.24072	.08511
	More than 15 years	4	2.8929	.24398	.12199
Supportive Conditions	1 - 15 years	8	2.7083	.34903	.12340
	More than 15 years	4	3.2667	.41455	.20728

As presented in Table 16, the highest mean scores were in the dimensions of shared values and vision (M = 3.4167, SD = 44790) and shared and supportive leadership (M = 3.3864, SD = .55732). Both of these mean scores were in the More than 15 years of teaching experience group. The lowest mean scores were in the dimensions of shared and supportive leadership (M = 2.6934, SD = .36343) and shared personal practice (M = 2.4821, SD = 24072). Both of these mean scores were in the 1 – 15 years of teaching experience group.

Then independent sample t tests for five dimensions of PLCs by years of teaching experience were conducted. Those results are presented in Table 17.

Table 17

Independent Sample t tests *for Five Dimensions of PLCs by Years of Teaching Experience for School A*

Source	Shared and Supportive Leadership		Shared Value and Vision		Collective Learning		Shared Personal Practice		Supportive Conditions	
	t	*p*	*t*	*p*	*t*	*P*	*t*	*P*	*t*	*p*
School A	-2.63	.025	-2.91	.016	-2.47	.033	-2.78	.020	-2.47	.033

The *t* test results for each dimension of School A were shared and supportive leadership, $t(10) = -2.63$, $p = .025$; shared values and vision, $t(10) = -2.91$, $p = .016$; collective learning and application, $t(10) = -2.47$, $p = .033$; shared personal practice, $t(10) = -2.78$, $p = .020$; and supportive conditions, $t(10) = -2.47$, $p = .020$. As Table 17 shows, the results indicate a significant difference in each of the five dimensions for School A. Based on this test of the hypothesis, I failed to reject the Null.

Table 18 presents the results of the statistical data from statistical tests by years of teaching experience for School B. As shown in Table 18, the highest mean scores are both in the dimension of supportive conditions with the 1 – 15 years of teaching experience group ($M = 2.8556$, $SD = .36127$) and the more than 15 years of teaching experience group ($M = 2.8417$, $SD = .32648$). The lowest mean scores are in the dimensions of collective learning and application ($M = 2.6167$, $SD = .20412$) and shared personal practice ($M = 2.5$, $SD = .17496$). Both of these mean scores were in the 1 – 15 years of teaching experience group.

Table 18

Descriptive Statistics by Years of Teaching Experience for School B

Dimension	Years of Teaching Experience	N	Mean	Std. Deviation	Std. Error Mean
Shared & Supportive Leadership	1 - 15 years	6	2.8333	.50261	.20519
	More than 15 years	8	2.7273	.50733	.17937
Shared Values & Vision	1 - 15 years	6	2.7963	.36796	.15022
	More than 15 years	8	2.7083	.50373	.17810
Collective Learning & Application	1 – 15 years	6	2.6167	.20412	.08333
	More than 15 years	8	2.6500	.53184	.18803
Shared Personal Practice	1 - 15 years	6	2.5000	.17496	.07143
	More than 15 years	8	2.7143	.34149	.12074
Supportive Conditions	1 - 15 years	6	2.8556	.36127	.14749
	More than 15 years	8	2.8417	.32648	.11543

Next, independent sample *t* tests for five dimensions of PLCs by years of teaching experience were conducted. Those results are presented in Table 19.

Table 19

Independent Sample t tests *for Five Dimensions of PLCs by Years of Teaching Experience for School B*

Source	Shared & Supportive Leadership		Shared Value & Vision		Collective Learning		Shared Personal Practice		Supportive Conditions	
	t	*p*	*t*	*p*	*t*	*P*	*t*	*P*	*t*	*p*
School B	0.39	.704	0.36	.725	-0.15	.887	-1.40	.188	0.08	.941

As presented in Table 19, the results for each dimension of School B were shared and supportive leadership, $t(12) = 0.39$, $p = .704$; shared values and vision, $t(12) = 0.36$, $p = .725$; collective learning and application, $t(12) = -0.15$, $p = .887$; shared personal practice, $t(12) = -1.40$, $p = .188$; and supportive conditions, $t(12) = 0.08$, $p = .941$. As

shown in Table 19, significant differences between years of experience did not exist in any of the dimensions in School B. Based on this test of the hypothesis, I reject the Null.

Table 20 presents the results of the statistical data from statistical tests by years of teaching experience for School C.

Table 20

Descriptive Statistics by Years of Teaching Experience for School C

Dimension	Years of Teaching Experience	N	Mean	Std. Deviation	Std. Error Mean
Shared & Supportive Leadership	1 - 15 years	4	2.6136	.11439	.05720
	More than 15 years	3	2.3333	.51693	.29845
Shared Values & Vision	1 - 15 years	4	2.6667	.24003	.12001
	More than 15 years	3	2.4815	.12830	.07407
Collective Learning & Application	1 - 15 years	4	2.6250	.17078	.08539
	More than 15 years	3	2.5000	.20000	.11547
Shared Personal Practice	1 - 15 years	4	2.4286	.42056	.21028
	More than 15 years	3	2.4762	.35952	.20757
Supportive Conditions	1 - 15 years	4	2.7500	.37069	.18534
	More than 15 years	3	2.6000	.37118	.21430

As shown in Table 20, the highest mean scores were in the dimensions of supportive conditions ($M = 2.75$, $SD = .37069$) and shared values and vision ($M = 2.6667$, $SD = .24003$). Both of the mean scores were in the 1 – 15 years of teaching experience group. The lowest mean scores were in the dimensions of shared personal practice ($M = 2.4286$, $SD = .42056$) and shared and supportive leadership ($M = 2.3333$, $SD = .51693$). The mean score for shared personal practice was in the more than 15 years of teaching experience group. The mean score for shared personal practice was in the 1 – 15 years of teaching experience group.

Then, independent sample *t* tests for five dimensions of PLCs by Years of Teaching Experience were conducted. Those results are presented in Table 21.

Table 21

Independent Sample t tests *for Five Dimensions of PLCs by Years of Teaching Experience for School C*

Source	Shared & Supportive Leadership		Shared Value & Vision		Collective Learning		Shared Personal Practice		Supportive Conditions	
	t	*p*	*t*	*p*	*t*	*P*	*t*	*P*	*t*	*p*
School C	1.08	.328	1.20	.286	0.89	.412	-0.16	.881	0.53	.619

As indicated in Table 21, the results for each of the dimensions of School C were shared and supportive leadership, $t(5) = 1.08$, $p = .328$; shared values and vision, $t(5) = 1.20$, $p = .286$; collective learning and application, $t(5) = 0.89$, $p = .412$; shared personal practice, $t(5) = -0.16$, $p = .881$; and supportive conditions, $t(5) = 0.53$, $p = .619$. Table 21 indicates that significant differences between years of experience did not exist in any of the five dimensions of PLCs in School C. Based on this test of the hypothesis, I reject the Null.

Table 22 presents the results of the statistical data from statistical tests by years of teaching experience for School D. As shown in Table 22, the highest mean scores were in the dimensions of shared and supportive leadership ($M = 3.4026$, $SD = .41926$) and shared values and vision ($M = 3.4127$, $SD = .41926$). Both of these mean scores were in the more than 15 years of teaching experience group. The lowest mean scores were in the dimensions of collective learning and application ($M = 2.25$, $SD = .21213$) and shared personal practice ($M = 2.4286$, $SD = .60609$). Both of these mean scores were in the 1 – 15 years of teaching experience group.

Table 22

Descriptive Statistics by Years of Teaching Experience for School D

	Years of Teaching Experience	*N*	Mean	Std. Deviation	Std. Error Mean
Shared & Supportive Leadership	1 - 15 years	2	2.2727	.51426	.36364
	More than 15 years	7	3.4026	.34759	.13138
Shared Values & Vision	1 - 15 years	2	2.4444	.00000	.00000
	More than 15 years	7	3.4127	.41926	.15847
Collective Learning & Application	1 - 15 years	2	2.2500	.21213	.15000
	More than 15 years	7	3.3000	.32660	.12344
Shared Personal Practice	1 - 15 years	2	2.4286	.60609	.42857
	More than 15 years	7	2.8776	.64644	.24433
Supportive Conditions	1 - 15 years	2	2.5000	.04714	.03333
	More than 15 years	7	3.0286	.32627	.12332

Next, independent sample *t* tests for five dimensions of PLCs by years of teaching experience were conducted. These results are presented in Table 23.

Table 23

Independent Sample t tests *for Five Dimensions of PLCs by Years of Teaching Experience for School D*

Source	Shared & Supportive Leadership		Shared Value & Vision		Collective Learning		Shared Personal Practice		Supportive Conditions	
	t	*p*	*t*	*p*	*t*	*P*	*t*	*P*	*t*	*p*
School D	-3.75	.007	-3.11	.017	-4.19	.004	-0.87	.411	-2.18	.066

As seen in Table 23, results indicate that significant differences existed between years of experience in four of the PLC dimensions. These dimensions were shared and supportive leadership, $t(7) = -3.75$, $p = .007$, shared values and vision, $t(7) = -3.11$, $p = .017$; collective learning and application, $t(7) = - 4.19$, $p = .004$; and supportive conditions, $t(7) = -2.18$, $p = .066$. However, Table 23 indicates a significant difference

between years of experience did not exist in the dimension of shared personal practice, $t(7) = -0.87$, $p = .411$ for School D. Based on this test of the hypothesis, I reject the Null.

Table 24 contains results of the independent sample *t* tests by years of teaching experience for all participating schools.

Table 24

Independent Sample t tests *for Five Dimensions of PLCs by Years of Teaching Experience for All Participating Schools*

Source	Shared & Supportive Leadership		Shared Value & Vision		Collective Learning		Shared Personal Practice		Supportive Conditions	
	t	*p*	*t*	*p*	*t*	*p*	*t*	*p*	*t*	*p*
School A	-2.63	0.025	-2.91	0.016	-2.47	0.033	-2.78	0.02	-2.47	0.033
School B	0.39	0.704	0.36	0.725	-0.15	0.887	-1.4	0.188	0.08	0.947
School C	1.08	0.328	1.2	0.286	0.89	0.412	-0.16	0.881	0.53	0.619
School D	-3.75	0.007	-3.11	0.017	-4.19	0.004	-0.87	0.411	-2.18	0.066

Table 24 indicates that statistical differences existed in all of the mean scores of the five dimensions of PLCs by years of teaching experience in School A and in four of the dimensions of School D. However, the results of the independent sample *t* tests in School B and School C did not indicate a significant difference in any of the five dimensions. Based on this data, I failed to reject the Null.

