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Understanding High School Teacher Perceptions of Professional Learning Experiences: A Case Study of School-Based Professional Learning Communities

by

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Abstract

In K-12 education, there is an expectation that teachers will participate in professional learning throughout their careers and one model for its delivery is the Professional Learning Community (PLC). The potential advantages of participation in PLCs have been well-documented and many schools around the world have implemented them with mixed results to date. This dissertation study focused on teacher perceptions of professional learning experiences in school-based PLCs. A qualitative case study was designed and implemented through a constructivist theoretical lens. Participants in the study included ten high school teachers who were members of school-based PLCs in one private, Catholic high school in the United States. Data collection methods included PLC documentation, a participant background questionnaire and one-on-one interviews. Through analysis of the data, four key findings emerged: 1) impact of collaboration and support on teacher professional learning, 2) the need for subject-area group formation and teacher agency in PLC implementation, 3) allotment and management of time, and 4) a clear definition of the purpose of the school-based PLC that is teacher generated and directly tied to student learning. These findings convey the need for an intentional design of school-based PLCs that focuses on the conditions that offer the most potential to create impactful active professional learning experiences for teachers.

Keywords: teacher professional learning, teacher professional development, professional learning communities, K-12 education

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CHAPTER ONE: INTRODUCTION

In K-12 educational contexts there is an expectation that teachers will participate in ongoing teacher professional learning throughout their careers (Avalos, 2011). The purpose of this ongoing teacher professional learning is to improve teaching practice and student educational outcomes. Teacher professional learning is addressed through professional development (PD) activities. This PD may take many forms, including "mentoring, supportive curriculum materials, workshops, conferences, and online communities" (Fishman, Davis & Chan, 2014, p. 108). There is a continuous need to study how teachers learn, with accountability-based reforms pointing to teacher quality and performance (Fishman et al., 2014). Research studies on teacher professional learning from the perspective of the learning sciences focuses on "the development of teachers' knowledge, beliefs, identity, and practice in context" (Fishman et al., 2014, p. 707) and so it provides a useful lens through which to explore teacher perceptions of professional learning.

Educational researchers have identified the promotion of innovative school cultures and deeper learning approaches as long-term trends in K-12 education (Freeman, Adams Becker, Cummins, Davis, & Hall Giesinger, 2017). To address these long-term trends, "teachers are increasingly expected to be adept at a variety of technology-based and other approaches for content delivery, learner support, and assessment" (Freeman et al., 2017, p. 24). A challenge in K-12 education is how to create and implement effective teacher professional learning experiences when "many PD initiatives appear ineffective in supporting changes in teacher practices and student learning" (Darling-Hammond, Hyler, & Gardner, 2017, p. v). As such, there is value in studying models of teacher professional development and discovering ways in which to improve their outcomes.

Teacher PD has been studied extensively in the educational research (Avalos, 2011; Darling-Hammond et al., 2017; Desimone, 2009; Freeman et al., 2017; Guskey, 2002; Joyce & Showers, 2002; Sparks, 2002; Timperley, Wilson, Barrar & Fung, 2008). It is a complex phenomenon, as it needs to deliver educational experiences that support knowledge acquisition and also the application of that knowledge into teaching practice (Chai & Kong, 2017). Research has shown that teacher professional learning occurs when professional development activities promote a change in their knowledge and beliefs, which then impacts teaching practice and student learning (Desimone, 2009). There is consensus that this professional learning is valued and necessary, but less agreement as to what types of PD activities might promote its occurrence. Researchers in the learning sciences and other disciplines have advocated for social constructs to support teacher learning and reduce isolation (Fishman et al., 2014). One such model for collaborative learning is the Professional Learning Community (PLC).

PLCs have many definitions in the educational literature, but may be broadly defined as a group of professionals who meet regularly to learn (DuFour, 2003, 2004; Hord, 1997, 2008, 2009). PLC members "work together in collaborative teams that engage in collective inquiry into both best practices for accomplishing their aims and the current reality of the conditions of their organization" (DuFour, 2003, para. 31). The intentional design of school-based PLCs for teacher professional learning may help foster impactful learning that enriches student experiences. There is more to understand about the intentional design of this model of teacher professional learning as well-implemented school-based PLCs are optimum.

The focus of my study was to examine high school teacher perceptions of their professional learning experiences in school-based PLCs. It was anticipated that an

understanding of these perceptions would contribute to the knowledge base regarding this model and how it may be supported through intentional design and implementation choices.

Rationale for the Study

School-based PLCs in the K-12 educational sector have the potential to be impactful models of teacher professional learning (DuFour, 2004; Hord, 1997). Numerous definitions and models of school-based PLCs exist within the educational literature, which has sometimes caused confusion as to the definition and the purpose of a PLC (DuFour, 2004) and minimized the positive benefits to teacher professional learning. A clear definition of the purpose is an important attribute of school-based PLCs (Owens, 2014) and educational institutions place varying levels of emphasis on its' importance (Owens, 2016). There is value in studying how the intentional design of the school-based PLC can optimize learning opportunities. The degree of emphasis on the constituent characteristics of the school-based PLC may impact the outcome of the model (Owen, 2014) and further research may provide insight into the details of optimum design factors.

In K-12 education, new reforms are sometimes implemented without fully researching and intentionally designing the model of reform, sometimes causing the new initiative to fall flat, yield few results, or prove to be unsustainable (Ahn, 2017). One ongoing debate in the educational literature has been regarding how reform should be undertaken and if it should be implemented through a top-down or bottom-up process (Fullan, 2015). The advantages of the top-down approach included overarching and consistent goals, the pooling of resources and the implementation of proven solutions to problems (DuFour, 2003; Fullan, 2015). The disadvantages of the top-down approach included disengagement from vital stakeholders such as teachers and students and a lack of emphasis on student learning (Newmann & Wehlage,

1995). In contrast, research has shown that a bottom-up approach that involves teachers in the development of school-based PLCs is more likely to be effective and sustainable (Ahn, 2017), however bottom-up approaches that are not aligned with institutional policy are not optimum either (DuFour, 2003). Since the beginning of the 21st century, researchers have explored the notion of a balanced approach to reform that includes both top-down and bottom-up elements (Fullan, 2015). In using this approach, policy makers, administrators and educators can work together to improve the authenticity and the quality of teachers' experiences in school-based PLCs (Lee & Kim, 2016). Greater understandings of how teacher professional learning occurs in this context from the standpoint of all the stakeholders involved might increase the benefits of participation in school-based PLCs.

In the educational research, I found few studies on teacher perceptions of professional learning experiences in school-based PLCs in the private school context. Therefore, the purpose of my study was to understand high school teachers' perceptions of professional learning experiences in school-based PLCs in one private, Catholic high school in the United States. By exploring this phenomenon, I was able to identify conditions that facilitate teacher professional learning in school-based PLCs.

The following research question and three sub-questions guided the study:

- How do high school teachers perceive their professional learning experiences in school-based PLCs?
  - What is the purpose and the function of school-based PLCs?
  - What are the barriers to the teachers' professional learning in school-based PLCs?
  - What are the facilitators for teachers' professional learning in school-based PLCs?

I designed and conducted a single case study to explore the phenomenon and address these research questions. The unit of analysis was the school-based PLC groups in one private, Catholic high school in the United States. I utilized three forms of data collection to conduct the study, including PLC documentation, a background questionnaire and one-on-one interviews with teacher participants. This data was analyzed using a six-step recursive process, as suggested by Creswell (2018). This approach enabled me to identify and explore the pertinent themes related to the phenomenon under investigation and respond to my research questions.

Significance of the Study

Educators have a responsibility to prepare students for their future lives in a constantly changing society (Freeman et al., 2017). In order to do this, teachers themselves need to adopt ongoing habits of professional learning that will ensure that teaching practice addresses these emergent student learning needs (Ahn, 2017; Avalos, 2011). Some of the most impactful teacher professional learning occurs within communities (DuFour, 2004; Hord; 1997; Strahan, 2016) and school-based PLCs are one model for the implementation of these communities.

School-based PLCs are most impactful when they are intentionally designed to support teacher professional learning needs (Strahan, 2016). Exploring and analyzing teacher participant perceptions of professional learning is valuable because the quality of their experience informs their teaching practice and student educational outcomes. Learning scientists are well positioned to study the development of PLCs, because of their focus on the process of learning and learning environments (Turner, Christensen, Kackar-Cam, Fulmer & Trucano, 2018). From a learning sciences perspective, "the teacher is a key participant, determining how any intervention is realized and sustained in practice" (Fishman et al., 2014,

p. 707). Therefore, a study of school-based PLCs at the research site that is based on the perceptions of the participants had potential to provide insight into this educational experience.

I chose this phenomenon to study because although these communities are valued as a model of teacher professional learning in K-12 education, they sometimes fall short of expectations (Sims & Penny, 2015). It was my hope to provide insight into the nuances of teacher perceptions of professional learning in this context and contribute knowledge as to how an intentional design of the community can further support this learning. I focused on the teacher participant voices because "research focused on discovery, insight, and understanding from the perspectives of those being studied offers the greatest promise of making significant contributions to the knowledge base and practice of education" (Merriam, 1998, p. 1).

The findings of my study will not be generalizable but may be relevant to the high school under investigation and transferable to similar contexts of study.

Role of the Researcher

In qualitative research, the researcher is considered "the primary instrument for data collection and analysis" (Merriam, 1998, p.7). Researchers make decisions regarding the design and the implementation of a research study and these decisions are informed by the individual characteristics, beliefs and prior experience of the researcher. When researchers develop self-awareness regarding their role in the study, the internal validity and reliability may be improved. One strategy for accomplishing this is for the researcher to identify their assumptions and beliefs (Merriam, 1998; Yin, 2017). The following sections address my role as the researcher and my personal assumptions and beliefs regarding teacher professional learning in school-based PLCs.

In terms of my role as the researcher, I am a teacher at the high school under investigation and I have been a member of a school-based PLC group for two years. Thus, I have knowledge and understandings regarding the experience of professional learning within this context.

I acknowledge that these same experiences that could provide insight into the phenomenon may also bias my judgment in conducting the study and interpreting the findings. I was diligent in developing self-awareness of this potential bias through journaling and discussion with my supervisors and my doctoral colleagues.

Definition of Key Terms

Professional Development: Both formal and informal learning experiences and activities that involve individuals, groups, or entire schools and benefit the quality of educational experiences (Desimone, 2009).

In-Service Teachers: Teachers who are employed in the K-12 educational context, either on a full or part time basis.

Teacher Professional Learning: Learning experiences that change teaching practice and impact student learning (Desimone, 2009).

Professional Learning Communities: A construct of group professional learning that is more specific to educational contexts (Owen, 2014).

Private School: A school founded, conducted and primarily supported by a nongovernmental agency (McMillen & Benson, 1991).

Organization of the Dissertation

My study is organized into six chapters. Chapter One provides an introduction to the study, a rationale for the study, a discussion of its significance and explains my role as the researcher.

Chapter Two explores the literature on teacher professional learning, teacher professional development and professional learning communities within the K-12 educational context. The chapter also presents the theoretical and conceptual frameworks that guided the study.

Chapter Three presents the research design of the study. I address all aspects of the research design such as the rationale for a qualitative case study methodology and my epistemology or philosophical assumptions, the research questions that guided my inquiry, the sampling of participants, the research site, the data collection and analytic methods, ways to ensure the integrity of my study, limitations and delimitations of my, ethical considerations and the background and role of the researcher.

Chapter Four presents the key findings of the study. First, I describe the context and provide background and demographic information for each teacher participant. Second, I present the major themes and sub-themes obtained from my data analysis.

Chapter Five discusses the findings in light of the research on teacher professional learning, teacher professional development and professional learning communities. This discussion includes answering the research questions that guided my study.

Chapter Six provides a summary of the study, the successes and challenges of the project, implications for practice and suggestions for future research.

CHAPTER TWO: LITERATURE REVIEW

In this chapter, I provide a critical review and synthesis of the relevant literature pertaining to teacher professional learning within the context of K-12 education. A review of the literature provides information and understanding of the history, context, opportunities and constraints associated with teacher professional learning in school-based Professional Learning Communities (PLCs). Beginning with an explanation of the theoretical and conceptual frameworks, I then review three areas of pertinent educational literature: (a) teacher professional learning, (b) teacher professional development and (c) school-based PLCs. In conducting the literature review, I compare and contrast these areas and identify gaps in understanding the phenomenon of teacher professional learning within school-based PLCs. In terms of information, I use multiple sources, including peer-reviewed journal articles, books and reports accessed through the University of Calgary Summon 2.0 and Google Scholar search engines. I conclude the chapter with a summary of the findings and the positioning of the study.

Theoretical Framework

A theoretical framework is a philosophical standpoint that guides all aspects of the study (Creswell, 2018). As an in-service educator, I identify with a theoretical framework that addresses active learning. For this reason, I selected a constructivist approach as the theoretical framework. Constructivism "has been broadly influential in education and forms one of the core elements of learning sciences approaches" (Nathan & Sawyer, 2014, p. 25) and is a suitable framework for a study on learning to take place. Constructivism is a well-established theoretical framework that addresses the individual experience in perceptions of reality and learning. It is rooted in the work of John Dewey (1938) and Jean Piaget (1970).

During the first part of the 20th century, John Dewey (1938) emphasized experience as an important part of learning. For Dewey, learning needed to be rooted in genetic, experimental, reflexive, critical and creative educational experiences. Individual reconstruction of meanings through these types of activities placed the learner in an active, rather than a passive role. The active construction of meaning would then lead to deep rather than surface learning.

Jean Piaget (1970) was a highly influential cognitive development psychologist throughout the 20th century. He believed that new ideas emerge from previous ones in a progressive manner through learner experiences, which is a key component of constructivism. This occurred through the construction of *schemas*, which he saw as mental objects that become progressively more complex with practice.

Modern understandings of constructivism that build on these seminal works assume that reality is historically, culturally and socially constructed (Lincoln & Guba, 1985). Individuals experience this reality subjectively and so there are multiple interpretations of reality that are possible. In educational research that is constructivist in nature, there will be multiple ways that participants may perceive and experience a phenomenon (Guba, 1990). The researcher examines these perceptions by studying the context of the experience to understand the historical, cultural and social processes that shape the experience (Guba & Lincoln, 1985).

In a constructivist framework, learning is seen as an active, rather than a passive process, and so it is often used in framing educational research studies. It is well-suited to the learning sciences because it focuses on the individual and collective learning experience. A constructivist perspective assumes that individuals construct personal understandings of their world (Creswell, 2018). These understandings are subjective in nature and vary from person to person. No two people will perceive and understand an experience in the same way. This

framework assumes that there are no right or wrong answers, rather there are a multitude of meanings to consider. The goal of research from a constructivist stance is to focus on the participant view of the phenomenon being studied (Creswell, 2018).

Teacher Professional Development

In the K-12 educational context, teachers are expected to be lifelong learners and the goal of this learning is to improve teaching practice and student educational experiences (Avalos, 2011). The educational research field of the learning sciences is concerned with how people learn and how educational experiences can support this learning. This field assumes that research on teacher learning "focuses on the development of teachers' knowledge, beliefs, identity, and practice in context" (Fishman et al., 2014, p. 707). In K-12 education, teacher professional learning is most often associated with professional development (PD) experiences.

Teacher professional development (PD) refers to learning experiences that occur during the period of time where teachers are in-service or working full or part-time in an educational context (Sawyer, 2014). This PD may consist of both formal and informal learning experiences and activities that involve individuals, groups, or entire schools and benefit the quality of educational experiences (Desimone, 2009). The actual form of the PD is variable, and can include activities such as "mentoring, supportive curriculum materials, workshops, conferences, and online communities" (Fishman et al., 2014). There has been much discussion in the educational literature as to what kinds of educational experiences might offer the greatest opportunities for teacher professional learning to occur, resulting in a significant shift in thinking as to what constitutes effective teacher PD.

Traditional ways of teaching and learning that were prevalent during the 19th and 20th centuries involved instructionism (Papert, 1993), or the "teacher lecturing in a transmission-

and-acquisition style" (Sawyer, 2014, p. 737). Instructionism sought to prepare students for the industrialized economy that was emerging through the delivery of subject content that would prepare workers for factory employment (Sawyer, 2014). This type of learning assumed that knowledge is a collection of facts to be memorized and that the teacher's role was to deliver this content to students. Students were to passively receive the information and success was defined by the ability of students to reproduce the content in summative assessments.

Educational researchers have advocated for a constructivist rather than instructionist approach to learning. Instructionist approaches towards learning do not adequately prepare learners in the 21st century, where the societal focus has shifted from industry to knowledge-based and complex knowledge and skills are required (Sawyer, 2014). There is a need to "continually innovate, to create *new* knowledge – not simply to master existing knowledge" (Sawyer, 2014, p. 727). Hence, learning environments need to be designed and implemented with innovation in mind and this includes teacher professional learning. A constructivist approach towards teacher professional learning can positively impact this design.

