

WHEN EDUCATORS DESIGN THEIR OWN PROFESSIONAL DEVELOPMENT: A
YEARLONG CASE STUDY OF HIGH SCHOOL TEACHERS' PEER
OBSERVATIONS

by

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Dedication

To my kids, Genevieve, Valerie, Edwin, and Dante who attended doctoral classes with me, stayed up late with me, met my professors with me, and kept my engine running. They should each receive their own honorary doctorate for their time commitment. Thank you for always being a shining symbol that you can do anything that you put your mind to.

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Abstract

WHEN EDUCATORS DESIGN THEIR OWN PROFESSIONAL DEVELOPMENT: A YEARLONG CASE STUDY OF HIGH SCHOOL TEACHERS' PEER OBSERVATIONS

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A group of educators directed their own learning by creating a professional development experience involving peer observations. Professional development (PD) is complex and can be any activity aimed at improving teacher knowledge, enhancing practice, and increasing student achievement. A group of high school teachers gathered and met regularly to understand the complexities of PD and design a peer observation program for teachers at their school. The purpose of this qualitative instrumental case study was to understand this teacher-created PD as viewed by teachers. This was done by focusing on teachers' participation within the PD, the impact of the PD, and the elements that are valued within the PD design. Data sources included written reflections, a questionnaire, and semi-structured interviews with teachers who participated in the PD experience as well as artifacts from those who created the PD. Data analysis revealed that there was an increase in the mean and range of peer observations between teachers' set goals and the

actual number they conducted. Additionally, while many teachers followed up with the teacher they observed, other forms of collaboration did not occur as a result of this PD. This analysis also revealed that the impact on teacher practice varied based upon the mode in which the peer observation was conducted. The perceived impact on students was mainly in regards to engagement, enjoyment, usability, and access to the information. Finally, the analysis revealed that teachers valued the cohesion within the PD experience and sought more collaboration with the experience. Implications from this study primarily affect two stakeholder groups: PD creators and school administrators. Throughout this study, one can see the impact of the Coronavirus pandemic as well as how this study and the teachers involved adapted.

Chapter One

There is a common expression in education that teaching is both an art and a science. With this expression in mind, how is teacher knowledge generated? The answer tends to be two-fold: evidence-based practice and practice-based evidence. The ideal is that both of these practices complement each other (Abe et al., 2018). These terms are used widely across a variety of disciplines such as medicine, social work, politics, and education (Mizerek, 2015). In education both of these practices can influence decision making at the preservice and inservice levels.

This chapter lays the groundwork for this study. It begins by discussing evidence-based practice and practice-based evidence as the premise for professional development among teachers. Then it introduces the methodology that was used as well as the theory that guided the study. The chapter concludes with a list of operational definitions that are used throughout this study.

Evidence-Based Practice

Evidence-based practice (EBP) refers to the use of research within the expertise of context (Abe et al., 2018). The goal of EBP within education is successfully integrating student needs, teacher experience, and expert knowledge (i.e., scientific research; Mizerek, 2015). EBPs have the ability to provide a sense of professionalism to decision making since research and empirical data guide this work and decision making rather

than opinion or beliefs (Fox, 2011; Mizerek, 2015). EBPs can influence training for teachers by helping them become informed and intelligent consumers (Slavin, 2013). Sites such as the “What Works Clearinghouse” and “Best Evidence Encyclopedia” make it easier for practitioners to have access to empirical data in order to guide the decision making process (Slavin, 2013). While it makes sense to use research to guide decisions, challenges still exist, such as too few rigorous evaluations of programs, inadequate dissemination of evidence, lack of incentives to implement, and insufficient assistance for implementing (Fox, 2011; Slavin, 2013). Knowing this about EBPs, let us explore the complementary idea of practice-based evidence.