ANOVAs for Five Dimensions of PLCs by Grade Levels Taught by Teachers

To determine whether significant differences existed in the five dimensions of PLCs by grade levels taught by teachers participating in the study, I conducted a series of ANOVAs. An ANOVA is an appropriate statistical analysis when the goal of the research is to measure for significant differences in a continuous dependent variable between an independent variable with at least two groups (Tabachnick & Fidell, 2012). The

independent grouping variable for this analysis corresponds to grades taught by teachers (1 = elementary school, 2 = middle school, and 3 = both elementary and middle school). The continuous dependent variables correspond to the five dimensions of PLCs. This section answers Research Question 4.

Results of the ANOVAs conducted for the five dimensions of PLCs by grades taught are presented in Table 25.

Table 25

ANOVAs for Five Dimensions of PLCs by Grades Taught

Source	Shared & Supportive Leadership		Shared Values & Vision		Collective Learning & Application		Shared Personal Practice		Supportive Conditions	
	F	*p*	*F*	*p*	*F*	*p*	*F*	*p*	*F*	*p*
School A	1.82	.218	3.13	.093	1.15	.361	0.99	.409	1.50	.275
School B	7.72	.008	2.33	.143	2.36	.140	3.60	.063	1.44	.277
School C	1.13	.409	0.82	.503	0.63	.580	0.99	.448	0.89	.480
School D	0.54	.486	0.01	.936	0.58	.472	1.70	.234	0.01	.930

As seen in Table 25, the data indicates significant differences in shared and supportive leadership between grades taught in School B, $F(2, 11) = 7.72$, $p = .008$). No other significant differences were found in any dimension in the three other schools participating in the study. Based on this test of the hypothesis, I reject the Null.

The quantitative data analysis examined the perceptions of teachers to assess the maturity of four Catholic Schools as PLCs. Descriptive statistics revealed practices that indicate the presence of a PLC in each school. However, the strength of those practices varied between individual schools and various PLC dimensions. Quantitative data analysis revealed the PLC dimensions of supportive conditions, shared and supportive

leadership, and shared values and vision had the highest levels of maturity in most of the participating schools. Additionally, quantitative data analysis indicated the PLC dimension of shared personal practice had the lowest level of maturity in every school that participated in the study. Additionally, the demographic data for individual schools were analyzed to determine whether significant differences in maturity existed in the five dimensions of PLCs compared to the age, years of experience, or grade level where a participant taught.

There was no evidence to reject the null hypothesis and conclude that teachers' perceptions of the maturity level of PLCs in selected Catholic elementary (K–8) schools has any relationship with any specific demographic category. Some demographic factors had significant findings within individual schools but no single demographic factor had a significant finding in all schools. Furthermore, it was impossible to interpret significant findings due to the lack of spread within some demographic categories.

Qualitative Results

One hundred and four certified teachers working in an instructional capacity in four Catholic elementary schools (K–8) in a Midwestern diocese received an invitation to participate in the qualitative interviews. Four teachers consented to be interviewed. Additionally, numerous participants, from each of the participating schools, recorded comments in the open sections of the survey and those comments were used in the qualitative analysis.

Using the quantitative survey results and a semi structured interview protocol, questions for interviewees were framed to address the varying maturity levels for each

PLC dimension at each individual schools. For instance, when interviewing teachers in schools with a high degree of maturity in a specific PLC dimension, interviewees were asked to explain the implementation and methods used in practices known to contribute to increased maturity of that dimension. Interviewees in schools with survey results that indicated lower levels of maturity in a specific PLC dimension were asked to discuss and explain why some practices were absent or inconsistent in their schools. Teachers were also asked to explain how deficits in these practices impact their collaborative efforts.

Data drawn from interviews with four teachers from three of the participating schools (School A, School B, and School D) and comments taken from the open sections of the survey administered to participants in all four participating schools were employed to answer the second research question. All the qualitative data were read thoroughly to obtain an understanding of the overall tone of the responses and a preliminary list of codes was created. These codes were continually refined throughout the qualitative analysis. Data were coded into individual meaning units, for instance comments regarding time scheduled to allow PLC meetings was coded SCS (supportive structures). Then, these coded meaning units were organized into sub-categories for each of the five PLC dimensions. The sub-categories developed within each PLC dimension were then examined for commonalities and to determine whether or not the meaning units were positive or negative. These like subcategories were joined together to form themes. A sample interview transcript from this study, annotated with comments/meaning units and initial codes, is contained in Appendix G. The final list of codes and tabulated results for the qualitative data are presented in Appendix H. The themes were organized under

research question two. Supportive quotes from the interviews and comments from the surveys were used to illustrate the revealed themes from those units. This section presents the qualitative results to answer Research Question 5.

The interview participants spoke at length about the schools participating in this research study. They provided information and examples to illustrate how those schools function. Based on the information provided in those interviews and the comments in the open sections of the survey, the following emergent themes were found that address this research question: (a) supportive administration, (b) teachers as leaders, (c) shared vision, (d) peer teaching, and (e) teacher buy in.

Supportive Administration

In this theme, teachers participating in the interviews reported on the importance of active and involved leaders. All interviewees noted that it was essential to have administration actively engaged in order for the PLCs to function in an appropriate manner. Interviewee 3 spoke in detail about approaching the administrator with ideas, stating:

> If it's something that's important to me and I want to talk to the principal or the vice principal about it, then I'll go speak with them. It doesn't have to be earth shattering. Sometimes I just like using them as a sounding board for an idea or issue.

This teacher felt that the administrator in her school were open and available. She could present any idea or plan to them and feel confident that she would be heard.

Interviewee 1 noted that teachers in her school were able to offer opinions and be taken seriously during the decision making process. She described a recent round of discussions between faculty and administration involved in the selection of new textbooks, stating:

> We like our current textbook series and felt that the new series under consideration didn't align with our elementary curriculum. But, the middle school teachers felt the current series was not good fit for their curriculum. The committee discussed whether or not there was a reason that every level has to have the same textbook series. Can we work together to ensure alignment and possibly use two different series? So, we actually ended up splitting at middle school. Middle school is getting a new textbook series that is different from the series used in the elementary grades.

In committee discussions, teachers from this school were able to express needs they had for their students, offer an opposing opinion, and be heard. Teachers were allowed and encouraged to explain their needs and those needs were taken seriously.

Interviewee 2 explained how administrators in her school encouraged teachers to be leaders, stating:

> Our principal, wanted us to attend workshops about initiatives that were under consideration by the Professional Development Committee. She encouraged us to learn more about it before we committed to anything. We did this by sending several staff members to various national conferences. We encouraged everybody to attend a wide variety of sessions and learn about these

> programs, so that they could come back and participate in making these decisions. So there was that support that if you want to do something, fine, but find out about it, come back informed and give administration an idea of what it may look like and how it could be implemented.

This teacher indicated that the administrators sought out teacher input in decision making. The teachers in this building were encouraged to learn about new programs and teaching methods. They were asked to aid in the decision making process by assessing these programs and methods and sharing that information with administrators.

All teachers interviewed noted that having administrators who were open to teacher input was essential to creating a strong PLC culture. Interviewees cited numerous examples of this behavior in their schools. Accordingly, the willingness of administrators to involve teachers in high stakes decisions empowered the staff and led to the creation of teacher leaders.

Teacher as Leaders

For a PLC to function, encouraging the growth of collaboration between teachers was an important step in developing skills necessary for leadership positions. Interviewee 4 saw an opportunity to exert leadership through collaboration with peers. She described a time when she approached the administration with an idea:

> Sometime during my first year here I realized that writing instruction wasn't consistent in the middle school classes. Teachers were aware of the instructional gap but were reluctant to take the lead in fixing the problem. So, I went to administration and told them that I would spearhead an overhaul of the writing

> program, ensure it was aligned with the new common core standards, and work to get it fully implemented across all middle school subject areas. She gave me the green light and offered her support. So, I started talking to other teachers. We needed time to meet, time to talk about our curriculum, time to develop common assessments, time to determine what types of materials we would need. And, administration ensured that we had common planning time and we were able to use the existing PLC time to work on implementing the changes. It wasn't easy. People are busy. It's a lot of work. Administration was very creative, working with various fundraising programs in the school to provide us with a fund-a-need to help us get the writing materials and additional training that we needed. We've made huge strides in just a year.

The culture at the school of Interviewee 4 was such that she felt no trepidation approaching administration and advocating for an area where she saw need. One survey participant from this school noted in the open sections of the survey, "teachers are strongly supported and encouraged to take initiative." For PLCs to function teachers need to buy in and assume leadership positions. Interviewee 3 described how teachers took leadership positions at her school:

> It's not seniority. Not at all. It is a desire to lead. We have a teacher that just finished her second year and she's getting her Master's in teacher leadership. She is just on fire. She's like "Give me that. I want to do this. I want to do that." We have another teacher - just out of college and she's tremendous. So yes, it's

> performance. We highly value competence here. I mean that's just all there is to it.

Leadership positions were determined differently at the various schools. Interviewee 4, who is from a different building, spoke about how teachers were encouraged to serve on committees at her school, "You have to serve on at least one committee throughout the year. In fact, we have several committees – like the Professional Development Committee - that teachers are encouraged to join." Teachers in her school were expected to contribute. All teachers were encouraged to find an area that they were passionate about and participate.

Shared Vision

During data analysis, the theme of "shared vision" was uncovered. All teachers interviewed reported a feeling of a sense of shared vision in their schools. Teachers were able to describe their school's vision in a few words. Each teacher interviewed described a shared vision and set of core values that influenced how they taught. Teachers used specific words to describe their school's vision. Interviewee 3 discussed her school's vision, "Educate children in faith." Interviewee 1 stated:

> We're sharing our faith while we're teaching all of those subjects that every child in public school gets but we're embedding faith – our primary purpose is that we are a Catholic school. We want to make sure that our faith is evident in everything we do.

Interviewee 2 reported that her administrator constantly reminded everyone that they should "Remember, we are spiritually enriching the whole child." All teachers

interviewed were able to easily articulate and describe their school's mission statement. Interviewees stated that their coworkers also understood and shared their school's vision. Some interview participants reported that their peers may not be able to recite the vision statement word for word but they did understand the essence of the goal that had been set.

We Teach Each Other

During data analysis, the concept of teachers learning from their peers was consistently noted throughout. All teachers interviewed spoke about learning from each other and their ability to share pertinent information with peers. All interviewees felt that working with peers enhanced individual instructional performance and encouraged the development of new methods**.** All interviewees noted that the PLC structure supported this and encouraged further implementation or adaptation of strategies, interventions, or instructional programming. In addition, interview participants noted that school administrations in their buildings used PLCs to encourage teachers to work together in and across grade levels. Interviewee 3 spoke in great detail about how her school enabled teachers to share information and collaborate in areas that they were passionate about. She reported:

> We sent a survey out to our staff asking what are some areas or topics that you are interested in or that you would like to learn about. Then we used the feedback from that survey to suggest some possible interest groupings. For instance, say, okay teacher A, teacher C and D also are interested in that topic. So, if you guys want to get together when we have PLC time, go do that.