Since the year 2000, educational researchers have confirmed that instructionist approaches in the design of professional development activities were not meeting teacher professional learning needs (Avalos, 2011; Darling-Hammond et al., 2017; Desimone, 2009; Freeman et al., 2017; Guskey, 2002; Joyce & Showers, 2002; Sparks, 2002; Timperley et al., 2008). In the current knowledge society, "sophisticated forms of teaching are needed to develop student competencies such as deep mastery of challenging content, critical thinking, complex problem-solving, effective communication and collaboration, and self-direction" (Darling-Hammond et al., 2017, p. v). In K-12 education, there is a need to create and implement learning opportunities that will foster the type of learning that is required by

students *and* teachers. Teachers cannot effectively meet the learning needs of their students if they do not experience deep learning themselves (Fishman et al., 2014). The challenge is how to provide the kinds of educational experiences for teachers that will promote this deep learning.

Sensing the inefficacy of instructionist forms of teacher PD, educational researchers have examined what models of teacher professional development might promote improved teacher learning. Joyce and Showers (2002) argued that teacher PD should emphasize the process of professional learning and these experiences should help teachers develop as learners. For these researchers, teacher professional learning was defined by its' ability to change teaching practice and positively impact student educational experiences. PD that focused on learning, rather than just the acquisition of skills or knowledge was seen as more valuable. Collaborative learning with colleagues through planning, coaching and observing had potential to promote the deep learning that impacts teaching practice. These researchers did not advocate for giving feedback to each other, because of the time involved and the difficulty in acquiring the skills to do so.

Guskey (2002) was in agreement with Joyce and Showers (2002) with regards to the imortance of the process of teacher learning. However, Guskey (2002) advocated for approaching this learning in a systematic way, believing that teacher beliefs and attitudes were critical because a change in thinking was necessary to change teaching practice. The research showed that without evidence of improved student learning, teachers understandably did not see a reason to change their teaching practice or beliefs. For this reason, the *order* of events in a PD program was crucial, with PD activities coming first, followed by a preliminary change in teaching practice, then by evidence of improved student learning, and finally, a change in teacher beliefs and attitudes. Hence, it was a long-term process that required continued follow-

up and support in all four components of the PD program. Guskey (2002) identified key components of effective teacher PD and why the order of these components was important.

Another position on teacher PD was posited by Sparks (2002). He identified features of effective teacher PD as including deep learning on both content and pedagogy. For Sparks (2002), teacher PD needed to be rooted in practice and include research and reflection. This insight built on the earlier work of Guskey (2002) and the ordering of key PD events by providing a mechanism for teachers to identify and explore the evidence of improved student learning. Sparks (2002) differed from Joyce and Showers (2002) in that he emphasized collaboration and collegiality and felt that teacher professional learning was best accomplished through dialogue that occurred during the school day and was of long-term duration. Through dialogue, teachers would be able to further refine their understandings of student learning.

After 2002, researchers built on earlier models of teacher PD that were particularly effective in the promotion of impactful teacher learning. In a study on teacher professional learning, Vrasidas and Glass (2007) further defined the characteristics of effective teacher PD. First, duration of time was important, but more important was *how* that time was used. Second, external expertise was sometimes necessary, but not necessarily adequate. Third, teachers' engagement in the learning process at some point was key. This differed from Joyce and Showers (2002), Guskey (2002) and Sparks (2002) who had not mentioned the importance of teacher engagement. Fourth, discourse on change in teaching practice and student response needed to occur in an iterative fashion. Fifth, opportunities to participate in a PLC that had a clear purpose that included analyzing student learning and challenging teaching beliefs should be fostered. This study built on the earlier work by focusing the dialogue on a specific outcome, possibly expediting the process. Sixth, consistency with the wider school context,

including school policies should be attended to. Seventh, the presence of an active school leadership that promotes a culture of learning and supports the learning process was essential. These understandings about professional development activities that promoted teacher learning represented an increased emphasis on the intentional design of the activity and how it could promote deep learning.

From 2010 to date, research on what constitutes effective teacher PD has continued to evolve. The field of the learning sciences and other educational research disciplines recognized that in order to "improve student learning in classrooms, it is important to understand how teachers learn and how to support teachers' development" (Fishman et al., 2014, p. 707). Desimone (2009) identified the features of effective teacher PD as (a) content focus, (b) active learning, (c) coherence, (d) duration, and (e) collective participation. These features of effective teacher PD will now be discussed in more detail.

Content focus, or how students learn subject matter, has been identified by multiple researchers as the most impactful feature of teacher PD (Desimone, 2009; Fishman et al., 2014). PD activities need to address student understanding of content and focus on "the anticipated or desired classroom practice, so that teachers do not have to do a great deal of interpretation to translate the messages from the PD to their own classrooms" (Fishman et al., 2014, p. 709). The educational field of the learning sciences is well-positioned to explore impactful teacher learning, because it explores this phenomenon "in content-specific and context-specific ways" (Fishman et al., 2014, p. 708). When the focus is on this content, there are greater opportunities for improvement in teacher knowledge and skills, impacting both teacher and student learning.

Active learning is the second feature of effective teacher PD proposed by Desimone (2009). Active learning requires that rather than being passive recipients of information, teachers "examine and reflect on their own practice" (Fishman et al., 2014, p.708). Active learning activities might include "observing expert teachers or being observed, followed by interactive feedback and discussion; reviewing student work in the topic areas being covered; and leading discussions" (Desimone, 2009, p. 184). Teachers cannot develop without their active participation in the process. Active learning promotes teacher engagement in the PD and makes connections between new knowledge and teaching practice.

The third feature of effective teacher PD is coherence, which can be defined as "the extent to which teacher learning is consistent with teachers' knowledge and beliefs" (Desimone, 2009, p. 184). Coherence in teacher PD needs to address expectations, reforms and policies at the school, district, or state levels (Desimone, 2009; Fishman et al., 2014). Current research points to the importance of coherence at all three levels of governance, not just at the school level (Williams, Brien, Sprague & Sullivan, 2008). From a learning science perspective, coherence would involve building on learners' previous knowledge, so that deep learning could occur (Sawyer, 2014). For teachers to develop as educators, their previous knowledge and expertise needs to be taken into consideration.

Duration is the next key feature of effective teacher PD. Duration refers to both the span of time of the activity in terms of days or weeks, and its number of hours (Desimone, 2009). Although there is not a specific formula for adequate duration of PD, there is consensus in the educational research literature that intermittent PD is not as effective for supporting the deep teacher learning that is required in a knowledge society. Hord (2009), agreed that continuous

professional development activities showed greater potential to improve both the quality of teaching practice and student learning.

The final key feature of effective teacher PD is collective participation. Participation can take many different forms but needs to foster interaction and discourse (Desimone, 2009). Participants might be organized by grade or subject area. Teacher collaboration also serves as a social support, which can also support effective teacher PD (Fishman et al., 2014). This interaction is what also enables reflection and improved learning to occur (Sawyer, 2014), and so effective teacher PD needs to create opportunities for this to occur.

A criticism of Desimone's (2009) work, is that it does not consider the importance of teacher agency in the effectiveness of teacher PD programs. In very recent years, researchers have begun to study this role. For instance, Strahan (2016) conducted a case study to investigate the extent to which a sense of teacher agency in PD was important. In this study, professional growth began with discussions of teaching practices and potential improvements. In five of the six cases studied, the development of collegial relationships led to increases in the complexity of the discourse, where reflection and deeper learning ultimately occurred. Further, teachers' sense of agency increased as the conversations on teaching and learning deepened and greater meanings were derived.

In summary, educational researchers have identified content focus, active learning, coherence, duration and collective participation as key features of effective teacher PD that supports learning. Recent trends point to the need for a clear definition of teacher professional learning and support for teacher agency.in PD experiences.

Despite everything that is known about effective teacher professional learning, the educational experiences that would support this learning are not always what occurs in practice,

with listening to speakers or attending one-shot workshops still being prevalent (Vrasidas & Glass, 2007). Educational contexts that are implementing models of teacher PD that have been identified as effective do not guarantee professional learning either (Timperley et al., 2008). Without the intentional design and implementation of the teacher PD, there is little chance that teacher beliefs and teaching practice will change.

My study sought to examine and analyze school-based PLCs, which is one model of teacher PD delivery that has been identified in the educational research as a promising practice for effective teacher professional learning (DuFour, 2004; Hord, 1997; Timperley et al., 2008). The next section of the literature review will focus on the evolution of school-based PLCs from 1995 to date.

Professional Learning Communities

The notion of Professional Learning Communities (PLCs) began in the business sector, but expanded into the K-12 educational context, where teachers might meet "the educational needs of their students through collaboratively examining their day-to-day practice" (Vescio, Ross & Adams, 2008, p. 81). Broadly defined, PLCs are opportunities for group learning that occur in an educational context (Owen, 2014). This professional learning group may take many forms, for instance "a grade-level teaching team, a school committee, a high school department, an entire school district, a state department of education, a national professional organization, and so on" (DuFour, 2004, p. 1).

The premise of PLCs is rooted in Community of Practice (CoP) theory that Wenger (1998) defined as a group of people who share common interests or goals and meet regularly to learn together about how to improve. CoPs emphasize the process of discourse and participation is typically optional, whereas in PLCs, attendance is mandatory and must be

directly tied to improved student learning. The two models share the community aspect and the process of interacting, but differ in their ultimate goal. The school-based PLC model is one possibility for departure from the instructionist approach that is still more common in the K-12 educational context (Sawyer, 2014). Teachers have historically learned in isolation, which is not optimum for addressing the complex professional learning that is necessary in a knowledge society (Chai & Kong, 2017). Learning scientists and others have found that "effective social supports for teacher learning aid teachers in constructing, distributing, and sharing expertise" (Fishman et al., 2014, p. 710). From the perspective of the learning sciences, these communities "provide ongoing opportunities to construct knowledge, to develop shared practice, and to solve real-world problems in authentic context" (Fishman et al., 2014, p. 712). The complexity of our times requires that teachers work together to promote both individual and collective learning. There is an expectation that PLCs will create opportunities for expanding teachers' professional knowledge and skills in a collaborative community, with the goal of improving student learning.

As PLCs became more widespread, researchers began to identify some of the characteristics of PLCs that were favorable to teacher professional learning. These characteristics included a model of continuous collective inquiry into teaching practice, through constructive conversation that focused on impacting both teacher and student learning (DuFour, 2004; Hord, 1997). The research began to show that positive benefits of PLCs were possible, and that a shift from a delivery system of professional development towards a collaborative, job-embedded model for learning had greater potential to inform teaching practice and improve student learning.

Recent educational research continues to identify the PLC as a valuable model for the delivery of effective teacher PD because "this collaborative and job-embedded PD can be a source of efficacy and confidence for teachers, and can result in widespread improvement within and beyond the school level" (Darling-Hammond et al., 2017, p. vi). Although the idea of the school-based PLC as a model of professional development for teacher learning is valued, there have been mixed results to date, with some school-based PLCs falling short of expectations (Sims & Penny, 2015). Consistent with the findings of DuFour (2004), Owen (2014) observed that PLCs function at different levels of maturity, with the highly functioning PLCs providing more opportunities for maximum learning to occur. The next section of the literature review will focus on common PLC characteristics and what has been learned regarding their planning and implementation processes.

Characteristics of Professional Learning Communities

In her extensive research on PLCs, Shirley Hord (1997) identified the core characteristics of effective PLCs. They are: (a) shared values and vision, (b) shared and supportive leadership, (c) supportive conditions, (d) collective intentional learning, and (e) shared personal practice. The literature review will now discuss each of these in greater detail, highlighting the benefits and challenges of each characteristic. Additionally, recent studies on school-based PLCs will be shared.

Shared Values and Vision

First, it is optimum when participants share common values and a vision of the purpose and function of the PLC (Hord, 1997; Muñoz & Branham, 2016). These common values and vision are most valuable when their focus is on improving student learning (DuFour, 2004; Hord, 2009) through the examination of how students interact with subject-matter content

(Desimone, 2009). A common understanding of the values and vision of school-based PLCs that is concerned with improved student learning is the first key characteristic.

When these common values and vision of the purpose of school-based PLCs are defined for the teacher participants, there is clarity regarding the focus of the community. This definition might include "a clear definition and characterization of what a PLC school looks like, having a way to measure implementation of the essential elements of the PLC process, and—more importantly—looking at indicators of success" (Muñoz & Branham, 2016, p. 45). A common set of values and vision provides a framework for the creation and implementation of the school-based PLC that is based on improving student outcomes.

The notion of shared values and vision is widely agreed upon, but not without tensions. Watson (2014) suggested that a clear refinement of the vision of the PLC should be created by all stakeholders in the PLC, so that the vision supports teacher and student learning. She also noted that stakeholders may disagree on the definition of shared values and vision, and an "awareness of discordant values becomes the first step in the process of becoming an agent of change" (Watson, 2014, p. 25).

Shared and Supportive Leadership

Shared and supportive leadership was a second characteristic of effective PLCs (Hord, 2009). The principal of a school can provide leadership in the initial definition and expectations for school-based PLCs and thus "one of the most effective strategies is to raise school principals' and teachers' awareness of the importance and functions of collaborative learning" (Zhang & Pang, 2016, p. 227). The principal can support the development of PLCs in many structural ways, but his/her attitude toward professional learning is critical to the development of the PLC and they "should help to create a culture of collaboration rather than a culture of

competition" (Zhang & Pang, 2016, p. 227). Shared and supportive leadership empowers the teachers within the community to develop their professional knowledge and teaching practice (Owen, 2016).

As the PLC develops, the principal may share the leadership with the teacher participants and play more of a supporting role. This supporting role might include attending meetings and providing feedback. Principals might also support teacher learning by providing professional development opportunities such as workshops, guest speakers, or in-service days (Chen & Wang, 2015). Researchers have suggested that, "the ability of teachers to make decisions regarding both the processes of their learning communities and aspects of school governance" (Vescio et al., 2008, p. 85) fosters teacher engagement with the PLC. Teacher engagement in their professional learning is optimum and so "there is a need to strengthen teachers' empowerment and participation in school decision making" (Wang, 2016, p. 213). These collective efforts to develop a PLC are key in promoting a sustainable culture of teacher learning. Further, Bolam, McMahon, Stoll, Thomas and Wallace (2005) found that "the mobilization of leadership within strong PLCs enabled faculties and administrators to develop innovative strategies for use of financial and personnel resources to increase student learning and the strength of the professional learning context" (p. 86). Other researchers observed "that shared leadership and responsibility among team members helped to enhance open dialogue and teacher efficacy, and thus strengthened professionalism" (Wang, 2016, p. 211). Chen and Wang (2015) found that "shared leadership practices provided expert knowledge and skills necessary for generating new curricular modules" (p. 435). The shared and supported leadership characteristic can support teacher professional learning in the school-based PLC by

providing leadership when necessary, but also allowing teachers to take on leadership roles where possible.

Finding the balance for sharing leadership is not a straightforward process in school-based PLCs. Principals can prioritize teacher professional learning in schools and provide support for its implementation (Wang, 2016). Leaders who believe in the importance of teacher professional learning tend to overcome any barriers present and find and find a way to foster the development of school-based PLCs (DuFour, 2004). The creation of a culture of learning in a school begins with the principal and how important he/she judges professional learning to be. The sharing of leadership within a school may support teacher empowerment, because teacher leadership can "contribute to developing and sustaining the embedded PLC process within a school" (Wang, 2016, p. 212). Not all school leaders may be comfortable with the idea of shared leadership and others may be unaware of the importance of school-based PLCs to foster professional learning and support teacher collegiality.

Supportive Conditions

Supportive conditions are the fourth characteristic of effective PLCs. Attention to both the structural and relational conditions can help PLCs to thrive. In terms of structure, Hord (2008) suggested that physical conditions, such as "a time to meet, a place to meet, and policies and resources that support the staff coming together for study and learning" (p. 12) were key to the establishment of a PLC. Building time into teaching schedules for PLC meetings was optimum to the success of the program (Ahn, 2017; Kempe & Reed, 2014). The duration of PLC meetings was key and although the actual time needed was unique to each context, there needed to be sufficient time allotted for PLC participation (Desimone, 2009). When duration

of the PLC program is attended to, a sense of empowerment and innovative practices have a greater chance of developing (Kempe & Reed, 2014).

Relational conditions were also key in the establishment of PLCs as these conditions can provide opportunities for collaboration and reduce teacher isolation (DuFour, 2004). In schools that promote collaboration, there may be varying degrees and definitions of what true collaboration is. It is not merely team-building or meeting to solve operational issues; rather, it is ongoing deep professional learning that may positively impact teaching practice and student outcomes (DuFour, 2004). School-based PLCs thrive when there is the "development of positive attitudes, respect and high regard across all staff members as they engage in professional and social activities with one another" (Hord, 2008, p. 12). Further, an atmosphere of trust and a willingness to share actual problems of practice may be valued and cultivated in school-based PLCs, creating opportunities for impactful teacher professional learning (Ahn, 2017).