Practice-Based Evidence

Practice-based evidence can either be viewed as a complementary practice to EBP (Abe et al., 2018) or as an embedded aspect of EBPs (Fox, 2011). Either way it is viewed, practice-based evidence (PBE) refers to the occupational practice one might be employed in and the situational context of that practice (Higgs et al., 2012). A main concept of PBE is the idea that knowledge is generated through reflection upon experiences. Schön (1983, 1987) refers to this idea as “Reflection-in-Action.” Therefore, the more varied our experiences, the wider our knowledge may become. However, just like EBPs there are still challenges to PBE. Fox (2011) noted that these challenges include the Lake Wobegon effect and “myside biases.” The Lake Wobegon effect refers to the idea that it is difficult to know one’s own competence. As humans even if we have enough experience we may not be an expert and may under- or overestimate our abilities. Myside biases refer to our own personal biases informed by seeking information that confirms

our preconceptions, what we read and hear about first, and judging based upon repetition of information (Fox, 2011).

If teaching is both an art and a science, can we, as teachers, gain knowledge through both EBP and PBE? When making decisions for preservice and inservice teachers, can we lean upon both research and experience? If we lead with this idea, then evidence and practice can be a method for designing professional development. Professional development (PD), or training for teachers, can occur on many different levels. It can occur from a top-down reform at the federal level or it can manifest at the school level (Lieberman & Miller, 2014). Regardless of the level at which the PD is manifested, one must acknowledge the complexity of improving teaching. In order to improve teaching, consideration must be taken in regard of both the strategies as well as the social, cultural, and organizational aspects of the school (Lieberman & Miller, 2014).

This present study is manifested at the school level. At Montini High School (a pseudonym) the administration requested that peer observations be implemented schoolwide as a means of PD. The following section details how this study came about.

Background and Research Questions

Every 5 years, Montini High School creates a school plan which details goals and steps to achieve the goals the next 5 years. This plan is initially drafted and then presented to the larger district officials for school accreditation. At the conclusion of each year, the school provides evidence that the goals have been met. A new plan began for school year 2020-2021 which included peer observations within several of the goals. The plan stated the goals of peer observations were: evidence of student-centered learning and

engaging teachers in a continuous improvement process resulting in both improved student learning and professional practice, as well as promoting collaboration and collegiality. The school faculty had engaged in peer observations about two times in the last 5 years but there was no established routine or requirement for conducting these observations.

Having worked in some capacity at this school over the past 5 years, I proposed to the administration that we let the teachers create their own structure for peer observations. Being knowledgeable about Adult Learning Theory as well as knowing of the past PD sessions that have occurred at the school, I wondered if teachers would have more support and buy-in if they collaborated in creating the PD. I also know that peer observations can be a powerful tool to grow practice. Administration was open to this idea and was willing to let me facilitate a group of teachers in creating and implementing a PD experience. Thus began the founding of this study centered on the following research questions:

1. In a teacher-created professional development, how do teachers participate?
2. When teachers develop their own peer observation program, what is the perceived impact on their own practice and what, if any, changes were seen in students?
3. What elements of professional development design do teachers value throughout this process?

The remainder of this chapter will provide the purpose and justification for this present study in which PD was developed. The developers used existing research to successfully

integrate both the concepts of EBP and PBE. While the EBPs and PBEs provide background ideas on how one can generate knowledge, the main theory that was used to support the creation of this professional development is Adult Learning Theory. The following sections will briefly explain the connection to this theory, the research questions, and the methods within in this study.

Statement of Purpose

While the main purpose of this PD experience was for teachers to create, implement, and evaluate a program to conduct peer observations within the school, the study focused largely on the teacher participation within the PD, the impact of the PD, and the elements that are valued within the PD design. Peer observations are grounded in PBE since these provide teachers the opportunity to observe each other and learn more about each other's practice. Since a program was being created to allow teachers to observe each other more regularly, research could be used to show possibilities, find methods of success, and to mirror what is working according to research. This research base ensured that EBP was still in effect through this creation process. While many programs include peer observations, this study focuses on three PD models: Instructional Rounds, Japanese Lesson Study, and Peer Coaching. Chapter 2 presents an in-depth description of these three models.

In addition to looking at different programs and models that include peer observation, this study also took into account practices of effective PD which can be used to both design PD as well as evaluate its success (Hill et al., 2013). Three different models of practices can be utilized: Content, Process, and Context (National Staff

Development Council [NSDC], 2001); Orientations of PD (Marra et al., 2011; Park Rogers et al., 2010); and Features of Effective PD (Darling-Hammond et al., 2017; Desimone, 2009). Chapter 2 provides an in-depth review of these models and how they can be used to both design and evaluate PD.