She went on to describe how administration spoke with teachers about possible professional development opportunities. She reported, “If you're going to a conference and we're going to spend this money, then you have to be willing to come back and share what you learned with people.” So, teachers in this building were encouraged to seek new learning opportunities, however if the school is going to fund this opportunity the teachers involved must return and provide training and actively collaborate with other teachers. Interviewee 2 described how her school would take curriculum and expand it to apply across different grade levels through the use of teacher collaboration:

> Even though, our hands on science curriculum is designed for grades kindergarten through fifth grade, we're going to implement it next year, even with our sixth, seventh and eighth grade during electives as a choice class. So, all of the kids can have exposure to it. The lead teachers – those that attended the training - are going to help all the other teachers. That's part of our school’s professional development. Get the training, come back and train your peers to be trainers too.

Interviewee 3 explained how teachers learned from each other in her school. She described how teachers used videotaping in the classroom as an opportunity to collaborate and see new methods:

> We would come together with our small groups and then share what we had seen both with our video tape and when observing in other classrooms, for instance good things we had noticed, things we were applying ourselves. We’re like “You wouldn’t believe what this teacher is doing” or “I cannot believe the game that she was using” and explain the game. It’s simple but so helpful to share what we

> saw, our a-ha moments, what we hope to implement, or what we were going to work on as a result of the observations.

Teachers were able to use this opportunity to learn and grow. Sharing personal practice helped them be better teachers. Interviewee 1, who's school also used peer observations as a collaborative tool, spoke about how it was "very awkward at first and we were a bit anxious about going into each other's classrooms. Everyone has a different comfort level when it comes to having people come in and observe in the classroom." However, she reported that teachers in her school were able to move past this and encourage each other.

Teacher Buy In

The final theme found through an analyzation of the data was the theme of teacher buy in. All interview participants reported that as time went on and teachers used PLCs to learn, grow, and collaborate with peers, innovative practices were increasingly evident in their schools. Interviewee 2 stated:

> I think we're growing in that area and I definitely think it is because those teachers are more excited and kids enjoy those classes more. And as we move forward with more instructional initiatives that have been planned by our teachers, they want to participate in that collaboration and peer training. They are so excited because they've seen firsthand the engagement of students and how students love it. So when the teachers are excited about it, the kids then become excited.

When teachers became excited and engaged it trickled down and impacted student achievement. The teacher's buy in on changes that involved working within the PLC

system was essential for long-term gains. Interviewee 4 spoke about a time when she worked with others and said:

> Of course, we've had teachers that took longer to get on board. But, we just kept talking about the changes we needed to see happen and how we could do it. I think with enough people saying, "Let's do something" those teachers took the next step that saw that what they were able to do.

Interviewee 3 spoke about how teachers became excited by the opportunities that they were presented. By encouraging teachers to buy in and become part of the change, they in turn felt that they were valued and able to effect changes and improvements for the school. She noted:

> As a teacher it's really important that you understand the big picture and that you care about it. So, if there is a subject area you're passionate about or a policy you want to implement, you must get involved. Teachers in our school can volunteer to serve on specific committees. So, you can choose the committees where you want to share your ideas, your energy – your heart. Being part of a committee that you really care about provides you with opportunities to be a leader and to make an impact.

Because teachers in this school were encouraged to volunteer for committees that they were interested in and passionate about, they were invested in their committees and excited to be a part of something larger. Another teacher in this school noted in the open sections of the survey, "a willingness to work together – to help one another – is the strongest quality of our staff as a whole."

Divergent Themes

Analysis of the qualitative interview data and comments taken from the open sections of the survey also produced two themes that indicated existing issues negatively influenced the participant's perceptions of the PLC process. The participants indicated that these issues were worrisome and impacted the usefulness of PLC. Additionally, participants believed that these issues prevented teachers from achieving the full benefits intended by the creation of PLCs. These divergent themes are (a) too many meetings (b) not used correctly.

Too Many Meetings

Two of the interview participants indicated that too much of their time was spent in meetings. Interviewee 1 stated:

> I feel like there are too many staff meetings. We have a staff meeting twice a month and then a PLC meeting on opposite the Wednesday. So every Wednesday we're required to be here for an extra hour, minimum . . . and we also meet after school every day. That meeting is only about ten minutes long, but it's another meeting.

She continued and made a comparison to her former school, "I came from a public school, we had a staff meeting once a month, we had a cadre meeting once a month, and I [now] feel like I am 'meeting-ed' to death." For her, the time spent in meetings could have been used in a more productive manner. She felt that the meetings were not useful or helpful to her personally.

Interviewee 1 went on to say, “We have a lot of turnover and during our PLC time, I feel like a lot of what we do is help new people just learn what they're supposed to be doing.” Consequently, time that is supposed to be used to extend teacher training and collaboration opportunities instead begins to function as an orientation program to help new teachers acclimate to the school. Interviewee 4 also spoke about the many meeting and the loss of time necessary to complete other requirements. She reported,

> Every other Monday is a faculty meeting and then after that there’s team meetings. Team meetings are after school and everyone is ready to go but you have to address student needs, or work on report cards, or any number of other things that must get done.

These concerns were shared by a survey participant from this school who noted in the open sections of the survey, “excessive meetings and time constraints restrict collaborative analysis of student data.”

Not Used Correctly

Some participants reported issues with the way PLCs were being implemented. Teachers felt that PLCs in their schools were not serving the intended purpose. Interviewee 4 had issues with PLC meetings. She noted:

> I think PLC time is often viewed as a team meeting where you're working together, but nothing cross-curricular or across grade levels is being addressed. We aren’t really sharing instructional strategies. We’re staying busy but I couldn’t say we were actually collaborating or working toward a goal. We like to call

> ourselves a learning community but I don’t know if our PLC time is being used correctly.

For her, spending time in a meeting that is not addressing PLC issues was ineffective and unnecessary. She added:

> I think that we need to have a model for our PLC meetings. We could and should share ideas and strategies. People talk about things that are fun but we lack an effective way to share those ideas and test their effectiveness.

She indicated that one of the major issues was a lack of structure. No one was sure what a PLC should be or how it should be run, resulting in an ineffective process. Interviewee 1 spoke about how the intention of PLC was not followed through. She noted:

> Three years ago they changed it from Pod meetings to PLC meetings because I think they were told that they were supposed to have PLCs for the accreditation process. But I don't know that the meetings really changed. It’s like, 'oh, if we can get through all of this stuff fast enough,' we might have time to learn how to use the iPads more and share with each other what we've done with the iPads. Those types of things are kind of like an afterthought.

For her, there were many ideas she wanted to explore, but was unable to because the time was not allocated. Sharing between peers occurred as an afterthought. As a result, although the meetings occur during a time designated for PLC activities, for the participants in this school, the meetings are used to discuss everything from new policy, updates to calendars, and custodial issues. Time for learning and collaboration is in short supply.

Concerns about the use of time in PLC meetings was mentioned by participants in the open sections of the survey, “all meetings repeatedly review schedules and upcoming events. I feel we are sacrificing learning time” “requirements to create lesson plans for the diocese to use in a shared bank are not the best way to use our school’s professional development time” and “time that is ear-marked for collaboration and learning, should be used for that – and only that.”

Qualitative data analysis revealed five themes: (a) supportive administration, (b) teachers as leaders, (c) shared vision, (d) we teach each other, and (e) teacher buy in. These themes noted that specific actions, by teachers and administrators, promoted the maturity of a school-based PLC. All interview participants indicated that collaboration was the most essential part of a PLC. A willingness by teachers to approach administrators and actively communicate about school related issues was an important component of the successful implementation of PLCs. Teachers who sought out and assumed leadership roles advanced PLC maturity through the initiation and implementation of school programming. Understanding and utilizing a shared vision to drive teaching and school programming unified the staff and enabled them to work toward a common goal. Teachers also reported that learning from one another other and the peer interaction demanded of successful collaboration was essential to ensure that PLCs were successful. Teachers also noted the need for the school staff to be invested in the PLC process and feel that their voices were heard.

Additionally, two divergent themes emerged from the data. These themes were (a) too many meetings, and (b) not used correctly. Interview participants and comments from

survey participants noted that some teachers in participating schools felt that collaborative time was lost due to numerous meetings and PLC time that was not properly used. Interviewees noted that scheduling meetings and creating agendas is often done by administrators. However, interviewees agreed that utilizing meeting norms and adhering to agenda items when participating in meetings – administrator or teacher led – was a practice that teachers must improve to increase the efficiency and enhance the maturity of PLCs.

Summary

The quantitative data analysis examined the perceptions of teachers in four Catholic schools to assess the maturity of their schools as PLCs. These perceptions were gathered used an electronic version of the PLCA-R that identifies the existence of practices, as well as the strength of those practices, that contribute to the development and sustainability of a school PLC (Olivier et al., 2009). Electronic data were analyzed for individual schools. Overall scores and scores for each PLC dimension were calculated using SPSS software. Descriptive statistics revealed the existence of practices that indicate the presence of a PLC in each school. However, the strength of those practices varied between various dimensions and individual schools. Based on the quantitative data analysis, the PLC dimensions of supportive conditions, shared and supportive leadership, and shared values and vision had the highest levels of maturity in most of the participating schools. Additionally, quantitative data analysis indicated the PLC dimension of shared personal practice had the lowest level of maturity in every school that participated in the study.

The demographic data for individual schools were also analyzed to determine whether significant differences in maturity existed in the five dimensions of PLCs compared to the age, years of experience, or grade level where a participant taught. However, I was not able to conduct a similar analysis of the demographic categories for age or religion due to the overwhelming number of participants that were female and Catholic. The lack of spread within these demographic categories made it impossible to interpret significant findings. While some demographic factors had significant findings within individual schools, no single demographic factor had a significant finding in all schools. The analyzed data from the quantitative phase gave direction to the qualitative phase.

The quantitative survey results and a semi-structured interview protocol were used to create questions for the qualitative data collection. Questions for interviewees were crafted to address the varying maturity levels for each PLC dimension at each individual schools. The qualitative data analysis examined data drawn from interviews teachers from the participating schools and comments taken from the open sections of the survey. Qualitative data were read thoroughly and a preliminary list of codes was created. Data were coded into individual meaning units and these were organized into sub-categories for each of the five PLC dimensions. The subcategories were examined for commonalities and to determine whether the meaning units were positive or negative. These like sub-categories were joined together to form themes. Supportive quotes from the interviews and comments from the surveys were used to illustrate the revealed themes from those units.

Five themes emerged from the qualitative data analysis. The themes were (a) supportive administration, (b) teachers as leaders, (c) shared vision, (d) we teach each other, and (e) teacher buy in. An examination of these themes revealed that specific actions promoted the maturity of a school-based PLC and collaboration between staff members was the most essential part of a PLC. Active communication between teachers and administrators was an important element in the successful implementation of PLCs. Teachers serving in leadership positions advanced PLC maturity and advanced the initiation and implementation of school programming. Using a shared vision unified school staffs and drove school programming while assisting staff members in working toward a common goal. The peer interaction essential for successful collaboration assisted teachers in learning from one another and promoted the practices that increase the maturity level of the school's PLC. Providing opportunities for teachers to voice concerns and suggestions for improvement increased their feelings of investment in the PLC process.