Teachers may be accustomed to working in isolation and working in groups may be a new process for professional learning for them. Research has shown that a teacher leader or facilitator can be helpful in this regard, especially in the beginning stages of a PLC formation (Ahn, 2017; Margalef & Pareja Roblin, 2016). Facilitators can constantly adapt to the learning needs of the PLC members and support learning through building a sense of community, organizing group work, providing resources, in addition to providing feedback and opportunities for reflection. Facilitators can promote conversations that are purposeful and help the communities to develop (Salleh, 2016).

Relational conditions can also include emotional support. For instance, Owens (2016) found that "through PLCs, positive emotion, meaning and reinvigorated passion for teaching

occur" (p. 416). An example of supportive relational conditions can be found in a case study by Kooy (2006) of a PLC using a book club format. The idea behind the book club was to create a space where teachers might read and use texts as the catalyst to make sense of personal and professional worlds in a social, relational, and safe environment (Kooy, 2006). Over the course of two years, volunteer members of the book club met every six weeks and discussed a book on professional learning that had been mutually chosen. The findings of the study indicated that the context of the book club meeting, the texts and the other members enabled the development of both personal and teaching knowledge. The relational conditions that were supportive, non-threatening and challenging maximized the learning opportunities for the participants and created strong bonds. This emotional and psychological condition cannot be downplayed, as it contributes to teacher engagement in the PLC and is one of the factors that might increase opportunities for professional learning (Kooy, 2006).

There are inherent challenges in meeting the structural and relational conditions for a PLC. Adequate time to meet in the school-based PLCs is a challenge in many high school settings (Hord, 1997). Collegial relationships take time to evolve and through regular meetings, participants are able to take a proactive approach to creating strong relationships and achieve results (Chen & Wang, 2015). To this regard, researchers have advocated for professional development on collaboration, in addition to content (Sjoer & Meirink, 2016). Establishing group norms for the collaboration process may also be helpful (Sjoer & Meirink, 2016). A facilitator can be key in meeting some of challenges of collaborative learning in a PLC (Margalef & Pareja Roblin, 2016), however, facilitators may also face challenges themselves, including "time limitations, the need to avoid the image of experts, and keeping a critical stance whilst building a close relationship with the PLC" (p. 170). Facilitators can

benefit from their own PLC groups to develop strategies to meet these challenges (Jenlink & Kinnucan-Welsch, 2001).

Ultimately, when PLC participants are committed to working together over the long term and cultivating a culture that supports both the physical and relational conditions that are necessary, the experience of professional learning is enhanced (Owen, 2014). School administrators can support this process by providing consistent adequate time to meet (Hord, 2009).

Collective Intentional Learning

Collective intentional learning is the fourth characteristic of an effective PLC. All PLC members can contribute to the process of learning and the creation of new knowledge through collaboration (Hord, 2008). By way of the multiplicity of contributions, innovation in teaching practices can occur (Kempe & Reed, 2014). This collective, intentional learning can take many forms, such as "observing expert teachers or being observed, followed by interactive feedback and discussion; reviewing student work in the topic areas being covered; and leading discussions" (Desimone, 2009, p. 184). These kinds of activities support collective, intentional learning.

A second example of collective intentional learning can be found in a study on pre-service and in-service teacher experiences in a second book club example (Burbank, Kauchak, & Bates, 2010). The researchers studied teachers' perceptions of the utility of professional learning in the book club. In the study, teachers met on a weekly basis to discuss a book of their choosing, from a list of seven choices. The researcher facilitated the discussion and sought to discover connections with teaching practice and the text. Findings indicated that the format of the book club allowed for deep reflection of the text and teaching practice to occur.

The peer-driven dialogue that was guided by the facilitator explored problems of practice and potential solutions. Teacher participants noted that the ability to choose the text to read contributed to a feeling of ownership in the learning. Both novice and experienced teachers participated in the research, with both groups reporting in high levels of professional learning. This study highlights a cooperative learning environment, where all participants feel safe to take risks and share their perspectives (DuFour & Mattos, 2013).

The intentional arrangement of the PLC contributes to the degree to which professional learning occurs and decreases teacher isolation. For instance, PLCs may be organized by grade level, subject taught, or department (Desimone, 2009). These intentional groupings have the potential to create powerful opportunities for discussion and learning. Systemic support, such as "assigning people into meaningful teams, providing time for collaboration, and establishing clarity regarding the focus of collaboration" (DuFour & Fullan, 2013, p. 68) can support learning. Using a case study approach, Tan and Santos Caleon (2016) discovered that the use of a learning study approach in a PLC empowered teachers to uncover problems of practice and develop a common knowledge base that would support their resolution. Elsewhere, Ahn (2017) agreed with Hord's (1997) five dimensions of PLCs but discovered an additional characteristic, which was the importance of opportunities for bottom-up reform initiated by teachers. This finding speaks to the importance of teacher agency in creating engagement in teacher professional development activities for teacher learning.

School-based PLCs potentially provide opportunities for participants to transform "knowledge into practice for the benefit of their learners" (Chai & Kong, 2017, p 1.) It is one thing to understand something intellectually, but it is something else to understand how this looks within one's teaching practice. Collaboration with others helps bridge the gap between

theory and practice, by co-constructing knowledge and application of knowledge through the benefit of others' perspectives and insights. Researchers have identified many ways that this collective learning might occur. For instance "formal and informal discussions, class observation, sharing teaching materials, learning workshops, book study, collaboration in curricular design and development, and teaching evaluation" (Chen & Wang, 2015, p. 435).

Educational researchers have also noted that the topic to be studied needs to reflect student needs, advocating for a student-focused orientation towards professional learning. This implies "that teachers, within a subject panel, possess a strong sense of mission towards their work and have a strong focus of their duties on meeting students' needs, and utilize a wide range of teaching strategies to suit the individual differences" (Sun-Keung Pang, Wang, & Lai-Mei Leung, 2016, p. 238). Collective learning contributes to individual knowledge and also to the common goals of the group as a whole. PLCs have great potential to offer a space where this kind of professional learning can occur.

Collaboration in school-based PLCs is not without its challenges. It often requires a fundamental shift in the habits of discourse and learning, which takes time to develop (Ahn, 2017). In the early stages of PLC development, it may be helpful to have a facilitator present to guide the process of the meeting time, especially if it is a new concept for the school. Owen (2016) observed that the establishment of group norms contributed to the process of building trust in the community.

Shared Personal Practice

Peers helping each other to learn through teaching observations, discussion and feedback was identified by Hord (2009) as the fifth important characteristic of PLCs. This is a different model than traditional formal evaluations of teaching practice conducted by administration. It

requires a trust and a willingness to face both the strengths and the weaknesses of one's teaching practice. In their study on the functioning of PLCs, Chen, Lee, Lin and Zhang (2016) found that trusting collegial relationships were key in sharing teaching practice, explaining that "effective communication, reciprocal relations, collaborative cultures of learning, and recognition of colleague achievement were all significantly and positively related to the shared practices of teachers" (Chen et al., 2016, p. 260). The researchers determined that collegial trusting relationships were key to promoting professional learning. There are many possibilities for the "how" of sharing teaching practice. In another study on PLC development, Owen (2014) found that "specific examples of changing their teaching practices as a result of learning from others through the PLC processes included planning together, observing within team teaching situations and co-assessment" (p. 65).

A challenge in sharing practice is that some teachers may be uncomfortable doing so. Although working in isolation is not particularly effective, it can be safe and comfortable. Collaborating in a PLC requires a shift in attitude regarding how professional learning can or should occur for teachers. In their research study on PLCs, Turner et al., (2018) observed that "both this new way of interacting and the possible perception of professional benefits shifted norms somewhat from autonomy to collaboration and from privacy to group reflection" (p. 82). Change is not easy, but an incremental change approach increases opportunities for shared practice and professional learning to occur. Another challenge is sharing practice is becoming empowered to direct one's own learning by making appropriate choices for problems of practice (Kempe & Reed, 2014). Teachers may not immediately feel capable of being agents of their own learning, when the majority of their professional learning has taken place through instructionist decision making processes (Turner et al., 2018). This change in mindset may

take time to cultivate, but can be supported in PLCs that provide opportunities to process new understandings and challenge problematic beliefs (Vrasidas & Glass, 2007). Elsewhere, learning scientist researchers confirmed that framing school-based PLCs as catalysts for change powered by teacher agency was valued. For instance, in a design-based research project that spanned two years, researchers were able to observe the resolution of tensions in the school-based PLC through a dialectical process. It was discovered that this change in the sense of teacher agency was not present at the outset, but slowly developed over time. With this change in place, participants were then able to implement tools in the PLC to attain the goals of the professional learning. This success led to greater levels of teacher agency and depth of learning that took place in the school-based PLC. (Turner et al., 2018). Other researchers have built on this idea of teacher agency in the PLC. For instance, Severance, Penuel, Sumner, and Leary (2016) conducted a design research project and discovered that the design of a PLC could impact how teachers co-create curricular material and develop teacher agency, placing teachers at the forefront of educational change (Severance et al., 2016). The researchers found that the intentional design of the teacher community could help teachers leverage their expertise and build capacity for professional learning to occur, the result being both the content of the new materials and the modifications of the design itself.

This section of the literature review explored the benefits and challenges of implementing the common characteristics of PLCs. Current educational research points to how teacher agency can be developed in these communities.

Conceptual Framework

In educational research, a conceptual framework can give form to the tenets of the theoretical framework assumptions and provide a mechanism for the researcher to conduct the

study (Miles, Huberman, & Saldaña, 2014). My review of the literature, my own professional experience, perceptions and insights and my research questions informed the conceptual framework for the study. This framework supports both the design and the implementation of the study and will serve as a mechanism for studying the phenomenon under investigation. The researcher needs to be selective when choosing components that will make up the conceptual framework for a study, deciding "which variables are most important, which relationships are likely to be most meaningful, and, as a consequence, what information should be collected and analyzed" (Miles et al., 2014, p 20). The selected categories showed the best potential for understanding the important features of teacher professional learning in school-based PLCs. They include: professional learning, definition of purpose, barriers to learning and facilitators of learning. Each category for the conceptual framework is directly related to my four research questions. The first research question is: How do high-school teachers perceive their professional learning experiences in school-based PLCs? In this question, I want to capture the participant responses that pertain to their perceptions of professional learning experiences in school-based PLCs. As such, an appropriate conceptual category for this question is "professional learning". My second research question is: What is the purpose and the function of school-based PLCs? This question aims to identify to how a definition of the existing school-based PLCs came to be, and how the teachers interpret the definition. An appropriate conceptual category for this category will be "definition of purpose". My third research question is: What are the barriers to learning in school-based PLCs? This question aims to identify what factors hinder professional learning within school-based PLCs and so an appropriate conceptual category for this question is "barriers to learning". My final research question is: What are the facilitators for learning in school-based PLCs? This question aims to

identify the factors that support professional learning in school-based PLCs and an appropriate conceptual category is “facilitators of learning”. Figure 1 presents the conceptual framework for the study.

Figure 1. Conceptual framework for the study of teacher perceptions of professional learning experiences in school-based PLCs.

Positioning of the Study

Educational researchers such as Darling-Hammond et al., (2017), DuFour (2004) and Hord (1997) have advocated for the implementation of school-based PLCs for the development of teacher professional learning. The definitions and understandings of the function and the purpose of PLCs has been problematic, with many possibilities of interpretation existing in the educational literature. In many K-12 educational contexts, this is resulting in the unintentional design and implementation of the PLC, which may not be effective in supporting teacher professional learning. The potential benefits of school-based PLCs are well-documented, however, their actual implementation sometimes falls short of expectations (Sims & Penny,

2015). An improved understanding of the conditions that support teacher professional learning in school-based PLCs could positively impact participants' experiences and student educational outcomes. To date, more knowledge on the nuances of how a mature or highly-functioning PLC operates could positively impact the experience (Katz, Earl, Jaafar, Elgie, Foster, Halbert & Kaser, 2008; Owens, 2016).

There are many studies on PLCs in the educational literature (Ahn, 2017; Bolam et al., 2005, Branham & Muñoz, 2016; Burbank et al., 2010; Chen et al., 2016; Lee & Kim, 2016; Owen, 2016; Sims & Penny, 2015; Sjoer & Meirink, 2016; Sun-Keung Pang et al., 2016; Tan & Santos Caleon, 2016; Turner et al., 2018; Vescio et al., 2008; Wang, 2016; Zhang & Pang, 2016), but more studies that focus on teacher perceptions of their professional learning experiences within the school-based PLCs would be valuable, as teachers play a key role in how this learning is enacted in student educational experiences (Fishman et al., 2014). My study sought to contribute to the educational literature by focusing on how teachers perceive their professional learning in school-based PLCs. A greater understanding of these perceptions could lead to the improved design and implementation of school-based PLCs that supports teacher professional learning at the research site and may be transferable to schools that are similar in context.

Chapter Two Summary

The current chapter presented the theoretical and conceptual frameworks for the study and explored the educational research pertaining to teacher professional learning, teacher professional development and professional learning communities. From the review, it was possible to identify a gap in the literature regarding the nuances of design and implementation choices that impact teacher professional learning experiences in school-based PLCs and this is

where the current study is positioned. In Chapter Three, the details regarding the design and the implementation of the study will be presented and discussed.

CHAPTER THREE: RESEARCH DESIGN

The purpose of my study was to explore high school teacher perceptions of professional learning experiences in school-based professional learning communities (PLCs). A greater understanding of teachers' perceptions was sought so as to improve the design of the school-based PLCs and strengthen teachers' professional learning experiences and outcomes within a private high school context in the United States. In the following sections I address all aspects of the research design such as the rationale for a qualitative case study methodology and my epistemology or philosophical assumptions, the research questions that guided my inquiry, the sampling of participants, the research site, the data collection and analytic methods, ways to ensure the integrity of my study, limitations and delimitations of my study, ethical considerations and the background and role of the researcher.

Philosophical Assumptions

Educational research is impacted by the researcher's philosophical assumptions about the world and how people learn (Merriam, 1998). An essential first step in planning a research project then, is for the researcher to identify the ontological and epistemic claims that guided all aspects of the study (Creswell, 2018). In the following sections, I discuss these ontological and epistemological assumptions.

Ontology, or the nature of reality (Creswell, 2007) concerns "the worldviews and assumptions under which researchers operate in their search for new knowledge" (Schwandt, 2007, p. 190). Positivism, postpositivism, critical, constructivist or interpretivist and participatory are possible world views influencing the choice of research methodology (Guba & Lincoln, 1994).). Each of these orientations differ in approach and will impact all facets of the design and execution of a research project and so the researcher needs to be clear on which

ontological orientation best suits his or her personal attributes and the specific objectives of his or her research study.

For my study, I choose to follow a constructivist or interpretivist approach. In this type of research, "education is considered to be a process and school is a lived experience" (Merriam, 1998, p. 4). An interpretive approach requires an intentionality on the part of the researcher to enter into and understand the "very secrets and intimacies which are constitutive of the world, and which bring the world as world into being for us and in us" (van Manen, 1990, p. 5). This approach assumes that multiple perspectives of reality are possible and are constructed by individuals (Merriam, 1998). In my study, for instance, teacher perceptions of professional learning in school-based PLCs were posited to be different for each of the participants. My data collection methods enabled me to have access to this information and understand the nuances of these individual teachers' professional learning experiences.

In addition to stating my ontological orientation, it was necessary to specify my epistemic view. Epistemology has to do with what knowledge is (Creswell, 2018) and it needs to align with the chosen ontological orientation (Merriam, 1998). For my study, I identified with a constructivist epistemology, which claims that "learning involves the active creation of mental structures, rather than the passive internalization of information acquired from others or from the environment" (Nathan & Sawyer, 2014, p. 24). The ontological and epistemological approaches of the study enabled me to ask the research questions that would provide insight into the experience of teacher professional learning in school-based PLCs.

Methodology: Case Study

I chose a qualitative research approach for my study. This approach was appropriate because it allowed for data collection methods that could explore the phenomenon of teachers'

perceptions of professional in school-based PLCs and answer the research questions (Bloomberg & Volpe, 2012; Creswell, 2015). Further, I chose a single case study methodology because of the need to have an in-depth understanding of the teachers' perceptions of professional learning experiences, which were bounded within the school-based PLCs.

A qualitative case study is "an intensive, holistic description and analysis of a bounded phenomenon such as a program, an institution, a person, a process, or a social unit" (Merriam, 1998, p. xiii). Case study was further defined by Stake (1995) as an exploration of the nuances of contextual bounded systems of time and activity. The choice of a single case study approach in my research was appropriate because a thick description of the teacher participant perceptions of professional learning experiences in the school-based PLCs was desired. A case study approach permits "more detail, richness, completeness, and variance - that is, depth - for the unit of study than does cross-unit analysis" (Flyvbjerg, 2011, p. 301) and for this reason a qualitative case study was suitable.