Ensuring that this peer observation program was grounded in research yet was based on the opportunity to learn from peers supports the idea that teaching is both an art and a science, grounded in both EBP and PBE. Research speaks to adults being able to direct their own learning, which is an assumption found within Adult Learning Theory. The following sections expand upon this theory and how this theory can assist with PD creation.

Why Adult Learning Theory?

As previously mentioned, this study is grounded in Adult Learning Theory because this study focused on teachers, providing opportunities for their learning, and providing them self-direction over their learning through creating the program. This theory focuses on using both EBP and PBE in knowledge acquisition among adults. Adult learning theory was developed by Knowles in 1968 and based around five main assumptions (Knowles, 1973):

- Adults have an independent self-concept and can direct their own learning.
- Adults have accumulated a reservoir of life experiences that is a rich resource for learning.
- Adults have learning needs closely related to changing social roles.

- Adults are problem-centered and interested in immediate application of knowledge.
- Adults are motivated to learn by internal rather than external factors. (as cited in Merriam, 2001, p. 5)

These assumptions and the idea of self-directed learning can be found as threads throughout all aspects of this study. Chapter 2 goes more in depth with this theory and its application to this study. The next section illustrates the methodology that this study uses and why it is appropriate.

Introduction to Methods

The idea for this PD came directly from the school goals and thus a team of teachers created a PD experience to meet those goals. Therefore, this study focuses on a specific PD experience at a specific school; it made sense to use a qualitative approach with an instrumental case study design. Utilizing a qualitative approach allows one to seek out a holistic view of what is occurring within the phenomenon (Johnson & Christensen, 2014; Stake, 1995). This study sought to understand the entire PD experience that occurred, and thus a qualitative approach was natural. Case studies can be used as a qualitative methodology to provide a detailed account about a specific case, in this instance the PD experience (Johnson & Christensen, 2014; Stake, 1995; Yin, 2018). An instrumental approach puts the focus of the study on the research questions, i.e., the phenomenon, not the cases themselves (Stake, 1995).

Throughout this study, data was collected specific to each research question. Data sources included interviews and meetings notes. The collected data was analyzed in the

same manner, specific to each research question. Measures were put in place to ward threats to trustworthiness such as researcher bias and reactivity. Chapter 3 provides more detail on this method and its application to this study.

Impact of the Coronavirus

In the spring of 2020, the Coronavirus reached the United States and had a great impact on schools. On Friday, March 13, Montini High School, as well as all the other local schools, closed for the remainder of the school year due to an order by the Governor in hopes to contain the spread of the Coronavirus. In a matter of weeks, teachers began shifting their instruction to a virtual platform. The work of the group of teachers who created this PD experience, the Advisory Board, was halted and forced to shift to virtual communication as well.

In the fall of 2020, the Coronavirus was still active both in our local area and across the United States. This greatly impacted the local school systems. Schools were able to open if they were able to meet the guidelines established by the Centers for Disease Control and Prevention. Many schools were forced to continue with virtual instruction. Montini High School decided to open school but at half capacity. Students would attend school every other day and on the days in which they were not present, they would watch the lesson live via Google Meet. In addition, in order to reduce the amount of time students would be in the hallways, the school transitioned to a block schedule in which classes would move from 50 minutes to 90 minutes. These school changes impacted the PD creation as now the Advisory Board had to consider both in-person and virtual observations. The Coronavirus also greatly impacted implementing the peer

observations, as well as the results of this study. This impact is further explained in Chapters 3, 4, and 5.

This next section presents the operational definitions of the main terms that are used throughout this study.

Definition of Terms

The following list of terms used in this study is not exhaustive, yet it provides the main terminology and operational definitions of the major terms found within this study. Terms are listed in the order in which they appear.

Evidence-Based Practice (EBP) – the use of research within the expertise of context (Abe et al., 2018).

Practice-Based Evidence (PBE) – the occupational practice one might be employed in and the situational context of that practice (Higgs et al., 2012).