Two divergent themes also emerged from the data. These were (a) too many meetings, and (b) not used correctly. Participants noted that some teachers felt collaborative time was lost due to frequent meetings and failure to use PLC properly. While scheduling meetings and creating agendas is often done by administrators, teachers noted that utilizing meeting norms and adhering to agenda items at meetings was a practice that would assist teachers increase the efficiency and enhance the maturity of PLCs.

In this section, I presented the results of my study that addressed the quantitative and qualitative research questions. My interpretation of these findings, implications for social change, recommendations for further action and study are discussed in the next section. Additionally, the next section contains a reflection of my experience as the researcher of this study.

Section 5: Discussion, Conclusions, and Recommendations

Overview

PLCs have the potential to improve instructional practices and positively influence student learning (DuFour, 2007; DuFour, DuFour, Eaker, & Many, 2006; Graham, 2007; Hord, 1997; Zimmerman, 2006). Yet, the literature on this topic indicated the task of implementing and sustaining a school-based PLC is hindered by a variety of issues (DuFour, 2007; DuFour, DuFour, Eaker, & Many, 2006; Graham, 2007; Hord, 1997; Zimmerman, 2006). Although, the faculty and administration in many schools believe their schools are operating as a PLC, most do not meet the operational criteria required of a learning community and lack the structures necessary to improve instructional practices essential to sustain PLC growth and increase maturity (DuFour, 2007; Olivier et al., 2009).

The purpose of this study was to assess the level of PLC maturity in select Catholic elementary (K–8) schools in the state of Missouri and investigate specific actions that influenced teachers' perceptions of PLC maturity. Past studies on PLC maturity examined the differences in perceptions between teacher and administrators regarding PLC implementation or examined the perceptions of teachers in foreign schools regarding PLC implementation in their culture. At the time of the study, the literature contained no studies that have examined the perceptions of teachers regarding PLC maturity in Catholic schools. This study attempted to address this gap in the literature.

Using an explanatory, sequential, mixed methods research design, I collected quantitative data through an online version of the PLCA-R survey. Forty-two teachers from four Catholic elementary schools (K-8) in a Midwestern diocese completed the survey that assessed the maturity of a school's PLC by determining the strength of practices within each of the five PLC dimensions. Quantitative data were analyzed by conducting descriptive statistics to report the central tendency and spread of the PLC dimensions of the PLCA-R survey. Mean and standard deviation were calculated on a school-by-school basis. Additionally, I conducted independent sample *t* tests and a series of ANOVAs to determine whether significant differences existed in the five dimensions of PLCs by the various demographic categories.

I also conducted qualitative interviews with teachers from participating schools in order to explore the perceptions gathered by the quantitative survey in greater detail. The interviews and comments taken from the open sections of the survey provided a rich interpretation of the teachers' perceptions of PLC maturity within their schools. Using the quantitative survey results and a semistructured interview protocol, questions for interviewees were framed to address the varying maturity levels for each PLC dimension at each individual school. Data from those qualitative interviews were analyzed using an interpretive approach and examined the perceptions of each interviewee and assessed the commonalities between each interview.

In Section 4, I presented the results of my study that addressed the quantitative and qualitative research questions. I noted that not all schools exhibited the same degree of maturity in the practices required of a fully functioning PLC. The PLC dimensions of

supportive conditions, shared and supportive leadership, and shared values and vision had the highest levels of maturity in most of the participating schools. The PLC dimension of shared personal practice had the lowest level of maturity in every school that participated in the study. Five themes emerged from the qualitative interviews. These emergent themes were noted as practices that promoted participant perceptions of PLC maturity level in the participating schools: (a) supportive administration, (b) teachers as leaders, (c) shared vision, (d) peer teaching, and (e) teacher buy in. Additionally, two divergent themes indicated existing issues within participating schools that negatively influenced participant perceptions of the PLC process. The divergent themes were: (a) too many meetings and (b) PLCs not used properly.

Interpretation of Findings

Data from the PLCA-R survey confirmed the presence of a school-based PLC in each of the participating schools. However, not all schools exhibited the same degree of maturity in the practices required of a fully functioning PLC. As indicated in Table 6, the mean scores for the five PLC varied between schools. The mean scores in the PLC dimensions of shared and supportive leadership, shared values and vision, collective learning and application, shared personal practice, and supportive conditions for each participating school were reported in Table 6.

Dimension: Shared and Supportive Leadership

Within a PLC, the dimension of shared and supportive leadership requires that administrators participate democratically with staff members, sharing power, authority, and decision making to bring about positive changes in the school (Wei, Darling-

Hammond, Andree, Richardson & Orphanos, 2009). With a mean score of 3.15 (Table 6), School D had the highest degree of maturity in the dimension of shared and supportive leadership. A possible explanation for this finding can be found in the interviews. Participants from School D noted that administrator and teacher leadership are a strength in their school. Moreover, I noted that teachers are strongly supported and encouraged to take leadership positions when implementing programming initiatives. Promoting teacher capacity through structured collaboration enhances teaching and learning, as well as ensuring continuous school improvement (Hord & Sommers, 2008; Owen, 2014; Stoll, 2011).

As indicated by Table 6, School A had a mean score of 2.92 and School B had a mean score of 2.77. These were the highest mean scores in this dimension among the schools in the study. Although School A had experienced a high degree of staff turnover since implementing PLCs and School B was in the first year of PLC implementation, interview participants in School A and School B noted that the administrators and teacher leaders from their schools responded quickly to their concerns and allowed them to voice dissenting opinions without fear of reprisal. These actions by administrators and teachers may explain the higher level of maturity in this dimension for School A and School B. Engaging in dialogue with leadership to reach consensus or compromise was a common practice in both schools, according to teacher participants. Additionally, participants at both schools noted the ongoing efforts by administrators to increase opportunities for teacher leadership. Kruse, Louis, and Bryk (1994) noted that collaborative culture thrives

in schools when individually held knowledge is valued and schools utilize dialogue and reflection to solve problems.

School C had the lowest mean score of 2.49 (Table 6) which indicates they have the lowest degree of maturity among the participating schools in this PLC dimension. An explanation for this low score can be found in the comments from the PLCA-R survey where teachers from School C noted that administrators focused on procedural requirements and offered little support for the enhanced collaboration or growth of teachers' instructional practice. Darling-Hammond (1994) noted that administrative bureaucracy did little to transform schools and often stifled teachers' ability to make instructional decisions based on their own understanding of teaching and learning. Teachers in School C also noted that even though they were afforded a great deal of autonomy, few opportunities existed for teachers to take a leadership role within the school. Shared leadership is essential to school improvement (Gray, Mitchell, & Tarter, 2014). Walstrom and Louis (2008) noted the significant effects on the quality of teachers' instructional practice when they are permitted to make instructional decisions and share their instructional leadership with school administrators.

Dimension: Shared Values and Vision

Within a PLC, the dimension of shared values and vision requires that schools develop a shared set of values and a shared vision that is an unwavering commitment to student learning and are consistently articulated and referenced in the work of the staff. This shared vision serves to illustrate what is important to the school and drives the formation of policies, procedures, and strategies (Hord & Sommers, 2008).

School D had the highest degree of maturity in the dimension of shared values and vision with a mean score of 3.2 (Table 6). Hipp and Huffman (2010) stressed that a shared vision, developed by stakeholders, creates a collective sense of responsibility and acts as an impetus for change. One interview participant from School D offered an explanation for this pattern. They noted that the school's vision statement was used as the basis for decision making within the school. School D's vision statement was created by and regularly reviewed by the staff.

School A had a mean score of 3.03 (Table 6) in the dimension of shared values and vision. Participants in School A provided a possible explanation for the high mean score in this dimension. They noted that efforts were made at all grade levels to blend the vision statement into daily lessons and classroom discussions. A shared vision, used to guide teacher collaboration, provides support for their daily efforts and protects them from external interference (Printy, 2008). As shown in Table 6, School B had a mean score of 2.62 and School C had a mean score of 2.59. In interviews, teachers from both School B and School C stated that their schools have a posted vision statement that is periodically reviewed. But, unlike School A, the vision statement in these schools is not used to guide teacher collaboration or lesson planning, which may have resulted in this medium level of PLC maturity.

Interview participants in all schools mentioned the similarities between vision statements found in most Catholic schools. These vision statements often contain elements that note the importance of integrating a student's Catholic faith with their

educational experience. In this study, the dimension of shared values and vision has the highest overall means scores among the four participating schools.

Dimension: Collective Learning and Application

Within a PLC, collective learning and application requires teachers to work collaboratively to gain knowledge, skills, and strategies in order to determine common practices and content knowledge necessary to effectively teach students (Hord & Sommers, 2008). With a mean score of 3.13 (Table 6), School A had the highest degree of maturity in the dimension of collective learning and application. Teachers in school environments with a high degree of collaboration often change their classroom practices to positively impact teacher capacity and student achievement (Stoll et al., 2006). An interviewee from School A explained that regularly scheduled times to collaborate with peers, both grade level and school wide, assisted teachers in identifying and focusing on their professional development needs.

With a staff of 12 teachers, School D was the smallest school that participated in the study. School D had a mean score of 3.07 (Table 6) in the dimension of collective learning and application. Participants from School D, in interviews and survey comments, provided a possible explanation for this high level of maturity. Participants explained that practices associated with collective learning, such as teachers planning and working together to develop solutions to address student needs and a continued analysis of student work to improve teaching and learning were vital to providing quality instruction for their diverse student population. Using data derived from student work to develop

differentiated lessons is accomplished when teachers employ collective learning and application (Louis, 2008; Stoll, 2011).

Having just completed their exploratory year of PLC implementation, School B had a mean score of 2.64 (Table 6) in the dimension of collective learning and application. This mean score reflected a medium level of PLC maturity in this dimension. However, interview participants attributed the maturity of this dimension after just one year to the creation of the school's professional development team. This team was established to assist each teacher in developing an individualized plan for professional development, as well as pairing them with peers best suited to provide them with resources and mentoring. Interview participants explained that this highly differentiated approach to professional development has invigorated teacher learning at all levels and the full implementation of PLCs planned for the upcoming school year is highly anticipated.

School C had a mean score of 2.57 (Table 6) in the dimension of collective learning and application. While this mean score reflects a medium level of maturity in this dimension, participants from School C expressed concerns about specific practices within this dimension in their survey comments. Participants explained that collective learning practices are inconsistent between grade levels and professional development lacks a schoolwide focus. In order to build a sustained collaborative practice among teachers, administrators must stress the idea that PLCs can serve as an impetus for change that is essential for school improvement (Hord, 1997). Furthermore, researchers have

confirmed that actions by administrators influence the depth to which collaborative practices between teachers are embedded (Thornton & Cherrington, 2014).