Case study methodology is often chosen in qualitative research and yet there is disparity amongst educational researchers as to its definition and implementation practices. The three seminal case study methodologists are Robert K. Yin (2017), Sharan Merriam (1998) and Robert E. Stake (1995). All three share differences and similarities in terms of their epistemic view, definition of case study, design of case study, gathering of data, analyzing of data and validating data (Yazan, 2015). Yin emphasizes objectivity, validity and generalizability in his research design, resulting in a positivistic orientation (Yazan, 2015). On the other hand, Stake (1995) advocated for a constructivist stance towards research design, where he interprets constructed meanings and that "there are multiple perspectives or views of the case that need to be represented, but there is no way to establish, beyond contention, the best view" (p. 108).

Similar to the constructivist stance of Stake, Merriam (1998) has noted in her classic "that reality is not an objective entity; rather, there are multiple interpretations of reality" (p. 22). She differed in her perspective through her view that knowledge acquisition is reliant on the social construction of meaning and that the researcher's perception of this reality adds another layer to the interpretive process (Merriam, 1998). She explained that "the key philosophical assumption upon which all types of qualitative research are based is the view that reality is constructed by individuals interacting with their social worlds" (Merriam, 1998, p. 6) and thus she emphasized process as an important potential unit of study. Case study as defined by Merriam (1998) also allowed for rich descriptions of a unit of study and so it was my contention that of the three foundational case study methodologists, Merriam's approach was most closely aligned with my own ontological and epistemic orientations.

There are strengths and limitations inherent in the selected choice of case study methodology. In educational research, the challenge is to select the approach that will effectively address the research questions, while minimizing potential limitations to the study. A strength of a case study approach is that it "offers a means of investigating complex social units consisting of multiple variables of potential importance in understanding the phenomenon" (Merriam, 1998, p. 41). A case study approach is often situated in a real-life context, where the researcher can describe a setting and its' participants experiences within that setting (Bloomberg & Volpe, 2012). This description is followed by an in-depth analysis of the data collected, where the researcher seeks patterns, themes, and meanings (Merriam, 1998; Stake, 1995). Case study is often used in educational research for this reason, as it allows for on-site understandings, which in turn have potential to improve programs, practice, or inform theory by providing the means to for an in-depth, rich description of the phenomenon to occur

(Merriam, 1998). In my study, teacher perceptions of professional learning experiences in school-based PLCs was the phenomenon under investigation, thus, a case study methodology was a suitable choice. My intent was to improve the existing school-based PLCs by providing insight into the teachers' professional learning experiences within this context.

There are at least three limitations to a case study approach. First, a limitation of this approach was identified by Merriam (1998), who recognized that the time required to collect and analyze multiple sources of data properly in a case study could lead to inaccurate or oversimplified results. Second, the possibility of researcher bias may influence the data collection and analysis, as well as the interpretation of the findings because the researcher "brings a construction of reality to the research situation, which interacts with other people's constructions or interpretations of the phenomenon being studied" (Merriam, 1998, p. 22). Finally, the nature of qualitative research does not lend itself to generalizability (Denzin & Lincoln, 2011) and so a criticism of case study research is its lack of generalizability (Yin, 2017) to other contexts, given the single unit of study.

Despite its' limitations, case study methodology is still valuable in educational research (Flyvbjerg, 2011). A case study approach allows for an in-depth understanding of a phenomenon and is particularly valuable in educational research (Merriam, 1998). Understandings can then be examined and can in turn impact and improve practice. Although the limitations are present, there are strategies that may be used to mitigate their effects. These strategies include providing a detailed description so that others may ascertain if the findings are transferable (Merriam, 1998). The existence of these limitations should not prevent case study methodology to be used when appropriate, as there is great value in this methodology and what it can tell the researcher about a phenomenon. A single case study provides an opportunity

for the researcher to immerse himself or herself into the context fully and focus on the lived experiences of the participants; it has the potential to provide information and insight that would not otherwise be available.

The Research Site

Participants for the Case Study

Qualitative sampling involves the in-depth study of small groups of people in a specific context, as opposed to quantitative sampling, which often studies larger groups of people and seeks statistical information (Miles et al., 2014). The sampling of participants for the research study included high-school teachers from one school-based PLC in a private, Catholic high-school setting in the United States. The research site was selected to gather data regarding teacher professional learning in school-based PLCs, so that supports for teacher professional learning within this context could be improved.

I chose a purposeful sampling procedure for my study because it was the optimum choice for understanding the phenomenon and responding to the research questions (Creswell, 2018). Explaining its value, Merriam (1998) stated that "purposeful sampling is based on the assumption that the investigator wants to discover, understand, and gain insight and therefore must select a sample from which the most can be learned" (p. 61). It was my intention to understand high-school teachers' perceptions of professional learning experiences in a school-based PLC and it was necessary to speak with the teachers themselves. Further, a typical sampling was chosen because it "is a form of purposeful sampling in which the researcher studies a person or site that is 'typical' to those unfamiliar with the situation" (Creswell, 2015, p. 207). I chose a private, Catholic high school setting in the United States as the bounded unit of study. The site was also my workplace and I wanted to contribute data that could lead to

improvements in the design of school-based PLCs at our school. There were ten teacher participants in the study and they were chosen on a voluntary basis. All of the participants were teachers who had participated in a school-based PLC at the research site for one to two years. I also considered including the principal and the assistant principal in the study, however, the assistant principal had resigned from the school and the principal supported the study but did not wish to participate in the study.

Data Collection Methods

Case study research requires an in-depth exploration of a phenomenon within its real-world context (Merriam, 1998). As such, it is important to ensure that multiple sources of data are collected and used to provide a study of the phenomenon, that is, teachers' perceptions of professional learning experiences in school-based PLCs. These multiple data sources also provide opportunities for triangulation of data that increase the internal validity of a study (Merriam, 1998). Therefore, I chose to use three data collection methods: documentation, participants' demographic background questionnaires and interviews. In the following sections, I explain each of the collection methods in chronological order.

First, I collected a single digital document related to the school-based PLCs. This document was created by a former teacher at the school who began the school-based PLC initiative as part of his Master of Education program. The documentation was in the form of a PowerPoint presentation that he presented to the staff prior to the implementation of the school-based PLCs. As the document was considered school property, I obtained informed consent for its use in my study from the principal of the school. After reviewing the document, I summarized and recorded the pertinent data (Bloomberg & Volpe, 2012). The data included the definition and the purpose of the school-based PLCs at the outset of the program, the

organization of the PLC groups and the subjects to be studied within the groups. This document was used for background information only.

Second, I administered a paper-and-pen based background questionnaire to the teacher participants to develop a profile based on demographic variables including years of teaching experience and prior experience in both teacher professional development and professional learning communities. From the demographic information, I hoped to gather information about factors that may have influenced the teacher participants' perceptions of professional learning experiences in school-based PLCs. The background questionnaire is attached in Appendix A. Background questionnaires are valuable in qualitative research, because of their relative ease in management and administration, however, they are not appropriate for examining complex interactivity of a phenomenon (Bloomberg &Volpe, 2012). In my study, the demographic information provided a means to provide a holistic description of the bounded unit of study and was a logical first step in the data collection process. It did not provide the whole picture of the phenomenon, but it provided valuable information that led to discoveries regarding the experience of teacher professional learning in school-based PLCs.

Third, I conducted one-on-one semi-structured interviews with the teacher participants. In qualitative research, interviewing is often chosen because it "is necessary when we cannot observe behavior, feelings, or how people interpret the world around them" (Merriam, 1998, p. 72). The interviews were considered the primary method of data collection in my study because of the potential to provide detailed descriptions of the phenomenon and allow me to ask further questions. A major strength of the interview as a primary method of data collection is that it allows participants to fully share their perspectives on an experience. In my case study, I was interested in studying how the teacher participants experience professional

learning and so their articulation of this individual and collective experience was best captured by in-depth one-on-one interviews. Interviews allow the researcher to collect "a special kind of information" (Merriam, 2009, p. 71). This information permits the researcher to understand things that are not directly observable, in this case the teachers' experiences of professional learning in school-based PLCs, which was situated in a private, Catholic, high school setting. Hence, interviews were not only an appropriate choice, they were the only choice for gathering the information that was being sought (Merriam, 2009).

The one-on-one interviews took place at the school site in a private meeting room. Each interview took about 30-60 minutes in length and included eleven questions (see Appendix B for a copy of the semi-structured interview protocol and questions). The interviews were audio recorded and transcribed verbatim myself. I assigned pseudonyms to the teacher participants. The primary questions covered in the interview probed into the teacher participants' perceptions of professional learning experiences within the school-based PLCs. The sub-questions included their understanding of the definition and the purpose of the school-based PLCs and barriers and facilitators of their professional learning within the school-based PLCs.

When designing questions for a qualitative case study, researchers need to first consider the amount of structure desired for the interview questions (Merriam, 1998). For my study, I selected a semi-structured approach. A highly structured approach was not appropriate for this study because "rigidly adhering to predetermined questions may not allow you to access participants' perspectives and understandings of the world" (Merriam, 1998, p. 74). The research study is concerned with participants' perceptions of professional learning experiences in the school-based PLCs and so a highly structured format was not suitable. Further, in developing highly structured questions, researchers sometimes let their own bias or

preconceived ideas guide the creation of the questions (Merriam, 1998) and I wanted to ensure that I minimized this possibility. An unstructured approach was also not appropriate for the interview protocol because this type of interview is most often used for a phenomenon that the researcher may know little about and is used as a starting point for research. Additionally, there is a strong possibility of becoming overwhelmed with data that is not useful to the study (Merriam, 1998). Hence, a semi-structured approach was appropriate, because it provided some structure to guide the questions, but also some flexibility to pursue interesting participant perceptions when they occurred.

The interview questions were developed using my constructivist paradigm for learning conceptual framework on school-based PLCs that I presented in the literature review of my dissertation and the research questions. I prepared in advance for the interview process, because "the success of an interview depends on the nature of the interaction between the interviewer and the respondent and on the interviewer's skill in asking good questions" (Merriam, 1998, p. xiii).

I designed the interview questions with the teacher participants' potential responses in mind and I ensured that the final draft of interview questions reflected my conceptual framework and the research questions.

The wording of questions is also important in the interview process (Merriam, 1998). As I developed my interview questions, I ensured that I clearly stated the questions and that the word choices were appropriate. I sought feedback from my supervisors on the wording of the questions and implemented their suggestions for improvement. The interview questions were interpretive in nature as described by Merriam (1998). Interpretative questions allow participants to articulate their perceptions of a phenomenon. I avoided the use of any

inappropriate or unclear questions in the interview protocol, by avoiding the use of multiple questions, leading questions, and yes-or-no questions (Merriam, 1998). I also considered the order of the questions asked, for as Merriam (1998) stated, "generally it is a good idea to ask for relatively neutral, descriptive information at the beginning of an interview" (p. 82). This strategy can serve to build a foundation upon which the researcher can then build upon, eliciting more complex answers in regards to participant experiences of professional learning.

Similar to interpretive questions, probes are "also questions or comments that follow up something already asked" (Merriam, 1998, p. 80). As the interviews were considered the primary data collection instrument in my study, I sought opportunities for probes to take place during the interviews. Such opportunities included "asking for more details, for clarification, for examples" (Merriam, 1998, p. 80), but they also included being silent and patient, allowing time for the participant to reflect. I kept reflective notes as I conducted the interviews, highlighting how and when probing questions elicited the richest responses. This helped me to improve my interview skills and collect the data necessary to answer the research questions in my study.

Methods of Data Analysis

Educational researchers such as Merriam (1998) advocated for collecting and analyzing data simultaneously in qualitative research in a recursive fashion. Data needs to constantly be consolidated, synthesized and interpreted to inform interpretations of the existing data and generate ideas as to how to collect improved data (Miles et al., 2014). This differs from quantitative research, where data collection is followed by data analysis (Creswell, 2015). Further, there is a subjective quality to the data analysis in qualitative research because it relies on the perspective and interpretation of the researcher (Merriam, 1998). Following the advice

of Creswell (2018), I employed six steps for data analysis: (a) organize the data, (b) read through all the data, (c) begin detailed analysis with a coding process, (d) use the coding process to generate a description of the setting or people as well as categories or themes for analysis, (e) advance how the description and the themes will be represented in the qualitative narrative, and (f) develop an interpretation of the data. These suggested steps for data analysis were used in a recursive fashion, as advocated by Merriam (1998) and Miles et al. (2014). This ensured that there was a balance of structure and flexibility in the data analysis process and allowed for a thorough description of the phenomenon.

The first step of data analysis then, was to organize the data. I transcribed each interview verbatim, constantly checking for accuracy by playing and then re-playing the recording. I read and re-read each transcript. I highlighted possible quotations for future use and made notes in the margins regarding my first impressions of the big ideas that were emerging as suggested by Creswell (2018). I conducted member checks by sending each participant a copy of their interview transcript through e-mail and allowing them two weeks to make any desired changes. I gathered and sorted the demographic and background information, which included the background questionnaire and the documentation relating to the school-based PLC. I read and re-read these documents and highlighted text that pertained to my research questions and made notes in the margins regarding the emergent ideas as suggested by Creswell (2018). I created data summary tables for the documentation.

The second step in my data analysis was to read through all of the data and look for the main ideas. I read through the data several times and made notes in the margins of the text as suggested by Creswell (2015). The notes included short phrases, ideas and questions that came

to mind. In reading through the data multiple times, I endeavored to get a sense of the data as a whole, before breaking it down into constituent parts.

The third step was to begin a detailed coding process for analysis. Coding refers to "the process of segmenting and labeling text to form descriptions and broad themes in the data" (Creswell, 2015, p. 242). In qualitative research studies, the amount of data collected can be extensive, and coding is helpful in condensing this data into manageable, relevant chunks (Miles et al., 2014). Coding enabled me to find the information to answer my research questions and enabled the in-depth analysis required for the study (Miles et al., 2014). I used a deductive coding approach as suggested by Miles et al. (2014) using the categories established in the conceptual framework of the research study to establish an initial list of codes. This approach aligned with my interpretive framework because it enabled me to focus on the most important aspects of the lived experiences of the teachers in terms of their perceptions of professional learning experiences in school-based PLCs and enabled me to answer the research questions. Hence, the coding included (a) teacher professional learning, (b) facilitators of teacher professional learning (b) barriers to teacher professional learning and (d) definition of the purpose and the function of the school-based PLC. I identified text segments that pertained to each of the categories guided by my conceptual framework. This lean coding as recommended by Creswell (2015), was appropriate for the research study for two reasons: First, it ensured that the amount of data is manageable, and second, it allowed me to go into greater detail with my analysis.

Saldaña (2013) divided coding into First Cycle and Second Cycle stages. First Cycle coding refers to the initial codes developed and Second Cycle coding further condenses and refines the initial codes. For the First Cycle coding, I used a deductive approach and started

with the four categories from my conceptual framework. The First Cycle coding enabled me to begin to break down elements of each of the conceptual categories into specific conditions of the teacher lived experiences in the school-based PLC. I used two methods of coding as suggested by Miles et al. (2014) including: descriptive coding (identifying the basic idea in a word or short phrase of text) and in vivo coding (using words or phrases in the own language of the participant). I examined all sources of data and applied thematic codes to the pertinent segments. Table 1 presents an example of my First Cycle coding of the interview data.

Table 1

Example of First Cycle of Coding

Participant	**Quote**	**Initial Coding**	**Conceptual Framework**
Steve	I think it should focus more on expanding their own content and their own discipline.	Focus on content area	Teacher Professional Learning
Sharon	It is also not optional. I wonder if they gave you several options of how you would want to do it or how you would want to meet people would be more interested.	Teacher input, choice, agency	Definition of the Purpose
Sally	… and having that exposure and being able to talk to with my co-workers about different ways that they are finding creativity to get to the students.	Collaboration	Facilitators of Learning
Samantha	What is important to me is sufficient time.	Lack of time	Barriers to Learning

After I completed the First Cycle coding, I had generated a total of 53 initial codes across the four categories of my conceptual framework. For my Second Cycle coding, I used Subcoding (Miles et al., 2014) to enrich the initial codes. Subcoding was necessary because it is effective for research studies with multiple participants and it enables a nuanced understanding and thick description of the phenomenon (Miles et al., 2014). I created data summary tables for each of

the four conceptual categories in the study and I documented the number of pertinent participants for each subcode. Table 2 presents an example of Second Cycle Subcoding.