Professional Development (PD) – any activity aimed at improving teacher knowledge, enhancing practice, and increasing student achievement.

Peer Observations – Colleagues observing each other's practice in order to increase their own individual learning.

Instructional Rounds – an inquiry process utilized as a way for educators to work collaboratively to improve instruction (City, 2011; Marzano, 2011).

Instrumental Case Study – a methodology used in a qualitative research approach aimed at understanding a specific bounded system, yet prioritizing the issue over the case (Stake, 1995).

Japanese Lesson Study – the primary form of professional development in Japan (Takahashi & McDougal, 2016). It is a collaborative approach to improve teacher instruction using an inquiry cycle (Lewis et al., 2012; Wilms, 2003).

Peer Coaching – first proposed as a means of increasing teacher implementation after a training in which two or more professional colleagues work together to grow in their practice (Darling-Hammond & McLaughlin, 2011; Robbins, 2015; Waddell & Dunn, 2005; Zhang et al., 2017).

Content, Process, and Context – the organization of professional development by content, the specifics of the PD, the process or delivery format and instructional strategies, and the content or knowledge and skills that are addressed (Park Rogers et al., 2010).

Orientations of Professional Development – a holistic glance at the design and implementation of the professional development, including: activity-driven, content-driven, pedagogy-driven, curriculum materials-driven, and needs-driven PD (Marra et al., 2011; Park Rogers et al., 2010).

Features of Effective Professional Development – a list of core features that have emerged from researchers as being found in effective professional development. An original list of these features emerged in 2009 and included content focus, active learning, coherence, duration, and collective participation (Desimone, 2009). This list was later expanded upon to include PD as content focused, incorporates active learning, supports collaboration, uses models of effective practice, provides coaching and expert

support, offers feedback and reflection, and is of sustained duration (Darling-Hammond et al., 2017).

Adult Learning Theory – a theory developed by Knowles in 1968 based upon five main assumptions that describe an adult learner: has an independent self-concept and can direct their own learning, has accumulated a reservoir of life experiences that is a rich resource for learning, has learning needs closely related to changing social roles, is problem-centered and interested in immediate application of knowledge, and is motivated to learn by internal rather than external factors (Knowles, 1973; Merriam, 2001, p. 5).

Chapter Summary

This chapter laid the groundwork by providing the rationale for founding this study. PD can be complex since it can be a top-down reform or manifest at the school level. The PD process focuses on the acquisition of knowledge, which in turn is multifaceted, involving both EBP and PBE. A variety of models can be used to both develop and evaluate PD programs; additionally, a variety of PD models include peer observation. This study aimed to meet the specific goals of Montini High School by developing a PD program involving peer observation. Yet, this study also aimed to allow the teachers a voice as co-investigators throughout this process by creating, implementing, and evaluating a PD program based upon research.

The next chapter goes more in depth with the current research on PD. The chapter begins by looking at adult learning theory in detail since it served as a thread throughout this study. Next, the chapter looks at the different approaches to designing and evaluating PD and then follows up with three types of PD involving peer observations: Instructional

Rounds, Japanese Lesson Study, and Peer Coaching. The chapter concludes by examining what we know about school culture and adaptive PD through research.

Chapter 3 speaks to the research design: qualitative, and method: instrumental multiple case study, for this study. It provides an insight into the context, participants, and provides background information on the study. This chapter also describes the data that was gathered as well as how that data was analyzed.

Chapters 4 and 5 address both the results and the discussion of findings within this study. It is within these chapters that we come to understand the success of the PD program in relation to our evaluation.

Chapter Two

This chapter provides the background information used when the participating teachers created, implemented, and evaluated their own professional development (PD) experience. First, I ground this work within theory by describing Adult Learning Theory. Based upon this theory, the next section will introduce the methodical approach utilized within this study. The remainder of the chapter focuses on designing and measuring effective professional development, specifically focusing on various types of adaptive professional development. This chapter will help readers understand how both specific theory and methods guided this study and are woven throughout the literature.