Dimension: Shared Personal Practice

In this study, the shared personal practice dimension had the lowest overall mean scores among all participating schools. Shared personal practice involves the review of teacher behaviors by peers to obtain feedback and improve individual and community teaching practices (Louis & Kruse, 1995). This review of a peer's instructional practice and work product is the norm within a PLC.

School D had the highest degree of maturity in this dimension with a mean score of 2.78 (Table 6). While high for this study, this mean score reflects a lower level of maturity in this PLC dimension. Interview participants and survey comments explained that reviewing student work and making suggestions to improve learning for specific students was a shared practice that participants from School D regularly used. However, participants further explained that opportunities for observation, coaching and mentoring of peers were limited. Providing members of an organization with time to participate in collaborative activities, creates an environment that values collective learning and the practices essential to sustain PLCs (Wenger, 1998).

With a mean score of 2.62 (Table 6), School B had a lower level of maturity in this PLC dimension. Interview participants noted that a focus on practices to promote maturity in this dimension will continue as School B enters the second year of their PLC implementation. Interview participants explained that a regular schedule of peer observations has been implemented to promote shared personal practice between staff

members. These peer observations include providing feedback on instructional practice. The deprivitiation of practice between peers provides teachers with a continuous cycle of reflection focused on the learning and progress of each individual student (Hipp & Huffman; 2010; Hord & Sommers, 2008; Louis & Kruse, 1995).

As indicated in Table 6, School A had a mean score of 2.6 and School C had the lowest degree of maturity among the participating schools in this PLC dimension, with a mean score of 2.45. In School A and School C, participants stated the shared personal practice only occurs in grade level teams that initiate themselves. The lack of expectation for teachers to engage in activities that promote a shared practice among peers may explain the data results.

Dimension: Supportive Conditions

Within a PLC, supportive conditions include both human and structural capacities that support collective learning and a collegial atmosphere (Hord, 1997). With a mean score of 2.91 (Table 6), School D had the highest mean score in this dimension among the participating schools. While this mean score does not reflect a high degree of maturity in this dimension, interview and survey participants from School D felt that the small size of their school staff encouraged and promoted closeness and a sense of family among teachers and support staff. However, teachers further explained that budget constraints for this small school negatively impacts fiscal resources that provided professional development and the ability to purchase essential instructional materials. When teachers' have opportunities for peer collaboration, they are able to learn collectively (Little, 1982).

Collective learning that allows them to learn new skills and methods from peers is particularly important in a school with limited financial resources (Stewart, 2014).

As shown in Table 6, School A had a mean score of 2.89 and School B had a mean score of 2.85. School B was in its initial year of PLC implementation. School A implemented PLCs more than 5 years ago. This medium level of maturity in this PLC dimension indicated that some systems are in place that promote collaborative practices in both schools. Regularly scheduled meetings designated for collaborative work and a system of communication designed to promote communication between all levels within the school, are attributes that interview and survey participants from School A and School B noted as beneficial to the growth of PLCs in their school buildings. Additionally, participants from both schools mentioned relationships with colleagues that were warm and supportive. All participants from these schools felt that their schools were safe places to collaborate and share ideas. Interview participants in School B explained that these systems are being continually reviewed to ensure that they fully support collaborative practice and teacher development. However, an interview participant from School A could not recall a review of the school's support systems having been conducted since the implementation of PLCs. This lack of review may explain why this dimension has not moved past this lower level of maturity.

School C had the lowest mean score of 2.69, which indicates they have the lowest degree of maturity among the participating schools in this PLC dimension. Possible explanations can be found in the survey comments. Survey participants from School C noted that there was little communication between the various grade levels and teachers

were often unaware with what was happening in other grade levels. Rosenholtz (1989) observed that teacher quality and student achievement were enhanced in organizations where collaborative teacher networks exit.

In each of the participating schools, teachers noted that excessive meetings or meetings with lengthy agendas infringed upon their scheduled collaborative time. A common complaint among participating teachers was the belief that many agenda items could be communicated to staff members via e-mail, thereby freeing up time for teachers to work with peers. Another complaint voiced by participants at every school participating in the study, PLC time was often not used properly. Participants noted that they are routinely tasked with responsibilities unrelated to instruction during their PLC time. Participants felt that PLC time should be safeguarded to ensure continued growth in instruction and student progress.

PLC Maturity of Individual Schools

The maturity levels in each of the five PLC dimensions varied among the four participating schools. In interviews and survey comments, teachers attempted to explain the practices within their schools that negatively or positively impacted the maturity of each dimension. An examination of PLC maturity by individual school follows.

School A. The PLC practices, as demonstrated by mean scores in each of the PLC dimensions, at School A were not as mature as those found at School D. However, School A's mean score of 3.13 (Table 6) in the dimension of collective learning and application exceeded School D's score of 3.07 (Table 6). Hord and Sommers (2008) noted the importance of teachers working collectively to determine what common

practices and content knowledge were necessary to effectively teach current students. In order to apply this collective knowledge essential for student success, changes to a teacher's classroom practices must be made (Stoll, 2011).

The teachers in School A used their regularly scheduled PLC time to review student data and student work product in order to identify weaknesses in areas of the curriculum or instructional practice and create a plan for address these deficiencies. The use of peer observations provided support for the teachers in School A while they applied and honed changes to their instructional practice. School A ranked second in overall PLC maturity for the schools in this study.

School B. The mean scores in the five PLC dimensions at School B were in close proximity to each other, ranging from 2.65 to 2.85 (Table 6). This indicates that the level of maturity between the various dimensions is similar and no single dimension greatly exceeds the maturity of the others. School B had the narrowest range of means between the various dimensions for all schools that participated in the study. Hord (2004) noted that although many schools practiced the dimensions of a PLC to some degree, most failed to fully implement or refine all the dimensions within the model. Hord and Sommers (2007) explained that none of the dimensions of a PLC are mutually exclusive and the exclusion of any part of the model will significantly affect a school's ability to transform into a fully functioning PLC.

School B's PLC was in its initial year of a school-wide implementation. An environment that values competence and performance for its teachers, School B's administrative team is clear in its expectation that all staff members will contribute to the

continued growth and improvement of the school. Administrators and teacher leaders thoughtfully planned an implementation that encouraged teacher buy in and stressed the importance of innovative practices. By focusing on all PLC dimensions, teachers in School B were able to see the "big picture" and become part of the change in a way that was important to them. School B's mean scores (Table 6) indicate that their PLC is slightly more mature than School C's PLC. School B ranked third in overall PLC maturity for the schools in this study.

School C. School C's mean score of 2.59 (Table 6) in the dimension of shared values and vision was one of their highest scores. However, this was the lowest mean in this dimension for all schools that participated in the study. Printy (2008) noted that the creation of a shared school vision served to guide teacher collaboration, provide support for their daily efforts, and protect them from external interference. However, Lunenburg (2010) and Reeves (2009) cautioned that a vision declared by a current administrator or entities outside the school are reliant upon those parties to be implemented and often fail to move the organization forward beyond the tenure of those parties.

Failure to consistently review the school's vision statement and to state clear expectations for the use of scheduled PLC time had created an environment where teachers were unsure how to direct their collaborative efforts. Many teachers believed that collaboration was optional and participation was at the teacher's discretion. Without a clear and consistent plan to drive improvement efforts, previous gains made in establishing a school-based PLC have deteriorated.

In addition to a low mean score in the dimension of shared values and vision, School C's mean score of 2.45 (Table 6) was the lowest score in the dimension of shared personal practice for all participating schools. Based on this comparison of mean scores for all participating schools, the attributes and practices that determine the existence of a PLC within a school are least evident in the School C. This would indicate that School C's PLC is the least mature of all schools that participated in the study.

School D. In this study, School D had the highest mean scores (Table 6) in four of the five PLC dimensions. The collaborative environment in School D encouraged teachers to assume leadership roles and take the initiative in school improvement efforts. Walstrom and Louis (2008) noted that when teachers are permitted to make decisions about instruction and share their instructional leadership with school administrators there is a significant effect on the quality of teachers' instructional practice. Based on this comparison of mean scores for all participating schools, the attributes and practices that determine the existence of a PLC within a school are most evident in the School D. This would indicate that School D's PLC is the most mature of all schools that participated in the study.

Data derived from the qualitative interviews helps to explain some of the differences between the individual mean scores in the PLC dimensions among the participating schools. The difference between Schools D and A in the dimension of collective learning and application appears to be largely the result of school size. As the smallest school in the study, School D has a mean score of 3.07 (Table 6). School A, with a mean score of 3.13 (Table 6), was the largest school in the study. Opportunities for

collective learning were more abundant at School A due to the size of the faculty and the number of teachers teaching on the same grade level or teaching similar material. As a small school, School D typically has only one teacher at each grade level and teachers at the junior high level taught multiple subjects at various grade levels but did not have a peer that was teaching the same subject matter.

The difference between Schools D's mean score of 3.20 (Table 6) and School C's mean score of 2.59 (Table 6) in the dimension of shared values and vision illustrated the importance of using a shared school vision to guide collaboration and drive school improvement efforts. Teachers from School D noted the use of their school's shared vision in their decision-making, curriculum programming, and school communication. Additionally, an interviewee from School D explained how the annual review and revision of the school's vision statement provided faculty members with an opportunity to reflect on how this shared vision aligned with other school policies and procedures. Dissimilarity, interviewees from School C noted the vision statement at their school was typically reviewed by committee members that oversee the school's accreditation process; a process that takes place every 5 years. Additionally, interviewees from school C noted that while their vision was provided to new teachers and was posted throughout the building, it was not routinely used to guide school practices.

The difference between School D's mean score of 3.15 (Table 6) and School B's mean score of 2.77 (Tale 6) in the dimension of shared and supportive leadership show the importance of school administrators and teacher leaders working together to promote collaborative practices in the school. School D's small staff overcame scheduling and

funding issues to provide training opportunities for their teachers using PLCs. Interview participants from School D noted the shared leadership demonstrated by the school's administrator and teachers has allowed those collaborative practices to flourish. School B, in its initial year of PLC implementation, contributed their school successes in collaboration to the willingness of teachers' to assume leadership roles and to an administrative team that encourages teacher innovation.

Demographics of Participating Schools and Dimensions

During analysis of the quantitative data, additional analysis of the demographic data were conducted to explore whether significant differences existed between the various demographic factors and specific PLC dimensions in participating schools. Independent sample *t* tests, and a series of ANOVAs were conducted to determine whether significant differences existed due to age, grade level taught, and years of teaching experience. The results of those analyses are shown in Tables 7 – 25. Due to the small sample size within each of the participating schools, it was not possible to conduct this type of analysis for the factors of gender or religion because the participants were predominantly Catholic and female. Although analysis of demographic data did result in significant differences in the demographic factors in some schools, no single demographic factor had a significant difference in all schools.