Table 2

Example of Second Cycle of Subcoding

Pseudonym	Group Formation	Teacher Agency: Goal	Teacher Agency: Topic	Teacher Agency: Group
Steve	X			
Bob	X	X		
Carrie	X		X	
Samantha	X		X	X
Sharon	X		X	X
Peggy	X		X	
Veronica			X	X

The fourth step in my data analysis involved generating a description of the themes. In qualitative research, a description is "a detailed rendering of people, places, or events in a setting" (Creswell, 2015, p. 244). I used the Second Cycle subcoding from step three to begin to write my descriptions of the themes. My descriptions pertained to the research questions that I asked and answered these questions as I developed my written descriptions. Next, I described the themes of the data to continue with my data analysis. Themes are important in qualitative research, because they point the researcher to the important ideas in the data (Creswell, 2015). I looked for a variety of themes, such as ordinary themes, unexpected themes, hard-to-classify themes, and both major and minor themes, as recommended by Creswell (2015). I was particularly interested in multiple perspectives that emerged from the themes, because I wanted to understand how different participants experienced their professional learning in different

ways in the school-based PLC. I included multiple perspectives because they "are important when conveying the complexity of the phenomenon in qualitative research" (Creswell, 2015, p. 249). When all of the perspectives had been identified, I continued to step five.

In step five of the data analysis I began to develop the descriptions into the qualitative narrative. A narrative discussion "is a written passage in a qualitative study in which authors summarize, in detail, the findings from their data analysis" (Creswell, 2015, p. 253). I used detailed language to provide an in-depth description of the phenomenon, often using direct quotes from the participants as recommended by Creswell (2015). The four categories of my conceptual framework provided a useful way to keep the data organized, permitting me to see where I had adequate data and where my data was lacking. My conceptual framework served as a map for my research study and helped me understand what was happening in the phenomenon under investigation and why (Miles et al., 2014).

The final step following my data analysis was the interpretation of the findings. Even though analysis and interpretation occurred in a recursive fashion throughout the research study, there is a point where researcher conclusions need to be drawn. I focused on the following aspects: (a) a synthesis of the findings of the study, (b) researcher interpretations of the data, (c) how these interpretations compare or contrast to the literature, (d) limitations of the study, and (e) suggestions for future research (Creswell, 2015).

Integrity of the Study

In qualitative studies, researchers must be concerned with issues of integrity, so that the validity and reliability of the study are preserved (Bloomberg & Volpe, 2012). Researchers attend to the integrity of a qualitative study differently than in a quantitative one, as researcher bias is more prevalent in the former than the latter. Thus, the onus is on the researcher to

demonstrate that they have systematically approached the data collection and analysis in a rigorous way, so that misinterpretations of data do not occur (Bloomberg & Volpe, 2012). Credibility, dependability, confirmability and transferability are key terms in establishing the validity and reliability of a research study (Miles et al., 2014). As such, I attended to these terms in all facets of my data collection and analysis in the research study. This will be explained in the next section of the dissertation in greater detail.

Credibility. Credibility refers to the extent to which the findings of the study are credible to all participants in the research, including the researcher, the participants, and the reader (Bloomberg & Volpe, 2012). To ensure credibility, qualitative researchers often employ multiple procedures to offer different perspectives and confirm findings (Bloomberg & Volpe, 2012; Creswell, 2015). In my study, I examined and analyzed documents pertaining to the school-based PLCs, administered a paper-and-pen version of a background questionnaire and conducted one-on-one semi-structured interviews. Triangulating the data in this way provided a holistic view of the phenomenon and confirmed the emerging findings (Merriam, 1998). A second strategy to promote credibility is member checking, where the researcher checks with one or more participants to confirm accurate understandings of the collected data (Creswell, 2015; Miles et al., 2014). I conducted member checks to ensure that my descriptions, themes and interpretations were accurate throughout the interviews. Specifically, I checked for understanding as the interviews were underway and I also sent the interview transcripts to participants for verification, allowing them two weeks to review the transcripts and make any necessary changes. Third, I identified the potential biases of the study, given that I was a teacher at the school and a member of a school-based PLC group. I minimized the potential bias by keeping a reflective journal to develop my self-awareness of any potential researcher

bias. In my journal, I also reflected on my ability to remain neutral in the interview setting. This awareness helped me to develop the skill of wearing my "researcher's hat" and not my "colleague hat" as I completed the interviews.

Dependability. In qualitative research, the dependability of a study is concerned with the consistency of methodological strategies that are conducted throughout the study (Bloomberg & Volpe, 2012). As the researcher, I must demonstrate that a consistent use of methodological procedures have been followed. To this end, I maintained an audit trail by describing in detail how the data was collected and analyzed and why these decisions were made (Merriam, 1998).

Confirmability. The confirmability of a qualitative research study reassures the reader that the findings "are the result of the research, rather than an outcome of the biases and subjectivity of the researcher" (Bloomberg & Volpe, 2012, p. 126). I used a number of strategies to promote the confirmability and objectivity of the study. First, I was as self-aware as possible with my "personal assumptions, values and biases, and affective states" (Miles et al, 2014, p. 312). I achieved this by keeping a reflective journal and through discussion with my doctoral supervisors, professors and colleagues. Second, I was explicit about this potential source of bias throughout the study. I was clear about the methods and procedures of the study and I followed a logical sequence of data collection, analysis and reporting that were justified and explained throughout the dissertation (Miles et al., 2014). Each phase of the study was discussed and examples were provided when possible. Finally, I ensured that the conclusions were clearly linked to the data collected and that the data was recorded and available for reanalysis by others (Miles et al., 2014).

Transferability. Generalizability will not be possible with a single case study methodology, but transferability (Lincoln & Guba, 1985), or how the phenomenon studied at the research site might transfer to another similar site is possible. To this end, I provided detailed descriptions of both the research site and the participants' perceptions of teacher professional learning experiences in school-based PLCs.

In a case study approach, issues around reliability and validity have been identified as limitations (Merriam, 1998). Drawing on the extensive experience and suggestions of the seminal researchers in case study was important to minimize the impact of these limitations. As such, although there were limitations to the case study methodology, these were outweighed by the potential of the approach to respond to the research questions in impactful ways. As the researcher, I was aware of the limitations and I mitigated their potential effect by attending to the credibility, dependability, confirmability and transferability aspects at all stages of the research process.

Limitations and Delimitations

There were three known limitations of my research study. First was the issue of researcher bias. In qualitative research, there is a subjective component to the interpretation of data because the researcher's interpretation is shaped by their individual thoughts and experiences. My participation in a school-based PLC for the previous two years was a potential source for researcher bias. I have developed friendships with the teachers over the last two years, which could also potentially contribute to researcher bias. To mitigate this potential bias, I maintained a reflective journal to promote self-awareness of my personal assumptions, values and biases. Further, I was explicit about these potential biases during all stages of the study and I kept detailed records that are logical and transparent in nature. During the

interview process, I confirmed my interpretations of the data with the participants by checking to make sure that I had understood them correctly.

A second limitation was that the participants may have experienced difficulty with my role change from colleague and friend to interviewer. This could potentially cause the participants to alter their responses to be supportive of my research. To mitigate this limitation, I removed the participant names from the transcripts and assigned pseudonyms, so that I was not able to use previous experience or thoughts of the individual to influence my analysis of the data. In the interview setting, I promoted honest and open communication with the participants and made sure that they felt comfortable expressing their perceptions. A third limitation was the lack of generalizability of the study. A single case study will not be generalizable, but aspects of the results may be transferable to similar educational contexts, that is, private, Catholic high schools situated in a North American context. To mitigate this limitation, I provided detailed data from the school-based PLC documents, the teacher background questionnaire and the one-on-one semi-structured interviews.

For my study, there were two delimitations. First was the bounded unit of analysis, which included the teacher participants in school-based PLCs at the research site. This included any teachers who had participated in the existing school-based PLCs at the research site, regardless of years of participation. Second, the phenomenon of teacher experiences of professional learning in school-based PLCs was the only subject under investigation.

Ethical Considerations

This study was conducted only after ethics approval was received from the University of Calgary Conjoint Research Ethics Board. Permission for the study was also sought from the proposed school board superintendent and the school principal.

Informed consent was obtained from participants prior to the commencement of the interviews. A recruitment letter and the informed consent forms included a description and a rationale of the research study, the voluntary nature of the study and explained how issues of privacy and confidentiality of transcripts would be addressed. To protect participants' privacy, interview transcripts were coded using pseudonyms and were safely stored at my home in a locked filing cabinet that was only accessible by me. Digital files were password protected and encrypted. Digital and paper files will be destroyed after five years.

Background and Role of the Researcher

In qualitative research, the background and the role of the researcher are important, because "the investigator is the primary instrument for gathering and analyzing data and as such, can respond to the situation by maximizing opportunities for collecting and producing meaningful information" (Merriam, 1998, p. 20). The researcher's role in the research is participatory (Merriam, 1998), in the sense that researcher perceptions are subjective in nature. Researchers need to be aware of how their personal construction of meaning may impact the design, implementation and analysis while completing the study. I recognized that my personality traits could potentially influence the research process in either a positive or negative way. Tolerance for ambiguity, sensitivity and communication skills are desirable traits in qualitative research (Merriam, 1998) and so I built upon my strengths and worked to improve on my areas of weakness to mitigate any possible risk.

In terms of researcher bias, I was aware that my previous experience in professional development and participation in the school-based PLC were a potential threat to maintaining objectivity while performing the research. I reduced the risk of personal bias by writing in a

reflective journal, conducting member checks, maintaining audit trails and seeking doctoral supervisory feedback throughout the research process.

Chapter Three Summary

The present chapter described the research design for my study. Case-study methodology was used to explore the phenomenon of high school teacher perceptions of professional learning experiences in school-based Professional Learning Communities (PLCs) within a private, Catholic high school in the United States. The data sources included documentation, a teacher background questionnaire and interviews. Data analysis was reported using an iterative process, culminating in the narrative report of the thematic findings of the study. This chapter also presented trustworthiness of the study, ethical considerations and my role as the researcher. In Chapter Four, I present the findings from the study.

CHAPTER FOUR: FINDINGS

The purpose of this qualitative single case research study was to explore high school teacher professional learning experiences in school-based professional learning communities (PLCs). This chapter presents the key findings of the study and is organized into three sections. First, I describe the context and provide background and demographic information for each participant. Second, I present the major themes and sub-themes obtained from my data analysis of the research study. Third, I provide a summary of the chapter.

Context Description

This case study was conducted in a private, Catholic high-school located in the suburbs of a major city in the northeastern and Mid-Atlantic United States. The school was opened in 2012, but existed for 75 years at a different location. At the time of the study, there were 570 students enrolled in grades 9-12. The staff included one principal, two assistant principals, a chaplain, two divisional deans of student affairs, an office manager, clerical staff and 45 teachers. The teacher student ratio was 12:1. There were 30 honors classes offered at the school and over 45 extracurricular activities. Tuition was $11,000.00 per year (USD) and over 60% of enrolled students received financial aid or scholarships.

In the United States, teachers are legally required to participate in continuous professional learning. According to the Pennsylvania Department of Education (PDE) (2016):

> Educators must earn six credits of collegiate study; or six credits of PDE-approved continuing professional education courses; or 180 hours of continuing professional education programs, activities or learning experiences through a PDE-approved provider; or any combination of the above every five years to maintain active certification status. (p.1)

The school-based professional learning communities (PLCs) at the research site have existed for three years. The formation of the school-based PLC groups began as a graduate school project for a former teacher's Masters of Education Program. As part of this graduate program, the teacher needed to create and launch a program or initiative to help make the school a better place and provide opportunities for regular professional development activities that could be used for Act 48 hours. Through conversations with the principal of the school, the teacher and the principal decided that a learning environment for teachers was a missing element at the school and it was thought that its implementation could help increase collaboration amongst teachers and improve school culture in general. In addition, the principal and teacher hoped it would create support systems for teachers and promote the idea of lifelong learning. The teacher gave a presentation on the concept of the PLC at the end of the 2015-2016 school year during an in-service meeting for teachers. The community was launched during the 2016-2017 school year. In year one, the administration team and the teacher who initiated the project created six groups or communities. Each school-based PLC group consisted of beginning and experienced teachers and teachers from different subject areas, including language arts, social studies, math, science world languages and health and physical education. The groups also included part-time teachers, office and clerical staff. The idea was to provide a venue for collaboration on cross-curricular projects in the school and an opportunity for teachers and staff members to talk with others they rarely saw on a day-to-day basis. Each group was assigned a facilitator. The principal assigned each PLC group a different book to read that was either on an educational practice or on the topic of Catholic identity and mission. Each group was responsible to discuss the book together throughout the school year virtually (i.e. using an Office 365 OneDrive document) and face-to-face (during in-

service meetings or on their own time) and then report how the book related to the school and the classroom to the entire faculty at the end of the school year. The teacher explained that the purpose of the school-based PLCs was to foster collaboration, lifelong learning and to support each other, especially teachers new to the staff or to the profession and to build a sense of community amongst the teachers. The community time was also to provide opportunities to engage in professional development activities that were eligible to count as Act 48 hours that are required by each teacher. All teachers at the school were obligated to participate in the school-based PLC each year. All of the topics pertained to religious study and so school-based PLC time was not eligible for the Act 48 hours (Pennsylvania Department of Education, 2016) required by all teachers.

In year two, the teacher initially responsible for the project took a teaching position at another school. The facilitation of the school-based PLC was handed over to the school principal. At this time, one change was made to the existing program. The virtual component of the community was eliminated, due to lack of use in the first year. The principal again assigned each PLC group a different book to read that was either on an educational practice or on the topic of Catholic identity and mission. The principal did not designate facilitators of the school-based PLC in year two; it was unclear why this was the case. Each group was responsible for reading and discussing the assigned book at in-service meetings throughout the year or on their own time. As the year progressed, it became apparent that there would not be enough time for all of the groups to present their book to the entire faculty, due to other items taking precedence at the in-service meetings.

In year three of the program, the principal made additional changes. The principal still decided on the formation or the groups and the topics, but there were several choices offered

beyond the books. These choices included doing a service project, developing a lesson plan or researching technology in education. There was a lottery to decide which group would pick their preferred choice for study first, with the last group having no choice at all. The participants again discussed their chosen topic during in-service meetings or on their own time and they were expected to present their topic to the entire faculty at the end of the school year.

Teacher Participants' Profiles

Ten teachers volunteered to participate in the research study. In this section, I introduce each participant and provide their demographic and background information. The demographic data was taken from the teacher background questionnaire and includes these variables: teacher status as full or part-time, years of teaching experience, number of years in the existing school-based PLC and prior experience in other professional development activities.

Sally

Sally was a full-time teacher with fewer than five years of teaching experience and two years of experience in the school-based PLC. In terms of other professional development, she had participated in a Master's of Education program in technology, workshops that were curriculum-based and teacher professional learning conferences.

Steve

Steve was a full-time teacher at the school with over ten years of teaching experience and two years of experience in the school-based PLC. Steve had participated in several different forms of professional development during his career, including seminars and graduate level courses on his subject area and grading Advanced Placement exam essays.

Bob

Bob was a full-time teacher with five years of teaching experience and two years of experience in the school-based PLC. For professional development, he attended conferences in his subject area and pursued graduate level study in educational technology.

P**atricia**

Patricia was a full-time teacher with four years of teaching experience and one and a half years of experience in the school-based PLC. For professional development, she had taken graduate level classes in her subject area, attended in-services and participated in workshops and classes related to her subject area.

Carrie

Carrie was a full-time teacher and had over 20 years of teaching experience and 20 years of participating in school-based PLCs. Her professional development experiences included college courses, workshops and conferences in her subject area and also in general teaching practices.

Samantha

Samantha was also a full-time teacher and had nine years of experience as a teacher and two years of experience in the school-based PLC. She had attended seminars and workshops for teachers and in-service days at the research site for professional development.

Sharon

Sharon was a full-time teacher with eight years of teaching experience and two years of experience in the school-based PLC. For professional development, she had participated in in-service days at the school, workshops, both online and face-to-face, attended conferences and taken online classes.

Joanne

Joanne was a full-time teacher with one year of teaching experience and one year of experience in the school-based PLC. For professional development she had participated in graduate school professional development days, taken online classes and visited sites related to her subject area.

Peggy

Peggy was a full-time teacher at the school and had two years of experience as a part-time teacher and three years of experience as a full-time teacher. She had two years of experience in the school-based PLC. For professional development, she participated in a mentor program as a first year teacher, co-taught classes with another teacher during her second year of teaching and attended conferences and workshops in her subject area.

Veronica

Veronica was a full-time teacher with over 20 years of teaching experience and over 20 years of experience in a school-based PLC. For professional development, she had attended seminars, workshops and webinars in her subject areas.

Table Three provides a summary of the background information on the teacher participants and includes years of teaching experience, years of participation in school-based PLCs at the research site and other professional learning experiences.

Table 3

Demographics of Teacher Participants

Participant	Years of Teaching Experience	Professional Learning Experiences	Years of experience in a school-based PLC group at the research site
Sally	4	Graduate study, conferences and workshops.	2
Steve	12	Graduate level courses in his subject area and grading Advanced Placement exam essays.	2
Bob	5	Conferences in his subject area and graduate level study in educational technology.	2
Patricia	4	Graduate level classes in her subject area, in-services and subject-area workshops.	1.5
Carrie	Over 25	Subject-area and pedagogical college courses, workshops and conferences.	0
Samantha	9	Subject-area seminars and workshops.	2
Sharon	8	Online and face-to-face classes on pedagogy and subject area.	2
Joanne	1	Graduate school classes and both online and face-to-face subject-area courses.	0
Peggy	5	Teacher mentor program and subject-area conferences.	2
Veronica	Over 25	Online and face-to-face subject-area workshops and conferences.	2

Findings

To understand how teacher participants perceived their professional learning experiences in school-based PLCs, themes were developed based on the subcoding segments that most frequently appeared in each category of my constructivist paradigm for learning conceptual framework (Bloomberg & Volpe, 2012). Both major and minor themes and contrary themes were considered to demonstrate the complexity of the phenomenon under investigation and the multiple perspectives that were apparent (Creswell, 2015). These categories included professional learning, facilitators and barriers of learning and the definition of the purpose of the school-based professional learning community (PLC).

As a result of the analysis of the themes from the documentation, background questionnaire and interviews, four key findings emerged from this research study on school-based PLCs at the research site: 1) impact of collaboration and support on teacher professional learning, 2) the need for subject-area group formation and teacher agency in PLC implementation, 3) allotment and management of time, and 4) clear definition of the purpose of the school-based PLC that is teacher generated and directly tied to student learning. In the following sections, I discuss each theme and sub-themes in detail.

The Impact of Collaboration and Support on Teacher Professional Learning

Collaboration. In the analysis of collected data for this research study, it was evident that all of the teacher participants at the research site found that collaboration in the school-based PLC was an important factor in their professional learning. The following subsections explore the impact of collaboration through their perceptions of professional learning in the

school-based PLC and they include: 1) impact on student learning and 2) teachers teaching each other.

In the analysis of data from the one-on-one semi-structured interviews, the sub-theme of impact on student learning emerged. All of the teacher participants indicated that professional learning needs to have a direct impact on student learning, making this the primary finding regarding teacher professional learning. For example, Steve shared that "where you have colleagues who are going through similar things I think you gain all these things that you can in turn transfer to your students and then that increases student learning". Bob agreed by saying that "you can bounce ideas off each other and then you can take that back to your own classroom". All of the ten teacher participants agreed that seeing a direct impact on their students' learning was an essential component of their professional learning in the school-based PLC.

A second sub-theme of collaboration involved the idea of teachers teaching each other, with 5 out of 10 teacher participants expressing that this was an important part of professional learning for them. These teachers valued discussing pedagogical approaches with a peer and thinking about how the learning could be implemented in their own classrooms. For instance, Sally observed that "there is very little time given during the regular school day where I get to interact with an adult or a peer" who [is] 'on the same page as you'. Peggy said:

> I learned things from listening to other people and what they are doing in their classrooms. People might make a random comment about the task or the topic at hand and it makes me think about how I could adapt it to a subject that I am teaching".

Sally noted that she would prefer a model where teachers collaborate and "teach each other something unique, kind of share something that I've done". Teachers teaching each other

enabled the professional learning to be transferred to teaching practice and student learning and was an important component of the collaboration process.

Support. A second theme regarding professional learning was support. Seven out of the ten participants expressed how feeling supported by their colleagues in the school-based PLC enabled them to grow as educators. The teachers reported that support from their colleagues made them open to new pedagogical ideas and teaching practices. For example, Patricia shared that "having such a diverse support group, everyone has different views on things, but that can help you grow as a teacher". Bob expressed a similar perception, saying: "I think the benefit of the PLC is that it opens me up to something new, that I would not have been exposed to otherwise". Sally mentioned "I think having that support system, having people expose me to different ideas was really impactful and helpful". A majority of the teacher participants found that collegial support increased their professional growth as teachers.

In addition to expanding their perspectives, five of the teachers mentioned how support enabled them to take risks in their teaching practice. For instance, Sally said:

> I think that having the professional learning communities, it's nice because you have that support system, you have that ability to brainstorm ideas off of your co-workers and it's really helped me to take chances with my learning. Things don't work out sometimes but it's worth taking the risk, trying it.

When teachers felt supported, they were more likely to take risks and try new things with their teaching practice.

Finally, two of the teacher participants perceived the support received as inspiring them to be creative in their classrooms. For instance, Sally said, "just seeing and having that

exposure and being able to talk to with my co-workers about different ways that they are finding creativity to get to the students". She went on to say:

> I really get inspired by my co-workers when I hear about them doing really cool things in the classroom…It makes me think to myself, is there a better way I could have taught that lesson you know is there a more engaging way I could have done that?

Patricia agreed that the opportunity for creative collaboration was key to impactful professional learning. She shared:

> I view something completely different then you would view something or our other peers would view something, but if we can put all those ideas together just like we want to have our students be collaborative, putting their ideas together and coming up with or creating something.

Sharon shared that "it was exciting to work with another teacher on something that we were both interested in that we could then employ". These teacher participants found that feeling supported fostered opportunities for creativity in their teaching practice.

Summary. Collaboration and support are reported as key elements in teacher professional learning. With regards to collaboration, the sub-themes of the impact on student learning and teachers teaching each other were discussed. In terms of support, the sub-themes of being open to new perspectives and taking risks as well as inspiring creative teaching practices were explored.

Subject-area Group Formation and Teacher Agency in PLC Implementation

In terms of what might facilitate teacher professional learning in school-based PLCs, two themes emerged from the data collected. The first theme was how groups should be formed and the second theme was teacher agency. Group formation pertained to whether teachers were

grouped by the same or different subject area taught and also if beginning and veteran teachers should be combined. Teacher agency is defined as having choice in the topic of study and choice of which group to belong to. These themes will now be discussed in more detail in the following paragraphs.

Subject-area Group Formation. The first theme of facilitators of learning has to do with whether teachers are working with others in their same or different subject areas and if beginning and veteran teachers should be combined. There were three possible ways of group formation according to the data from the interviews and the documentation. In terms of documentation, the original presentation on the formation of the school-based PLC in year one of the program indicated that teachers would be assigned into groups based on an interdisciplinary approach and also pairing beginning teachers with experienced teachers. In the interview data, only one of the ten teacher participants, Patricia, expressed a preference for being organized in an interdisciplinary manner. This may have been because Patricia shared a classroom with another teacher of the same subject area, enabling daily interaction on the courses they had in common to be consistent and probable.

Three of the teacher participants indicated that they would like to be in groups according to their subject areas. Sharon explained:

> I would really like to meet first with my subject area department and have our own professional learning community within my own department because some of my best professional learning comes from when I talk to another teacher in my subject area and ask them what did you do to teach this content that I am going to be teaching.

The data from the background questionnaire supports the value of high school teachers to focus on subject areas, with all of the teacher participants indicating that they had participated

in subject-related teacher professional development experiences, as opposed to pedagogical or other approaches of study. Sally mentioned, "I think we really lose when we try and focus on those types of professional learning we really lose those kinds of really immersive experiences within our own content areas and we need to be content experts. For these teachers, group formation by subject area facilitated their learning as high school teachers who focus on depth of knowledge, rather than breadth.

Five of the 10 teachers indicated that they would like to form groups according to the subject areas, but also have time with teachers in interdisciplinary groupings. Samantha, for instance, saw value in working within her subject area, especially at the beginning of the year for planning purposes, but also appreciated learning from other people outside of her department as the school year progressed. Bob also preferred to have a balance of subject and interdisciplinary groupings. He shared, "I think the interdisciplinary approach is helpful. It helps me to make connections across the school." However, Bob crossed paths frequently with members of his own subject area due to the location of their classrooms in the building, so that may have been why he expressed interest in interacting with people outside of his subject area.

In terms of pairing new and veteran teachers in the same PLC group, only one teacher, Joanne, expressed that this was helpful. It seemed that the design choice of the formation of the PLC groups did not reflect the learning preferences of the teachers as it was based on pairing beginning and veteran teachers, as opposed to group formation by subject-area. This is a significant finding as it points to the possibility that both new and veteran teachers benefit more from working with those in their subject areas at the high school level.

Two teachers, Veronica and Carrie, preferred an approach where groups were formed by the interests of the teachers, not whether they taught the same subject or not or by years of

experience. Veronica felt that the learning passion of the teacher should drive the group formation. Carrie felt that the groups should change, depending on what the teacher focus was for that week. For instance, if a cross-curricular project was in the works, then teachers from those two subject areas should work together. Data from the background questionnaire showed that Veronica and Carrie had the most years of experience as teachers in the group and this may have impacted their views on group formation.

Teacher Agency. The second sub-theme of facilitators of learning has to do with teacher agency. Broadly defined, teacher agency is "empowerment to move ideas forward, to reach goals or even to transform the context" (Beauchamp & Thomas, 2009, p. 183). At the research site, the lived experiences of the teachers in this regard included having input into the topics of study and the selection of groups and goals for the school-based PLC. The following subsections explore these elements in further detail.

A first element of teacher agency is having choice in the topics for the school-based PLC. Seven out of ten participants expressed a desire to have topic choices, indicating that it was an important aspect of teacher learning in the school-based PLC. Teacher participants such as Sally shared "when they are able to select what they want to do they are more associated with the project then if you were to just give them something and tell them to do it". The ability to choose the topic appeared to have increased the engagement of the teachers. Samantha also expressed a desire to have choice. She explained:

> I do think we need to be given the opportunity to voice our say in that. Because like I said, I think me meeting with my department specifically would be really beneficial to my needs. And I think we don't necessarily get that opportunity to give our suggestions most times. A survey would be a fantastic idea.

Sharon was also a proponent of having choice. She shared, "I would pick something in an area that I had a weakness in or didn't know anything about". Peggy added, "I think if you have choice, you are more likely to get something out of it". Joanne also observed that choice in the topic would be beneficial. She felt that administration was not in the best position to choose the topics. She explained that "because they are not in the classrooms every day they don't hear the kids everyday…So I think some things are not as relevant because they are not chosen by people who are teaching every day". Teacher participants perceived greater value in their learning when they had choice in the topic of study.

One of the ten teacher participants expressed an interest in not only choosing the topic of study, but also creating the associated task to go along with it. Patricia compared participation in the school-based PLC to teaching her own students, saying:

> If I give the students a specific list, they will only do what is on that list. If they create their own list, though, they can go in a multitude of directions. Then, they are more engaged in whatever the task is at hand. Because they have decided how they are going to spend their time with it. I absolutely think that that would be *so* huge in a PLC, if we were allowed to create whatever our task was. We talk like we want to do this in our classrooms, but then we turn around and it is like this is not what happens in our PLC. There's a disconnect there.

Patricia compared her experience of learning with that of her students and suggested that she would find value if the same best practices for teaching and learning were applied to the school-based PLCs.

A second element of teacher agency was having the choice to pick the group for the school-based PLCs. Three of the ten teacher participants indicated that they would like to

choose their own groups for the school-based PLCs. Sharon described a cross-curricular project that she participated in that was not related to the school-based PLCs. For that project, she said,

> I got to pick the people that I wanted to work with. And I don't mean wanted to work with them because of their personality, I wanted to work with them because I thought their content could help me and I could help them and I think it goes back to letting the teachers choose the topics they are interested in and working with people who are also interested in them.

A third element of teacher agency was the opportunity to define the goal of the school-based PLCs. Two of the ten teacher participants mentioned that they would like to have input regarding the goals of the school-based PLCs. For instance, Sally mentioned that it was more beneficial to have someone from her subject area choose the goals with collaboration and input given from the members in the department. She explained that the members of the department "know the overall goals of your department, the subject area and what standards you are trying to reach". Steve agreed, saying "I think for most of the things that are going to be valuable to the teachers and the kids they should be decided and defined at the department level". For a few of the teacher participants then, the opportunity to select goals for the group was an important part of their professional learning experience in the school-based PLC. This contrary theme may be due to the participants' prior experience in school-based PLCs and/or professional learning, but is still an important consideration in the design of school-based PLCs.

Summary. Group formation and teacher agency played important roles in facilitating learning in the school-based PLCs at the research site. In terms of group formation, teacher

participants expressed a preference for subject area group formation, followed by having both subject area and interdisciplinary opportunities to collaborate. Years of teaching experience was not an important sub-theme, with only one teacher mentioning it. In regards to teacher agency, having choice in the topic of study was the most important element to teacher participants, with input regarding choice of group and goals for the group also apparent.

Allotment and Management of Time

From the collected data, several themes emerged regarding barriers to learning. Barriers to learning pertains to conditions that do not promote teacher professional learning in the school-based PLCs at the research site. The first theme was the amount of allocated time for the school-based PLC meetings. The second theme was how this time was used. The third theme concerned teacher agency defined as lack of teacher input into the implementation of the school-based PLCs. These themes and their sub-themes will be discussed in further detail in the following sections.

Allocated Time. First, nine out of the ten teacher participants expressed that the allocated time was a barrier to learning in the school-based PLCs, making this the primary finding for the category of barriers to learning. Teacher participants expressed frustration at the lack of time available to meet and develop as a community. Sally said, “with the schedules within the teaching schedule of a regular day how do you create this time for professionals to sit down and communicate effectively?” Teacher participants found that the lack of time prevented useful discussion to occur. For example, Peggy observed that ”here, we don’t really have a lot of time to meet and when you don’t have a lot of time to meet, you can’t get too much out of it”. Some participants mentioned that the lack of time prevented teachers from teaching other effectively and collaborating. According to Sally:

> There is not much time for each person to shine light on what they are good at and for their ideas to be properly heard and for things to be properly done where people can contribute equally [and] there has to be time for them to work on it. If not, it ends up being the classic group project, where one or two people do the work and everybody else shows up but that's not really what it is.

Patricia made a similar observation, saying:

> If you don't have adequate time for your PLC, then what is the point of the PLC? You have to have time to talk and collaborate with your group, that is the only way you are going to learn is by working with people who are in your group instead of that individualized "I'm doing this part, you are doing that part" kind of deal.

Patricia also said that more time for school-based PLC meetings would be beneficial for members because "as we get to talk things out and talk about what we are doing in the PLCs, we can connect that then even better into what we are doing in our classrooms and even make a stronger connection with each other". The majority of teachers agreed that the amount of allocated time for the school-based PLC meetings was inadequate to foster learning.

In addition to adequate time to meet, three of the teacher participants expressed the need to have consistent built-in time to meet. Carrie suggested "ideally, there would be at least one hour a week dedicated to teachers getting together and without a specific topic and just say you know, 'What are you doing? How are you doing it?" Patricia said that with consistent time "we can connect that then even better into what we are doing in our classrooms and even make a stronger connection with each other".

One of the teacher participants shared experiences in non-school-based PLC settings where consistent time together was impactful on their teaching practice. Sharon explained

> The informal community work that I did on cross-curricular work has impacted my teaching because I got time to work with other teachers and to talk with them about doing cross-curricular projects so that has impacted my teaching because I got to find out what they actually teach because I didn't really know what everyone else's curriculum was. And I got to coordinate with them and exchange ideas and actually work towards creating a cross-curricular project. So that wasn't an official PLC, but it was a professional learning community in that it was time to work with other teachers. It just wasn't officially called the PLC.

Sharon shared another experience:

> And then for four years I worked with a wonderful teacher in my subject area. She had more teaching experience than I did so she was kind of my mentor but there were only two of us in the school teaching this subject so we got to coordinate everything together and we had some of the same planning periods together. So we would work together every single day, we got to see each other and work together. So that professional learning in that kind of community really worked for me.

For three of the teacher participants, lack of consistent was a barrier to their learning in the school-based PLC.

In addition to the allocated time and its negative impact on learning, half of the teachers mentioned a common perception resulting the lack of time. Five of the ten teacher participants shared that a lack of time disvalued the experience of learning in the school-based PLC. For instance, Sally said, "I think there needs to be time prioritized for those teachers to be together to genuinely work on these things" and "if we want these professional learning support groups to actually work and actually do these things in the classroom, then, if it's that important then it

needs to be if it's that important and time allocation shows the importance". Bob also suggested that, "Sometimes it has just felt like a time filler. I think putting more emphasis on the end result will show that is more of a priority". Sharon said, "we haven't really been given time to work on them and I think that negatively contributes to the outcome".

Half of the teachers perceived that the lack of time given for school-based PLC meetings demonstrated that it was not a priority in the school.

Use of time. A second sub-theme of barriers to learning was how the time was used in the school-based PLCs, with seven out of the ten teacher participants mentioning it. From the analyzed data, there were two sub-themes that emerged in terms of the use of time. One was the lack of organization for the meetings and the second was no time for subject area meetings.

Teachers such as Bob expressed that "I'm not quite sure if is how much time, or how productive the time is" and "as long as each time slot is productive and organized, has a set agenda, I think that would better suit the outcome". Carrie said, "the time allotted needs to be allotted effectively and intelligently, rather than haphazardly". Steve specified that "the time that is given is not well spent because it is spent on things that have nothing to do with what we have been assigned." For the majority of teacher participants, the way in which the allocated time was used was a barrier to learning in the school-based PLC.