The qualitative data provides little explanation for the significant differences that exist due to age and years of teaching experience in School A and School D. However, both schools are among the smallest in the study, with staffs of less than 20 teachers. Further research that explores the impact of staff size on PLC maturity may be warranted.

Implications for Social Change

This study used the perceptions of teachers to examine PLC maturity in Catholic schools and explored specific practices that promote the collaboration essential to PLC growth. These findings confirm and support the assertions of leading PLC theorists that the collaborative practices of a school-based PLC can enhance teacher quality, improve student performance, and assist in the achievement of school improvement goals. (DuFour, DuFour, Eaker, & Many, 2006; Hipp & Huffman, 2004; Hord, 1997; Senge, Cambron-McCabe, Lucas, Smith, Dutton, & Kliener, 2000).

Currently, there is great demand for increased accountability and continued growth in student achievement. These demands make teacher performance critical for stakeholder satisfaction in Catholic schools. The findings in this study provide opportunities for administrative action, teacher leadership, planning for successful implementation and continued growth of collaborative practices, and obstacles and consequences to avoid. These opportunities will assist Catholic school faculties and the faculties of other private schools that used PLCs to provide educational resources and professional development opportunities for their staff members. Increased stakeholder satisfaction drives the financial support and sustained enrollment that is essential to the success of Catholic schools, especially those schools that serve low-income, urban populations.

Catholic educators are now equipped with first-hand accounts of the factors that impede or promote effective collaboration between staff members, as well as the policies and procedures that lead to the successful management of PLC activities within a school.

Administrators are now provided with insights regarding the day-to-day experiences of school stakeholders working in a school-based PLC. As a result, periodic reviews that examines the maturity of PLC practices can be instituted to ensure that all facility members are working collaboratively with their peers to improve daily instructional practice. These improved practices will enhance the professional growth of staff members and improve learning for both teachers and students in Catholic schools. Teachers are now aware of the ways that a PLC assists in providing their students with an education that is academically challenging and aligned with the principles of their Catholic faith. They can respond by developing curriculum, instruction, and assessment with the degree of rigor essential to combat the decline in enrollment and perceived lack of excellence that has plagued many Catholic Schools for several decades.

Morever, this study further fills the gap in current literature by contributing to the body of knowledge that considers the perceptions of teachers in determining whether the critical attributes of a PLC are operational within their schools. Furthermore, they can work collaboratively with their peers to improve daily instructional practices that will enhance the professional growth of staff members and improve learning for both teachers and students in both Catholic and private schools. This study contributes to the literature addressing improvement initiatives and the use of PLCs in Catholic schools.

Recommendations for Action

Based on the results of this study and the review of literature used for the study, the following are recommendations for action. All teachers interviewed for this study stated that additional training in the use and implementation of PLCs would be beneficial

to their instructional practice. Additional training, for both administrators and teachers, would ensure that each staff member would possess working knowledge of a particular PLC model, fully understand the practices essential for each PLC dimensions, and recognize the benefits a fully functioning PLC provides to enhance instructional practice and improve student learning.

Although the sample was considered small in this study, the interview and survey data provided feedback to indicate that school faculties could benefit from a professional development program. In order for a professional development program to be effective, it must be ongoing and embedded with the context specific needs for each particular school. Additionally, professional development must be aligned with current school improvement goals, and grounded in an inquiry-based, collaborative learning approach.

Continued growth in the specific educational practices that support PLC maturity cannot take place if efforts are not made to address staff turnover and training for new personnel. The implementation of mentorships for newly hired teachers ensures that those teachers have access to assistance and a knowledge base about the correct use of PLCs and collaborative practices. This will allow the more experienced members of the school staff to facilitate change and assume leadership within the school.

Frustrations can be reduced and productivity increased if the scheduling issues expressed by teachers in every participating school are addressed. A thorough examination of the types of activities that should be taking place during PLC time and enhanced efforts made to safeguard that dedicated time would prevent it from becoming a catch-all for any and all other activities and issues. Additionally, the creation and

adherence to meeting norms at all levels will assist administrators and teachers in holding themselves and their peers accountable for the use of time and the appropriateness of activities that are addressed during PLC time. Finally, in order to ensure the success and continued maturity of school-based PLCs, a system to assess and measure the implementation of instructional practices must be established. By creating a baseline of the current maturity level and reassessing it every year, school leadership will be able to determine whether practices are being implemented, training for new employees is effective, adjustment of schedules, establishment of norms, and need for additional professional development training is necessary.

In order to advance educational practices that support the implementation and growth of PLC maturity, I plan to share the findings of this study with educational leaders working in Catholic schools. I will attempt to publish the findings in the Journal of Catholic Education or the National Catholic Education Association's (NCEA) Momentum Journal. I will also attempt to present this research at an NCEA Annual Conference or the Catholic School Leadership Institute.

Recommendations for Further Study

The current study examined the perceptions of teachers regarding the maturity of PLCs in four Catholic schools. It was determined that shared vision and supportive leadership are two areas where the structure of Catholic schools compliment the PLC structure (Salina & Traynor, 2009). However, I noted that shared personal practice is an area that needs additional training and development if schools are to fully recognize the benefits of these collaborative communities. Therefore, I recommend that this study be

replicated in another diocese where the implementation of PLCs has begun in a greater number of schools in order to determine if these issues could be found in a larger population where the size of the teaching staffs and stages of implementation are varied.

It would be beneficial to examine the progress made by both private and public schools that have received various types of PLC training. This type of examination would provide insight for administrators and teacher leaders seeking to implement PLCs in their own schools. Additionally, it would assist school leaders in determining what may work for their particular school.

The final recommendation for this study pertains to the need for research that measures how PLCs used in Catholic schools influence student learning outcomes. The student population in Catholic schools today is more diverse and contains a greater number of students with special needs than ever before. Therefore, this increasingly diverse student population would benefit from the development of a collaborative culture in schools that allows teachers to address the specific learning styles of their students.

This study revealed some topics that require a closer examination with a new round of questions. These include an examination of PLC maturity in schools where both teachers and administrators received training. This examination would allow a researcher to determine whether those schools have a higher level of PLC maturity than schools where only teachers were trained. An examination of the varying levels of maturity in school-based PLCs implemented as part of a diocesan wide initiative would permit a researcher to determine whether implementation on a larger scale impacts the implementation and increasing maturity of PLCs. Additionally, an examination of PLC

maturity in both small and large schools would determine whether the size of the teaching staff impacts PLC maturity.

Reflections on the Researcher's Experience

As a former Catholic school administrator, I have experienced firsthand the difficulty in obtaining and providing professional development opportunities that adequately addressed the varied needs of my staff. I have witnessed the frustration of teachers that do not possess the instructional skills to provide the differentiated instruction their students require. However, I have also seen teachers working collaboratively with peers to obtain the skills necessary to improve their practice and provide instruction that meets their students' needs. I believe instructional practices and student outcomes can be improved through the collaborative actions of a professional learning community.

This study took me to four schools with faculties and student populations that differed significantly from one another. I had the opportunity to meet with and learn from teachers who believe in and are committed to Catholic education and the success of Catholic schools. A desire to improve their instructional practice and assist students in achieving academic success was the goal of the teachers that participated in this study. During the interviews, teachers expressed praise and concern for their students, peers, and administrators. They told stories about the willingness of co-workers to assist them in planning lessons, gathering data, improving behavior management, and learning new classroom technologies. There were concerns and questions about trying to do "just one more thing" in an already overloaded schedule.

Some teachers that participated in this study expressed concerns that they were inadequately prepared to offer suggestions about a peer's instruction or to discuss student data with their team. The issue of training was mentioned in every interview. The study showed a need for training so that teachers were not only able to fully understand the dynamics of PLCs but also to determine whether they were correctly utilizing PLC time. Additionally, teachers expressed a desire for their administrators to receive training so that building routines, schedules, and evaluations were aligned with PLC practices.

Prior to conducting this research study, I held the firm opinion that the successful implementation and continuing maturity of a school-based PLC contributes to the achievement of school-wide goals. It was for this reason that I initiated the implementation of PLCs in my former school. During the data collection for this research study, I was careful not to share this opinion with interview participants and made every effort to ensure objectivity in the collection, interpretation, and analysis of data. While my opinion has not changed, I feel that I have a gained a greater understanding of the challenges that schools face in their efforts to initiate and sustain a PLC. The work of collaboration is demanding. Building structures to support collaboration can be difficult. However, I continue to believe that students and teachers will benefit greatly from these collaborative efforts.

Conclusion

In this study, I investigated the perceptions of teachers working in Catholic schools where a school-based PLC has been implemented or is in the process of being implemented. The quantitative survey data revealed the dimensions of shared leadership

and shared vision and values were the most mature dimensions found in the majority of the schools that participated in this study. The quantitative data also revealed the dimension of shared personal practice was the least mature dimension in all participating schools. The interviews conducted for the qualitative phase of this study allowed for a thorough examination of the data collected during the quantitative data. These qualitative interviews revealed that teachers believe the collaborative structure of the PLC has the ability to enhance instructional practices and improve student learning. Teachers reported a lack of training related to PLC practices and the negative impact that excessive meetings had on scheduled collaborative time with peers. There appeared to be a need for instruction on the development and use of norms to safeguard scheduled PLC time. This study's findings pointed out that regular assessment of collaborative practices within a PLC were essential for the teaching staff, but also for principals in order to evaluate the process. This would require an annual assessment of instructional and collaborative practices within the school. These changes are needed to ensure the continued successful implementation and growth in maturity for the school-based PLCs.

The participants in this study shared their perceptions on the maturity of PLCs based on personal experiences in the participating schools. These perceptions were reflected in surveys and individual interviews. During the interviews, the teachers appeared to be direct and open in their responses. These responses indicated an awareness of the issues that are negatively affecting Catholic schools at the current time. This study addressed only issues related to the implementation of PLCs in Catholic schools. However, providing students in Catholic schools with a quality education in a time when

funds for professional development and opportunities for additional training are declining will continue to be a problem (Borrero, 2010; Kallemeyn, 2009). In order to battle declining enrollment in Catholic schools due to public perceptions of a lack of educational excellence, administrators at the diocesan level and school level must work to improve instructional practices that have a direct impact on the academic performance of students. Additionally, the development of collaborative practices within Catholic schools will assist with teachers' feelings of isolation and reduce teacher turnover (Morel, 2014). Moreover, ongoing collaboration among teachers allows for an examination of instructional practices and student performance data that will enhance teachers' ability to identify and address academic issues for every student. Identifying effective instructional practices leading to the full implementation of a school-based PLC can promote improved learning for teachers and students in Catholic schools.