A second theme regarding barriers to learning was teacher agency. Teacher agency refers to teacher input into the implementation of the school-based PLC. Interestingly, teacher agency was a common theme under the category of facilitation but reappeared under the category of barrier, demonstrating the complexity of the phenomenon and the multiple perspectives that are possible. Five out of ten of the teacher participants reported that the lack of teacher input into the PLC process was a barrier to their learning. For instance, Peggy

suggested “It’s not time that was chosen. And I think that might be one of the challenges is because people are often forced into the PLC, they don’t have any control and so therefore they also don’t have any interest”.

Samantha shared:

> I think the biggest challenge is being forced to talk about something, or being forced to be in this group or forced to complete this task. To me, that is the biggest challenge because in my mind, I’m sitting back and I’m thinking, wow, if I could just pick their brain for a half an hour about what they are doing in their classroom instead of focusing on this task that we have been assigned.

Veronica reflected on how the challenge of being forced into the learning impacted the dynamics of the group, saying:

> Some people resent the fact that they have to do them because they are forced and because you are forced you are never going to get anywhere because you will have people who will just sit there and sulk through the PLC meetings.

For half of the teacher participants, the lack of teacher agency in the implementation of the school-based PLC was a barrier to learning.

Summary. In terms of barriers to learning, three themes emerged from the collected data. These themes included the amount of time allocated for the school-based PLC meetings, with all of the teacher participants expressing that there was not sufficient time to meet and three of the teachers mentioning the lack of consistent time. The second theme was how the time was used. A third theme had to do with teacher agency and the lack of input opportunities into the school-based PLC as a barrier to learning.

Teacher Defined Purpose of a School-based PLC Tied to Student Learning

The fourth category that was critical to understanding teacher participants' perceptions of professional learning experiences in the school-based PLCs had to do with the definition of its purpose. There were two themes that emerged from this category. First was that the definition of the purpose of the school-based PLCs at the research site needs to be clearly articulated. Second, the definition of the purpose needs to be directly tied to student learning. These themes will now be discussed in greater detail in the following paragraphs.

Clear articulation. In terms of a well-articulated definition of purpose, 6 out of 10 teacher participants expressed this as a significant factor in their experience of learning in the school-based PLCs. The data collected from the background questionnaire showed that there was not a clear definition that was understood by all of the participants. For instance, Steve said, "I think one of the things we could all use is an expert to give us a presentation on this… here's what they are and here's what they should look like… here's an example of [a] very good organic PLC at work". Joanne shared, "they did not feel like there was a value in them doing them because no one sat down and said these are really important and this is why". Examination of the documentation that was shared with the teachers in year one showed that the definition of the purpose was to expand knowledge of religious and educational practices through discussion. However only five teacher participants interviewed were employed at the school at that time and were present at that meeting. Peggy, who was there in year one and attended the first meeting explained "not everyone was here when the teacher that organized it was here so I think more information should probably be given to other people". For the five teachers who were present, they did not recall what the definition of the purpose was. This suggests a lack of coherence regarding the definition of the purpose of the school-based PLC.

Tied to student learning. The second theme of the definition of the purpose of the school-based PLCs involves a definition that is directly tied to student learning, with five out of ten teacher participants mentioning this. For instance, Steve said that he felt the definition of the purpose should be something "we could do to improve our teaching to improve student learning or to deal with specific problems". Patricia agreed, explaining that the definition of the purpose should be something "we can apply to our specific content areas and individual classrooms". Half of the teacher participants felt it was important for the definition of the purpose of the school-based PLC to be directly connected to student learning.

Summary. In the category of the definition of the purpose of the school-based PLC, two themes emerged. The first theme was a clear definition of the purpose of the school-based PLC and the second theme was a definition that is directly tied to student learning.

Chapter Four Summary

This single case study examined teacher perceptions of professional learning experiences in school-based PLCs in a private, Catholic high-school setting in the United States. Data from PLC documentation, a background questionnaire and one-on-one semi-structured interviews suggested that there were four major themes present: 1) collaboration and support, 2) group formation and teacher agency, 3) allocation and use of time and 4) clear definition of the purpose directly tied to student learning. In Chapter Five, these findings will be discussed in terms of the current educational literature on school-based PLCs and the research study questions.

CHAPTER FIVE: DISCUSSIONS

The purpose of this single case study was to explore teacher perceptions of professional learning experiences in school-based Professional Learning Communities (PLCs). It was hoped that a greater understanding of this phenomenon could provide insight into how to support this learning at the research site. To conduct the study, I used a qualitative case study methodology. A case study approach permitted me to have an in-depth understanding of the phenomenon under investigation, however a disadvantage of the case study approach is that the results will not be generalizable (Merriam, 1998). For my methods, I collected and analyzed PLC documentation, a participant background questionnaire and conducted one-on-one interviews. There were ten teacher participants in the study and they were all members of existing school-based PLC groups for either one or two years. The data were coded using the categories from the conceptual framework and themes and sub-themes were presented.

The conceptual categories presented were directly aligned with the four research questions. These categories were used in both the first and second cycles of data analysis and ensured that the research questions could be answered. In this chapter, I revisit the literature on teacher professional learning and school-based PLCs to explore a further level of analysis.

Teacher Professional Learning in School-Based PLCs

How do teachers experience their professional learning in school-based PLCs? The findings indicated collaboration and support as essential conditions for fostering teacher professional learning in school-based PLCs at the research site. In terms of collaboration, teacher participants reported experiencing professional learning through teachers teaching each other. In regards to support, teacher participants experienced professional learning by being

open to new perspectives and ideas, feeling comfortable taking risks, trying new things and being more inclined to be creative when they sensed support from colleagues. These two conditions are discussed in detail in the following sections.

Collaboration

All ten of the teacher participants indicated that collaboration was an essential condition to professional learning in school-based PLCs. This is consistent with the educational literature on teacher professional development that emphasizes collaboration and collegiality as prominent features of effective teacher learning (Sparks, 2002). Collaboration has the potential to reduce teacher isolation and promote learning and even though this is a well-documented fact in educational research, the overwhelming majority of teachers continue to work in isolation (Chai & Kong, 2017). The teacher participants confirmed this research finding. For instance, Sally explained that "very little time [is] given during the regular school day where I get to interact with an adult or a peer". Sharon agreed, saying:

> I like exchanging ideas with other professionals, especially because on a regular basis I am by myself in the classroom, so I don't really get a lot of feedback from other adults or from other teachers about what they are doing in the classroom.

Reducing teacher isolation is key in promoting effective professional learning (DuFour, 2004; Fishman et al., 2014; Turner et al., 2018) and collaborative models of learning such as school-based PLCs provide a means to do so (Chai & Kong, 2017).

In addition to reducing teacher isolation, collaboration provides opportunities to meet the unique learning needs of educators. In order to bridge the gap between theory and practice, teacher collaboration needs to include dialogue and reflection opportunities. These opportunities are defined as a key feature of effective teacher professional development for it

is within the conversation and dialogue that teachers are able to make connections between student learning and teaching practice (Desimone, 2009; Salleh, 2016).

This was evident when participants such as Bob shared, "you can bounce ideas off each other and then you can take that back to your own classroom". Teacher participants described these conversations as "teachers teaching each other". For instance, Sally reported that, "it would be good to foster learning and let those inside that professional learning group teach each other something unique [or] share something that I have done". There appeared to be few opportunities for teachers to teach each other within the existing school-based PLCs. Greater opportunities for this to occur might promote increased learning in the school-based PLCs. Collaboration for the purposes of teacher professional learning in school-based PLCs has a unique set of required conditions including dialogue and reflection opportunities and school-based PLCs can be designed with this in mind.

These unique conditions require that collaboration is defined for the participants in the school-based PLCs. Individual schools will have different definitions regarding what collaboration is, however the goal of the community is ongoing deep professional learning that positively impacts teaching practice and student outcomes (DuFour, 2004). Teacher participants such as Veronica confirmed this by saying, "the actual importance of the community for me is what takes place in the interactions, how people learn to interact with each other and in the process often some teaching skill is revealed…" Although teacher participants expressed that they experienced benefits from any collaboration with colleagues, they identified purposeful collaboration to be most useful. The teacher participants defined "purposeful" as impactful on student learning. For instance, Patricia explained, "we can apply it to our specific content areas and individual classrooms". The majority of teacher participants

did not perceive that their current work in the school-based PLCs was impacting student learning outcomes. When school-based PLCs are designed with student outcomes in mind, there is a greater chance for impactful teacher professional learning to occur.

To improve these student outcomes, a unique type of collaborative work can occur in school-based PLCs. There is often an assumption in educational environments by the administration that all participants possess the collaborative skills necessary to participate effectively in the school-based PLCs. Teachers have traditionally worked in isolation and collaboration may require a shift in thinking in how professional learning occurs (Turner et al., 2018). Support may be needed to navigate this shift from autonomy to collaboration and from privacy to shared group reflection. At the research site, there was no evidence of support for promoting this shift. For instance, there were no workshops offered to guide the process of collaboration within the school-based PLCs. Teachers confirmed the importance of this step, for instance, Joanne expressed that, "[we] did not feel like there was a value in doing them because no one sat down and said these are really important and this is why". There are additional strategies that are effective in this regard, for instance the presence of a facilitator (Ahn, 2017).

The existence of a facilitator in school-based PLCs can support professional learning by building capacity for effective collaboration. This is particularly true in the early stages of formation (Ahn, 2017). Facilitators can adapt the learning to meet the participant needs, help to build the sense of community, organize tasks, provide resources and guide reflection opportunities (Ahn, 2017). Additionally, because of the unique needs of teachers in the school-based PLCs, the structure of the conversation is critical. Reflective dialogue is key in changing beliefs and impacting teaching practice and should not be left to chance (Salleh, 2016). At the

research site, the original documentation showed that in year one, there would be a designated facilitator for each PLC group. These facilitators did not have training in how to be a facilitator. In year two and three, there were no assigned facilitators. The absence of facilitators in the school-based PLCs at the research site may have had a negative impact on the collaborative process of professional learning.

Collaborative learning in a school-based PLC also assumes that all participants are willing and interested in the process, which may not always be the case (Owens, 2014). Educational researchers have identified professional development on collaboration, establishing group norms and the presence of a facilitator as helpful in engaging participants in the collaborative process (Sjoer & Meirink, 2016). From the data, it was not evident the above strategies had been implemented, which may have negatively impacted how teacher participants felt about collaborating. If participants are not invested in the activity, there may be limited professional learning opportunities. These strategies would be helpful in the implementation of the school-based PLC at the research site.

One of the unique features of collaboration in school-based PLCs is that it can support collective intentional learning, which Hord (2008) defined as one of its essential features. This type of learning assumes that participants take active roles in contributing to the learning of the group. Each participant's active contributions bring value and insight to the learning process and could take many forms, such as observation, interactive feedback, leading discussions or reviewing student work in the topic area (Desimone, 2009). At the research site, opportunities for collaboration were limited to the organizing for the assigned task. Teacher participants reported a delegation process as opposed to collaborative process, whereby each person would do their part to complete the assignment. Patricia shared, "for me it's just kind of like a task or

homework, you are supposed to learn, but it's more of a chore than actually being a part of a community of learners". This design was not congruent with the definition of collaboration in the school-based PLC and was problematic in fostering dialogue.

Support

Relational support is an essential condition which emerged from how teachers experience professional learning and this finding was congruent with the educational research. For instance, Fishman et al. (2014) reported that collaboration also serves as a social support, which impacts teacher professional learning. Teacher participants reported feeling supported within the school-based PLCs and this was a strength of the current model. Sally explained that, "having that support system, having people expose me to ideas was really impactful and helpful". Support had been identified in the documentation as one of the goals of the school-based PLCs in year one of the program. Teacher participants expressed that feeling supported enabled them to grow professionally by being open to different perspectives, being willing to take risks in their teaching and being creative in their teaching. Innovation in teaching practices is more likely to be obtained through support from others, rather than from working alone (Kempe & Reed, 2014). Feeling supported by colleagues had high impact on the experience of teacher professional learning within the school-based PLCs. It fostered professional learning and also created a stronger sense of collegiality amongst the teacher participants.

The Purpose and Function of the School-Based PLCs

What is the purpose and the function of the school-based PLCs? In terms of the purpose and the function, two conditions emerged. First, the definition of the purpose of the school-

based PLCs needs to be clearly articulated. Second, the definition of the purpose needs to be directly tied to student learning.

Clear Definition of Purpose

There needs to be a shared vision regarding the purpose and the function of school-based PLCs that is defined by all of the participants (Hord, 1997). This did not occur at the research site as the purpose was defined by the administrative team. Further, the interview data indicated that the purpose and the function of the school-based PLCs were not clearly articulated to the teacher participants. An examination of PLC documentation showed that there had been a presentation on the school-based PLCs in year one, but only half of the participants were in employment at the school at that time. Participants were unclear on the definition of the purpose and the function of the school-based PLCs, with teachers such as Joanne saying, "I don't know that they [the administration] said what the goal of the PLC was". A clear definition of the purpose and the function of the school-based PLCs was not provided to teacher participants. In light of this, an explanation of the purpose and the function of the school-based PLCs needs to be communicated at the outset of every school year, so that all of the teachers have a common understanding.

Tied to Student Learning

This definition of the purpose of the school-based PLCs needs to be tied to student learning for it to be valuable to teachers and this was apparent in the data. Content focus of student learning is the most impactful feature of teacher professional development (Desimone, 2009; Guskey, 2002; Sparks, 2002). Teacher participants perceived that the topics of the PLC meetings did not pertain to student learning and content and this was problematic in terms of the definition of the purpose. This is especially true of communities of practice as defined by

Wenger (1998) as a group that share common goals. It is difficult for a PLC to develop to the full extent of its capabilities without a set of common goals defined by the members and directly tied to student learning. For teachers to fully engage in the learning, they need to perceive its value (Vrasidas & Glass, 2007). In light of this, the definition of the purpose of the school-based PLCs needs to be not only clearly defined to participants, but also co-created by the teachers themselves, as they directly interact with students and their learning of content.

Barriers to Learning in the School-Based PLCs

What are the barriers to learning in school-based PLCs? In terms of barriers to learning, three themes emerged from the data. These themes included the amount of time allocated for the school-based PLC meetings, how the time was used and the lack of opportunities for teacher agency.

Time Allocated to School-based PLC Meetings

All of the teacher participants reported inadequate time to meet in the school-based PLCs. This is consistent with the educational research on teacher PD and the importance of consistent, adequate time to support teacher learning (Desimone, 2009; Hord, 2009). Intermittent teacher learning is not as effective as consistent learning and this was the greatest barrier to learning for the teacher participants. The lack of time caused a disengagement amongst participants because of a perceived lack of importance for professional learning. Teacher participants felt that if it was not important enough to be given time for, it was not worth their effort either. Teachers such as Samantha shared, “what is important to me is consecutive and sufficient time”. The designated time for the PLC meetings was not adequate for the purposes of effective dialogue and also sent a negative unintended message regarding the importance of teacher professional learning. The allocation of consistent PLC meeting time during school hours has

been found to be optimum (Kempe & Reed, 2014) and this was not existent at the research site, with meetings occurring on in- service days or on teachers' own time. The designation of consistent time allocated to the school-based PLCs would promote its development and send the message that teacher professional learning is important and necessary at the school.

Use of Time

Teacher participants perceived that the ways in which time was used was also a barrier to learning in the school-based PLC. PLC groups need a time and a place to meet but also need "policies and resources that support the staff coming together for study and learning (Hord, 2008, p. 12,). The data indicated that there was no support in this regard. Teachers were not always given advance notices of meetings, agendas or suggested benchmarks for work. Teachers such as Carrie felt that the issue was how the allocated time was used, saying that in regards to time, it "needs to be allotted effectively and intelligently, rather than haphazardly". At the research site, there was not enough support in defining how the PLC time should be used and this was a barrier to learning for some of the teacher participants. Providing clear expectations and deadlines for the school-based PLC meetings will help teachers to work more efficiently and effectively over the course of the school year.

Teacher Agency

Another barrier to learning involved the lack of opportunities for teacher agency, defined as choice in topic of study and in group formation for the school-based PLC. Learning science researchers have been at the forefront of the research on the impact of teacher agency in professional learning. Providing opportunities for teacher agency in professional learning leads to greater complexity in dialogue and increases innovation and impact on teaching practice (Strahan, 2016). At the research site, there was no support for agency in year one and two and

limited agency in year three. Teachers perceived the lack of choice as a barrier to their learning in the school-based PLCs. Teachers such as Sharon shared, "they [the administration] tried this year by giving us choice but then they assigned our groups. So then I didn't get something that I was personally interested in or could use in my classroom or could use for my Act 48 hours." The lack of opportunities for teacher agency was a barrier to learning in the school-based PLCs. Teachers engage with their professional learning when they have opportunities to be empowered in their learning, just as their students do. Professional learning that is embedded in teaching practices offers greater potential for growth in school-based PLCs because teachers connect subject matter with student learning. Teacher agency recognizes that teachers are well-positioned to direct their own professional learning because they make the connections between subject content and student learning (Calvert, 2016; Riveros, Newton & Burgess, 2012).

Opportunities for Learning in the School-Based PLC

What are the opportunities for learning in school-based PLCs? Group formation and teacher agency played important roles in facilitating learning in the school-based PLCs. In terms of group formation, teacher participants expressed a preference for subject area group formation, followed by having both subject area and interdisciplinary opportunities to collaborate. Years of teaching experience was not an important sub-theme, with only one teacher mentioning it. In regards to teacher agency, having choice in the topic of study was the most important element to teacher participants, with input regarding choice of group and goals for the group also apparent.

Group Formation

Group formation was an important facilitator of learning for the teacher participants. The majority of participants expressed a preference for working with teachers in the same subject

areas. Intentional groupings of PLC groups are key in promotion of impactful discussion and learning (Desimone, 2009). As high school teachers, the participants needed to be content experts and working with teachers in the same subject areas permitted that expertise to be developed in a more efficient manner. For instance, Sharon said:

> I would really like to meet first with my subject area department and have our own professional learning community within my own department because some of my best professional learning comes from when I talk to another teacher in my subject area and ask them what did you do to teach this content that I am going to be teaching.

Teacher participants felt that they had a greater chance of using the professional learning in the classroom when they worked with the same subject area teachers. Although there were benefits to working with others from other subject areas, it was not as applicable as the subject area formation and the teachers felt it should not be the priority in group formation. In light of this, administration needs to support teacher learning by assigning people into meaningful groups. As in the study, this means assigning people from the same subject areas to the same PLC groups.

Teacher agency, defined as choice in topic and group, was also seen by the teacher participants as an important facilitator of learning. Although some of the teacher participants talked about agency in terms of barriers to learning, others articulated that it would be a facilitator of learning for them. The development of teacher agency enables deeper learning to occur through complex discussions (Strahan, 2016; Vescio et al., 2008). At the research site, there was no mention of choice of topic or group in the original documentation and no choice in topic until year three of the program. Several participants lauded this change as they appreciated being able to choose their topic of study. Other teacher participants expressed how

helpful it would be if they had more choice. Having choice in the topic or the group facilitated learning for teachers such as Sharon, who said, "I think if they had a list of topics and then you got to pick your topic for me personally that would be a better option". The condition of teacher agency is an important finding in the study, with some teacher participants describing the lack of it as a barrier to learning and others describing it in terms of how it might facilitate their learning. For this reason, an improved design of the school-based PLC at the research site would include opportunities for teacher participants to work with teachers in the same subject area and to choose the topic of study for the group. Teachers perceived the need to direct their own professional learning, given that they are the major point of contact between the students and the subject content.

Conceptual Framework

In chapter 2 of the study I created a conceptual framework to guide all aspects of the study and give form to the constructivist theoretical orientation. The conceptual framework was informed by my review of the literature, my own professional experience, perceptions and insights and the research questions that I wanted to answer. I chose the variables that I deemed to be most important in understanding the phenomenon. These variables included: professional learning, definition of purpose, barriers to learning and facilitators of learning in school-based PLCs.

After I had collected and analyzed the data, it was clear that changes needed to be made to the form of the conceptual framework. The original conceptual framework was the beginning of the story, but it did not present the entire story. Specifically, the four variables in the framework needed to reflect the multiple perspectives of the teacher participants in the study, with the variables impacting each other in varying degrees. Arrows were added to the

framework to demonstrate this relationship between the variables from the perspective of the teacher participants.

The variables in the study impacted each other in multiple ways. For instance, the lack of a clear definition of the purpose of the school-based PLCs at the research site was a barrier to learning. If the definition was clear, it could be a facilitator of learning. Another interesting discovery was that teacher agency appeared in the collected data as both a potential facilitator of learning and a potential barrier to learning, if its presence was lacking. This represents the multiple perspectives of the teacher participants and the complexity of this phenomenon and most importantly, why it is valuable to consider teacher perspectives when designing and implementing school-based PLCs. Figure 2 presents the updated conceptual framework for the study.

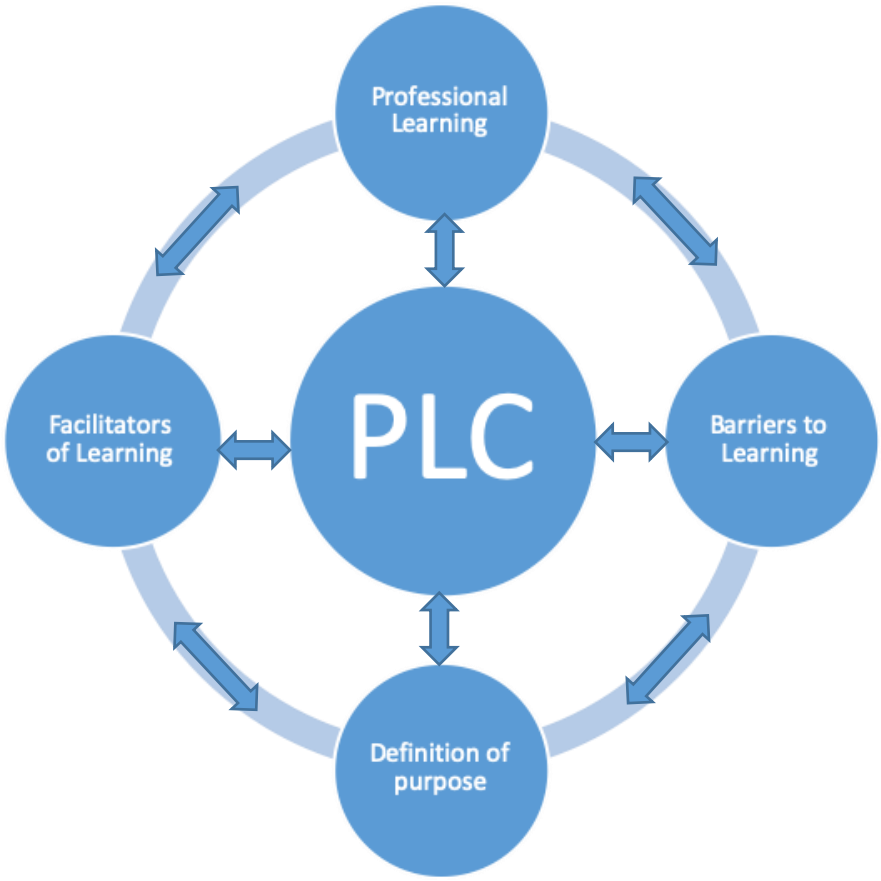

Figure 2. Updated conceptual framework for the study of teacher perceptions of professional learning experiences in school-based PLCs.

Chapter Five Summary

My study corroborates much of the previous research regarding teacher professional learning experiences in school-based PLCs. A key finding of this study is the importance of the intentional design of the conditions of school-based PLCs in relation to teacher perceptions of their professional learning experiences, which is inadequately emphasized in the educational literature. Time is the most important condition of school-based PLCs and without consistent time dedicated to the meetings, professional learning capacity will not develop to its full potential. At the research site, teachers participated in school-based PLCs that provided some access to collaborative and supportive professional learning opportunities. If consistent time for

same subject area teachers to meet was implemented, the community may develop further at the research site. Given the teacher participant perceptions of their learning in the school-based PLCs, a modification of the design and implementation might better support their professional learning. In Chapter Six, I discuss the challenges and successes of the research, implications for practice and directions for future research.

CHAPTER SIX: CONCLUSIONS

The final chapter of my dissertation summarizes the study and discusses the challenges and successes of implementing the research. Reflecting on the work, I share implications for practice and policy, directions for future research and conclusions.

Summary of the Study

This study sought to understand teachers' perceptions of professional learning experiences in school-based professional learning communities (PLCs) in a private, Catholic high school setting in the United States. The following question and sub-questions guided the inquiry:

- How do high school teachers perceive their professional learning experiences in school-based PLCs?
    - What is the purpose and the function of school-based PLCs?
    - What are the barriers to the teachers' professional learning in school-based PLCs?
    - What are the facilitators for teachers' professional learning in school-based PLCs?

A single case study approach enabled me to immerse myself into the lived experiences of the teacher participants and gain insight into the phenomenon of professional learning within the school-based PLCs. The results of my study are not generalizable, however they may be transferable to similar contexts (Merriam, 1998). My sources of data collection included PLC documentation, a participant background questionnaire and one-on-one interviews. After thematically analyzing the data, I identified the conditions that were impactful in the phenomenon of professional learning experiences in school-based PLCs. I then discussed these conditions in light of the current educational research on teacher professional development, teacher professional learning and professional learning communities. The importance of an

intentional design of the school-based PLCs became apparent. Without this intentional design, school-based PLCs do not live up to their full potential, serving neither the teachers nor their students in the K-12 educational context.

Successes and Challenges

I experienced two successes and two challenges in conducting my study. First, in terms of successes, I was given permission to conduct my study within my work context. I was given access to school-based PLC documents and was allowed to interview the teacher participants on their perceptions of professional learning experiences within the school-based PLCs. Studying in my workplace meant that the findings could potentially be used to improve the existing school-based PLCs in our school. In fact, I have been invited to share my findings from the study at our monthly faculty meeting and I hope that my study will provide insight into how to improve the design of the school-based PLCs for the upcoming school year.

Second, the experience of creating and implementing a study increased my curiosity and understandings regarding how people learn. It was impactful to learn about this in a real-world work context and to consider both individual and collective perceptions of professional learning experiences in the school-based PLCs. The process of collecting and analyzing the data has changed the way that I think about teaching in general and has caused me to become more reflective in my own teaching practice.

In addition to successes, there was also a challenge in implementing the study. This challenge involved being an effective interviewer. As a novice researcher, I found it challenging to learn the art of interviewing. I prepared for the interview process ahead of time by reading books recommended by my supervisors and professors. I considered possible responses to my interview questions and how I might further the conversation. I found it

difficult to predict how people would respond to the questions. The fact that I had a professional relationship with the participants added to the challenge, because I needed to remain neutral in my questions at all times. I learned much about the interview process as I progressed from one interview to the next. I kept a journal so as to continually learn and improve from the experience. One situation that was problematic was when teacher participants would go off topic. It was a challenge to guide the conversation back to the question at hand while still being empathetic and encouraging.

Implications for Practice

My study provided insights that may be of interest to educators, administrators and policy makers who are implementing and facilitating high school-based PLCs for the purposes of teacher professional learning. Intentional design choices in the creation and implementation of these communities may positively impact the experience of teacher professional learning and student educational outcomes. Administrative, district and state policy makers can support these implications by providing the resources to implement and sustain them.

The first implication regarding high school-based PLCs and their development involves built-in, consistent time for meetings. It is evident that time is a critical component of PLC group development and individual learning, both from the results of my study and the educational literature (Desimone, 2009; Hord, 1997). The allocation of consistent, built-in time has the added effect of highlighting the importance of teacher professional learning to the teachers and models lifelong patterns of learning to the students at the school (DuFour, 2004). Design choices pertaining to the provision of this time can create the conditions that will foster the development of the community.

A second implication for practice has to do with group formation and ties to student learning. High school teachers need to be subject area experts (Desimone, 2009). When subject-area teachers work together, cohesiveness in their respective areas may be promoted and their professional learning experiences are clearly tied to student outcomes. Teacher participants in the study engaged in professional development activities primarily in their subject areas. They expressed dissatisfaction with not being able to work with others in the same subject area consistently. This is consistent with what Desimone (2009) and others have found regarding subject area focus. When school-based PLCs are designed to facilitate this work, teachers are able to develop as content area experts. This is optimal for high school teachers, as they need to be experts in their subject areas and consistency within departments is necessary. Further, working within same subject-area groups directs the focus to student learning, which increases teacher engagement in their professional learning.

Third, professional development for teachers and administrators on the purpose and function of school-based PLCs would be helpful (Bolam et al., 2005; Sims & Penny, 2015). At the research site, people were unsure of what the PLC groups were supposed to be. Some of the teachers had been at the school in year one of the program and had been in attendance when the program was explained. A majority of new staff had not been at that meeting and had never been in a PLC group before and they did not know what the purpose was. Professional development at the beginning of the school year on professional learning and the purpose and the function of the school-based PLCs might be helpful in developing a common understanding. Teachers could contribute to the definition of the purpose and the function, which might increase engagement and promote creativity in the PLC work over the course of the school year.

Fourth, a facilitator is helpful in the ongoing development of the school-based PLCs (Ahn, 2017; Margalef & Pareja Roblin, 2016; Salleh, 2016). A facilitator with knowledge in how to enact the preparation, creation, implementation and sustaining of school-based PLCs can offer insight into how the community can develop to its fullest extent. It would be helpful if each PLC group had a facilitator as part of the community.

Fifth, design choices for the school-based PLCs need to leverage teacher input and agency whenever possible (Calvert, 2016; Riveros et al., 2012; Severance et al., 2016; Strahan, 2016). As adults in the learning context, teachers hold a wealth of experience regarding professional learning and student learning needs. They are present in classrooms with students each day and have knowledge regarding student performance and pedagogical challenges. Teacher input and agency creates engagement for teachers, because they are able to contribute knowledge that can positively impact teaching practice and student outcomes. This was lacking at the research site and it was problematic in the teachers' mindset towards professional learning in the school-based PLCs. An improvement in the design of the existing model that uses an active learning approach could improve this mindset and foster the growth of the communities.

Teacher professional development (PD) is still most often delivered using instructionist approaches, however, if educators want their students to be active learners, they also need access to active professional learning experiences. School-based PLCs offer one model where this active professional learning can occur.

Directions for Future Research

My study identified the conditions and strategies that impact teacher professional learning experiences in high school-based PLCs. Future studies might include a longitudinal

study on how school-based PLCs develop from beginning stages to a mature community. The research question would be: What are the factors that promote the growth and development of school-based PLCs? Data would be gathered using one-on-one interviews, focus groups and observations of PLC meetings. A second possible study would involve an in-depth investigation into how the facilitator of a PLC group might influence its growth and development. The research question would be: How do facilitators of school-based PLCs foster professional learning? Data might be gathered through one-on-one interviews with the facilitators and the teacher participants. Observations of the meetings and focus group discussion might also be effective data sources.

The findings from suggested research studies I noted above would provide further insight into the model of teacher professional learning in school-based PLCs. Teacher professional learning is imperative and impacts student learning. Students and teachers learn best in active learning situations. It is valuable to continually work to improve the models of this delivery. An intentional design and strategy for implementation can positively impact the experience of professional learning within this context. Teachers and students benefit from active learning experiences that provide opportunities to be creative and innovative through their own and others' agency.

Conclusion

In K-12 educational contexts, students benefit from active educational experiences that develop skills for success in the modern world. When teachers are familiar with active learning themselves, they are better positioned to provide these experiences for their students. Professional development for teachers that is delivered in traditional, instructionist ways does not provide effective models for active learning to take place (Sawyer, 2014). School-based

PLCs are one model of teacher professional development that may provide environments that foster professional learning and build community. When schools prioritize both teacher and student learning through the intentional design and implementation of school-based PLCs that is aligned with teacher perceptions of their professional learning experiences, the school community as a whole may benefit. Quality teacher professional learning is needed in K-12 contemporary education to benefit all stakeholders and create the conditions for continuous improvement.

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APPENDIX A: BACKGROUND QUESTIONNAIRE

Title of Study: Understanding High-School Teacher Perceptions of Professional Learning Experiences: A Case Study of School-Based Professional Learning Communities

1. What is your full name?

_____

2. What is your current teaching assignment?

_____

3. How many years of teaching experience do you have?

_____

4. How many years of experience in school-based PLCs do you have?

_____

5. What other forms of professional development (PD) have you participated in?

_____

APPENDIX B: INTERVIEW QUESTIONS

Title of Study: Understanding High-School Teacher Perceptions of Professional Learning Experiences: A Case Study of School-Based Professional Learning Communities

1. What is your definition of teacher professional learning?
2. What is your definition of a professional learning community (PLC)?
3. What is the purpose of school-based PLCs?
4. How does communication in school-based PLCs contribute to its success?
5. What are the benefits of participating in school-based PLCs?
6. What are the challenges faced in school-based PLCs? Could you provide examples?
7. How has participation in the school-based PLCs impacted your professional learning?
8. How has participation in the school-based PLCs impacted your teaching practice?
9. How does participation in school-based PLCs impact student educational outcomes?
10. How does the allocated time for school-based PLC meetings affect outcomes?
11. If you could change anything about the school-based PLCs, what would it be and why?
12. Is there anything else you would like to add that my questions have not covered?