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Appendix A: Instrument Use Permission Letter

UNIVERSITY OF LOUISIANA
Lafayette

Department of Educational Foundations
and Leadership
P.O. Box 43091
Lafayette, LA 70504-3091

June 30, 2014

Jane-Marie Koelsch
[redacted]

Dear Ms. Koelsch:

This correspondence is to grant permission to utilize the *Professional Learning Community Assessment-Revised* (PLCA-R) as your instrument for data collection for your doctoral study through Walden University. I believe your research *assessing the level of professional learning community maturity in select Catholic elementary schools* will contribute to the PLC literature, as well as provide valuable information to Catholic schools. I am pleased that you are interested in using the PLCA-R measure in your research.

This permission letter allows use of the PLCA-R through paper/pencil administration, as well as permission for the PLCA-R online version. For administration of the PLCA-R online version, services must be secured through our online host, SEDL in Austin, TX. Additional information for online administration can be found at www.sedl.org. While this letter provides permission to use the measure in your study, authorship of the measure will remain as Olivier, Hipp, and Huffman (exact citation on the following page). This permission does not allow renaming the measure or claiming authorship.

Upon completion of your study, I would be interested in learning about your entire study and would welcome the opportunity to receive an electronic version of your completed dissertation research.

Thank you for your interest in our research and measure for assessing professional learning community attributes within schools. Should you require any additional information, please feel free to contact me.

Sincerely,

Dianne F. Olivier

Appendix B: PLCA-R

Professional Learning Communities Assessment – Revised

Note: Survey is delivered via an online survey tool. The questions appear as below, with a radio button used to select a response.

Directions:
This questionnaire assesses your perceptions about your principal, staff, and stakeholders based on the dimensions of a professional learning community (PLC) and related attributes. This questionnaire contains a number of statements about practices which occur in some schools. Read each statement and then use the scale below to select the scale point that best reflects your personal degree of agreement with the statement. Shade the appropriate oval provided to the right of each statement. Be certain to select only one response for each statement. Comments after each dimension section are optional.

Key Terms:
Principal = Principal, not Associate or Assistant Principal
Staff/Staff Members = All adult staff directly associated with curriculum, instruction, and assessment of students
Stakeholders = Parents and community members

Scale: 1 = Strongly Disagree (SD)
2 = Disagree (D)
3 = Agree (A)
4 = Strongly Agree (SA)

	STATEMENTS	SCALE			
	Shared and Supportive Leadership	S D	D	A	S A
1.	Staff members are consistently involved in discussing and making decisions about most school issues.	0	0	0	0
2.	The principal incorporates advice from staff members to make decisions.	0	0	0	0
3.	Staff members have accessibility to key information.	0	0	0	0
4.	The principal is proactive and addresses areas where support is needed.	0	0	0	0
5.	Opportunities are provided for staff members to initiate change.	0	0	0	0
6.	The principal shares responsibility and rewards for innovative actions.	0	0	0	0
7.	The principal participates democratically with staff sharing	0	0	0	0

	power and authority.				
8.	Leadership is promoted and nurtured among staff members.	0	0	0	0
9.	Decision-making takes place through committees and communication across grade and subject areas.	0	0	' 0	0
10.	Stakeholders assume shared responsibility and accountability for student learning without evidence of imposed power and authority.	0	0	0	0
11.	Staff members use multiple sources of data to make decisions about teaching and learning.	0	0	0	0
COMMENTS:					
	STATEMENTS	SCALE			
	Shared Values and Vision	S D	D	A	S A
12.	A collaborative process exists for developing a shared sense of values among staff.	0	0	0	0
13.	Shared values support norms of behavior that guide decisions about teaching and learning.	0	0	0	0
14.	Staff members share visions for school improvement that have undeviating focus on student learning.	0	0	0	0
15.	Decisions are made in alignment with the school's values and vision.	0	0	0	0
16.	A collaborative process exists for developing a shared vision among staff.	0	0	0	0
17.	School goals focus on student learning beyond test scores and grades.	0	0	0	0
18.	Policies and programs are aligned to the school's vision.	0	0	0	0
19.	Stakeholders are actively involved in creating high expectations that serve to increase student achievement.	0	0	0	0
20.	Data are used to prioritize actions to reach a shared vision.	0	0	0	0
COMMENTS:					
	STATEMENTS	SCALE			
	.	S			S
	Collective Learning and Application	D	D	A	A
21.	Staff members work together to seek knowledge, skills and strategies and apply this new learning to their work.	0	0	0	0
22.	Collegial relationships exist among staff members that reflect commitment to school improvement efforts.	0	0	0	0

23.	Staff members plan and work together to search for solutions to address diverse student needs.	0	0	0	0
24.	A variety of opportunities and structures exist for collective learning through open dialogue.	0	0	0	0
25.	Staff members engage in dialogue that reflects a respect for diverse ideas that lead to continued inquiry.	0	0	0	0
26.	Professional development focuses on teaching and learning.	0	0	0	0
27.	School staff members and stakeholders learn together and apply new knowledge to solve problems.	0	0	0	0
28.	School staff members are committed to programs that enhance learning.	0	0	0	0
29.	Staff members collaboratively analyze multiple sources of data to assess the effectiveness of instructional practices.	0	0	0	0
30.	Staff members collaboratively analyze student work to improve teaching and learning.	0	0	0	0
COMMENTS:					
	STATEMENTS	SCALE			
	Shared Personal Practice	S D	D	A	S D A
31.	Opportunities exist for staff members to observe peers and offer encouragement.	0	0	0	0
32.	Staff members provide feedback to peers related to instructional practices.	0	0	0	0
33.	Staff members informally share ideas and suggestions for improving student learning.	0	0	0	0
34.	Staff members collaboratively review student work to share and improve instructional practices.	0	0	0	0
35.	Opportunities exist for coaching and mentoring.	0	0	0	0
36.	Individuals and teams have the opportunity to apply learning and share the results of their practices.	0	0	0	0
37.	Staff members regularly share student work to guide overall school improvement.	0	0	0	0
	-				
COMMENTS:					
	STATEMENTS	SCALE			
	Supportive Conditions - Relationships	S	D	A	S

		D			A
38.	Caring relationships exist among staff and students that are built on trust and respect.	0	0	0	0
39.	A culture of trust and respect exists for taking risks.	0	0	0	0
40.	Outstanding achievement is recognized and celebrated regularly in our school.	0	0	0	0
41.	School staff and stakeholders exhibit a sustained and unified effort to embed change into the culture of the school.	0	0	0	0
42.	Relationships among staff members support honest and respectful examination of data to enhance teaching and learning.	0	0	0	0
COMMENTS:					

	STATEMENTS	SCALE			
	Supportive Conditions – Structures	S D	D	A	S A
43.	Time is provided to facilitate collaborative work.	0	0	0	0
44.	The school schedule promotes collective learning and shared practice.	0	0	0	0
45.	Fiscal resources are available for professional development.	0	0	0	0
46.	Appropriate technology and instructional materials are available to staff.	0	0	0	0
47.	Resource people provide expertise and support for continuous learning.	0	0	0	0
48.	The school facility is clean, attractive and inviting.	0	0	0	0
49.	The proximity of grade level and department personnel allows for ease in collaborating with colleagues.	0	0	0	0
50.	Communication systems promote a flow of information among staff members.	0	0	0	0
51.	Communication systems promote a flow of information across the entire school community including: central office personnel, parents, and community members.	0	0	0	0
52.	Data are organized and made available to provide easy access to staff members.	0	0	0	0
COMMENTS:					

Source: Olivier, D. F., Hipp, K. K., & Huffman, J. B. (In progress). Assessing and analyzing schools as PLCs. In K. K. Hipp & J. B. Huffman (Eds.), *Professional learning communities: Purposeful actions, positive results.* Lanham, MD: Rowman & Littlefield.

Appendix C: Interview Protocol

Interview Protocol and Semistructured Interview Questions

General Questions

1. Why did your school implement PLCs?
2. What is your involvement with PLCs?
3. Does your school follow a specific PLC model?
    a. If so, what is that model?
4. Has your staff received training as a PLC?
    a. Describe that training.
5. Describe the process used by the school to implement PLCs?
6. Does your staff refer to themselves as a PLC?
7. How have student outcomes changed as a result of the PLCs?

Shared and Supportive Leadership

1. Who are the leaders in your school?
2. What specifically makes them leaders?
3. What has influenced or contributed to your school's shared and supportive leadership style?
4. Tell me how decisions get made.
    a. What type of decisions and by whom?
    b. Provide an example of a recent decision.
    c. What are the specific steps, actions or procedures for decision making?

Shared Values and Vision

1. How was your school's Values and Vision Statement created?
    a. Was this a recent process?
    b. Was this a group process?
    c. Are the Values and Vision routinely examined and/or revised?
2. What would staff members say is important about their work at (Insert School Name)?
    a. How do they know it's important?
    b. How is that importance reflected in the school? Classroom? Students?
3. What common vision does the staff share?
    a. Provide an example.
4. What differences in vision might the staff have?
    a. Provide an example.
5. How have these visions for the school changed over time?
6. What has influenced or contributed to your school's shared values and vision?
    a. Provide examples of specific actions or activities.

Collective Learning and Application

1. How does your school staff learning collectively?
    a. Provide examples.
2. How does this collective learning occur?
3. How do staff members determine what they want to learn?
4. How do staff members use what they have learned?
5. Has the level of expectations changed for the staff as a result of PLCs?
    a. Explain.
6. Has the level of expectations changed for the students as a result of PLCs?
    a. Explain.

Shared Personal Practice

1. How is time provided for teachers to work in in collaborative teams?
    a. Is the time used effectively?
    b. How do you know?
2. What does collaborative teaching practice look like at (Insert School Name)?
3. Who is responsible for improving teacher practice at your school?
    a. Is this an effective method?
    b. Provide an example of success.
4. Who do teachers talk with peers to improve instructional practice?
    a. Does this occur regularly?
5. Do peers speak to you about your instructional practice?
    a. How often does that occur?
6. Have you ever visited a colleagues classroom and provided them with feedback on instructional practices?
7. Has anyone ever visited your classroom for that purpose?
    a. What type of feedback did they provide to you?
    b. What it helpful?
        i. How did you implement that feedback into your instruction?
8. Do you feel the teachers are better equipped to provide a quality education for students as a result of PLCs?

Supportive Conditions – Relationships & Structures

1. How did the administration/school leaders support the transition to PLCs?
2. What currently do administration/school leaders do to support PLCs?
3. When do teachers have time to plan and collaborate together?
4. How does the entire staff come together to collaborate and learn?
    a. Provide an example of whole staff collaboration.
5. How do staff members determine what they want to learn?
6. How do staff members determine who will teach them new methods or provide them with new information?

7. During all staff meetings or team meetings, do teachers have opportunities to voice opinions or views?
8. Do teachers trust their colleagues enough to speak out at school meetings?
    a. How are dissenting opinions met?
9. How do you feel the attitudes of the certified staff have changed as a result of PLCs?
    a. Give examples
10. What type of additional support is needed to further the implementation/maturity of PLCs?
    a. Who would provide that support?

Appendix D: Letter of Cooperation From Research Partner

Name & Address of School:

Name of Researcher: Jane-Marie Koelsch, Doctoral Candidate at Walden University

Research Project
Title: *Teacher Perceptions of Professional Learning Community Maturity in Catholic Schools*

Statement of Problem: In the state of [redacted], some Catholic schools have aligned specific classroom and school practices with an infrastructure that supports the implementation and growth of professional learning communities. Other Catholic schools have not employed an alignment that supports PLC implementation. Therefore, the learning communities in many of those schools are not operating at a maturity level that includes all the dimensions of a PLC, as defined by Hord (1997). In this study, I will utilize the PLCA-R (Olivier et al., 2009) survey to explore the perceptions of teachers regarding the maturity level of PLCs in selected Catholic schools in the state of [redacted]

Research Question(s)

1. What are teachers' perceptions of the maturity level of PLCs in selected Catholic elementary (K-8) schools as measured by the Professional Learning Communities Assessment - Revised (PLCA-R)?
2. What teacher actions, as identified in the PLCA-R survey, influence perceptions regarding the maturity of PLCs within the selected Catholic elementary (K-8) schools?

Population for study: The population for this study will be drawn from the school staffs of Catholic elementary (K-8) schools in the [redacted] Certified teachers working in an instructional capacity in those schools will have the opportunity to take the quantitative survey, based on the willingness of their school's head administrator to participate in the research study. Additionally, three teachers from each participating school will participate in the qualitative interviews.

Reason for conducting this research: Doctoral Research Study at Walden University

Dates research will be conducted: January 1, 2015 to June 30, 2015

All researchers must: a) Protect the rights and welfare of all human subjects, b) provide eligible participants with a consent form that explains the purpose of the study and informs them that study participation is strictly voluntary, c) maintain complete confidentiality regarding collected data and provides no information regarding data to anyone outside of the researcher's faculty without permission from the Walden University IRB, and d) allow participants to withdraw from the study at any time.

I confirm that I am authorized to approve research in this setting and that this plan complies with the organization's policies.

_____ _____

Principal's Signature Date

Appendix E: Invitation to Schools To Participate in Research Study

Date

Dear Principal,

As part of a doctoral study at Walden University, I am conducting a survey on teachers' perceptions of their staff as Professional Learning Communities (PLCs). The goal of this study is to examine the maturity of PLCs and factors that impact maturity in these collaborative communities by utilizing the perceptions of teachers.

My study is one of the first research studies to measure the extent of PLC maturity in Catholic schools. The Diocesan School's Office is encouraging schools in the [redacted] to participate in this study. Further support comes from the North Central Association Commission on Accreditation and School Improvement (NCA CASI), an accreditation division of AdvancED, which has established a School Improvement Standards indicator to determine whether "teachers participate in collaborative learning communities to improve student instruction and student learning." As a member of [redacted], I would like to invite your school to participate in my study.

How to Participate:

Teachers in your school can participate by accessing an electronic link and completing a short online survey. All responses are anonymous and confidential. This is a simple and effective way to help gather data on effective practices in Catholic schools.

The participation of your school is invaluable. If you agree to participate, I will send an email to all certified teaching staff members at your school. This email will include an introduction, explanation to the study, and the electronic survey link. Responses will be recorded anonymously through the online survey site. An informed consent agreement for participants is contained in the survey.

If you have any questions, you may contact me at [redacted] or [redacted]

Thank you for your consideration and assistance,

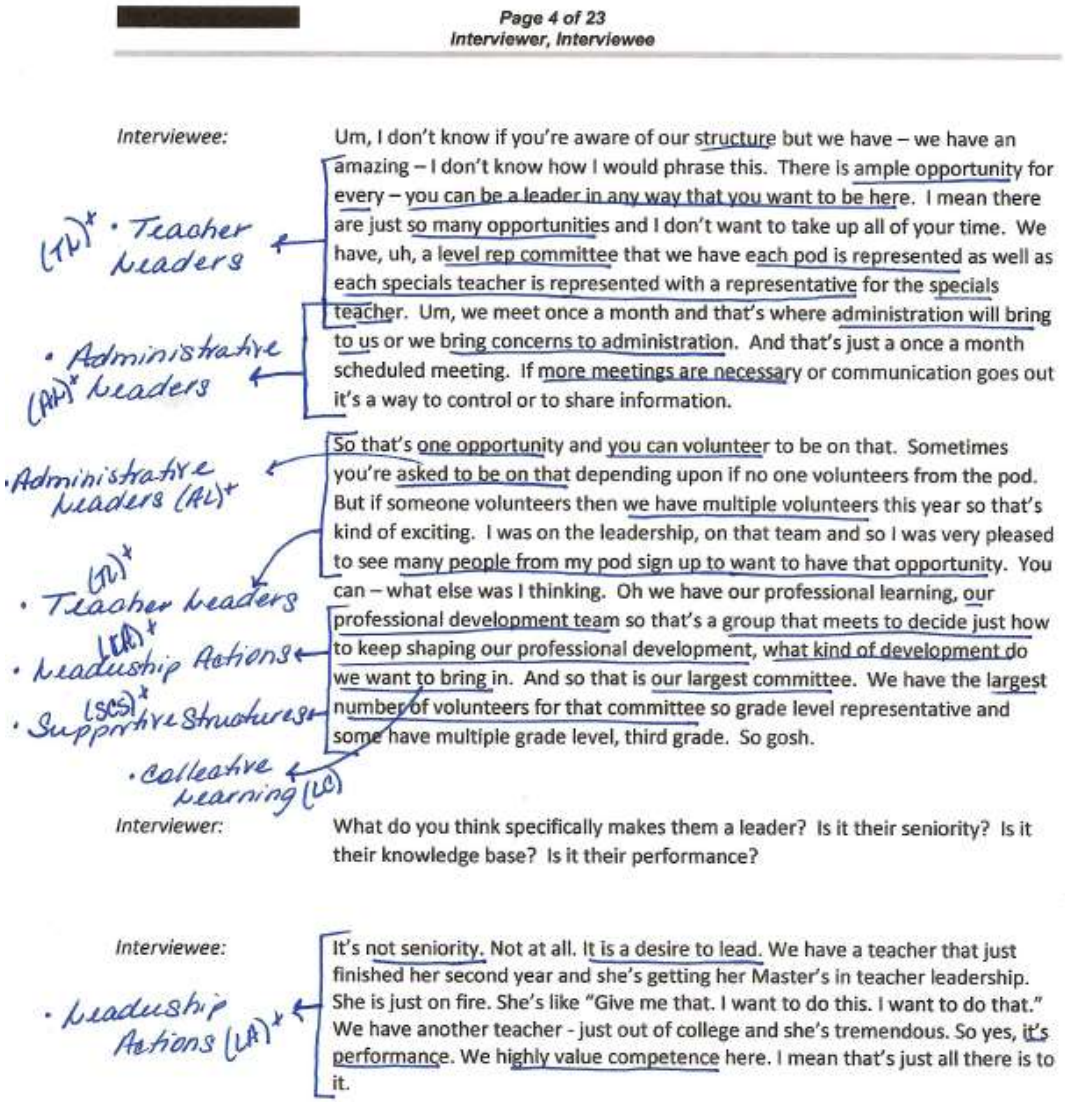
Jamie Koelsch
Doctoral Candidate
Walden University

Appendix F: Demographic Information

PLCA-R Demographic Questions

1. Gender:
   _____ Male
   _____ Female
2. Age Group:
   _____ Less than 30 years of age
   _____ 30–40 years of age
   _____ 41 to 50 years of age
   _____ 51–55 years of age
   _____ Over 55 years of age
3. Religion:
   _____ Catholic
   _____ Other
4. What grade level do you teach?
   _____ Elementary
   _____ Middle School/Junior High
5. How many years of teaching experience do you have?
   _____ 0–3
   _____ 4–10
   _____ 11–15
   _____ 16–20_____ 21–25
   _____ More than 26

Appendix G: Example of Qualitative Coding Method



[redacted]

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Interviewer, Interviewee

Interviewee: Um, I don't know if you're aware of our structure but we have – we have an amazing – I don't know how I would phrase this. There is ample opportunity for every – you can be a leader in any way that you want to be here. I mean there are just so many opportunities and I don't want to take up all of your time. We have, uh, a level rep committee that we have each pod is represented as well as each specials teacher is represented with a representative for the specials teacher. Um, we meet once a month and that's where administration will bring to us or we bring concerns to administration. And that's just a once a month scheduled meeting. If more meetings are necessary or communication goes out it's a way to control or to share information.

So that's one opportunity and you can volunteer to be on that. Sometimes you're asked to be on that depending upon if no one volunteers from the pod. But if someone volunteers then we have multiple volunteers this year so that's kind of exciting. I was on the leadership, on that team and so I was very pleased to see many people from my pod sign up to want to have that opportunity. You can – what else was I thinking. Oh we have our professional learning, our professional development team so that's a group that meets to decide just how to keep shaping our professional development, what kind of development do we want to bring in. And so that is our largest committee. We have the largest number of volunteers for that committee so grade level representative and some have multiple grade level, third grade. So gosh.

Interviewer: What do you think specifically makes them a leader? Is it their seniority? Is it their knowledge base? Is it their performance?

Interviewee: It's not seniority. Not at all. It is a desire to lead. We have a teacher that just finished her second year and she's getting her Master's in teacher leadership. She is just on fire. She's like "Give me that. I want to do this. I want to do that." We have another teacher - just out of college and she's tremendous. So yes, it's performance. We highly value competence here. I mean that's just all there is to it.

Appendix H: Qualitative Analysis Coding System

	Code	Sub-Category	**Positive**	**Negative**	Emergent Themes	Divergent Themes
Shared & Supportive Leadership						
	AL	Administrative Leaders	46	3	Supportive Administration	
	TL	Teacher Leaders	43	5	Teachers As Leaders	
	LA	Leadership Actions	18	9		Meetings Not Used Properly
Shared Values & Vision						
	CV	Catholic Values/Vision	30	2	Shared Vision	
	AV	Academic Values/Vision	17	1		
Collective Learning & Application						
	LC	Collective Learning	37	4	We Teach Each Other	
	LOA	Application of Learning	13	2	Teacher Buy In	
	LS	Student Learning	12	1		
Shared Personal Practice						
	CP	Collaborative Practice	23	5	We Teach Each Other	
	IIP	Individual Instructional Practice	13	2		
	FB	Feedback on Practice	4	4		Meetings Not Used Properly
Supportive Conditions						
	SCR	Support for Relationships	20	1	Teacher Buy In	
	SCS	Supportive Structures	18	15		Too Many Meetings
	T	Trust	12	1	Teacher Buy In	
	AS	Additional Support	6	8		Meetings Not Used Properly