Adult Learning Theory

The main theory used to ground this study is Adult Learning Theory. This section details what the theory is and why it is important for this study. Two foundational theories comprise Adult Learning Theory: andragogy and self-directed learning (Merriam, 2001). The Andragogical Theory of Adult Learning was developed by Knowles (1973) based around five main assumptions that describe the adult learner:

- Adults have an independent self-concept and can direct their own learning.
- Adults have accumulated a reservoir of life experiences that is a rich resource for learning.
- Adults have learning needs closely related to changing social roles.

- Adults are problem-centered and interested in immediate application of knowledge.
- Adults are motivated to learn by internal rather than external factors (Merriam, 2001, p. 5).

When planning for adult learning experiences one should use these assumptions to intentionally design and implement the experience (Merriam, 2001; Zepeda et al., 2014). One should also be aware of the influence the designer and/or facilitator can have on this learning. Relationships among adults can influence one's learning, specifically when presented with a new perspective (Mezirow, 1981). Therefore, the relationship of the PD's facilitator and participants can impact the learning that occurs. The following paragraphs further describe the assumptions of an adult learner specifically as related to PD.

Andragogy's first assumption addresses self-directed learning, which supports a theory created by Houle and Tough (Merriam, 2001). Self-directed learning emerged as a theory with several goals, one being transformational learning (Merriam, 2001), which is the process of adults becoming aware of the thoughts, habits, actions, and assumptions of both themselves and society (Mezirow, 1981). This learning is directed by adults as they pose a problem/dilemma that arose due to their awareness. In order to engage adults in a professional learning experience, one should take into account how adults can direct their own learning as well as understanding the problems/dilemmas of the PD participants.

The second assumption acknowledges adults' prior knowledge and experiences. Donald Schön believes that it is this knowledge and experience base that drives reflection

that can lead towards a deeper understanding. He refers to this as “reflection-in-action,” which requires an awareness of the action during the action, resulting in responding to a situation based upon intuition drawn from the adults’ prior knowledge and experiences (Schön, 1983, 1987, as cited in Hébert, 2015; Schön, 1983, 1987). When designing PD, one should consider the role that prior knowledge and experiences can play. Allowing adults to reflect and build upon their knowledge and experiences should enable them to make connections as well as honor and respect the knowledge they possess.

The need for learning to be related to changing social roles is a concept that Paulo Freire refers to as “problem posing” (Mezirow, 1981, p. 7), in which adults are challenging their daily acts as well as societal expectations. Mezirow states that this process begins with posing a problem or a dilemma, examining oneself and one’s assumptions, considering alternative actions, planning, and taking action—which can result in a change in perspective. Paulo Freire calls this change “conscientization” and Jurgen Habermas refers to it as “emancipatory action” (1981, p. 7). When designing PD one should consider the various social roles and expectations that may be challenged.

When learning is problem-centered, the adult names the problem and seeks to use the knowledge gained immediately. According to Mezirow (1981), adults may have identified the problem through an abrupt awareness, or the problem may have developed over time through a process of transitions and reflections. This awareness of the problem is the first step to perspective transformation (Mezirow, 1981). Designers of PD should consider the relevance of the PD as well as its connectedness to individual

problems/dilemmas. An alignment between the PD and the problem allows for a greater change of perspective transformation to occur, as well as applying the new knowledge.

Adults are motivated to learn by internal factors. This assumption addresses the importance of buy-in, openness, and their willingness to learn. When designing a PD experience, one should consider whether participants have the internal motivation to engage in the experience. Without this internal motivation, learning may not occur.

PD is often rooted in Adult Learning Theory. Adults are self-directed in their lives and thus it makes sense for teachers to have opportunities to be self-directed with their professional learning (Guglielmino, 1993), which in turn provides teachers the ability to be actively involved to ensure that the PD is relevant for their individual needs and goals (Stefani & Elton, 2002). Guglielmino (1993) explains that in order to provide these opportunities for self-direction, there must be an element of trust, acknowledgement and use of their experience and ideas, as well as an invitation to participate. With this invitation, professional developers must remember that there are varied levels of readiness for self-directed learning and not everyone might be ready or able to take on this responsibility. Readiness levels could depend upon attitudes, ability, and prior experiences—especially if there was a negative experience with a past PD experience (Guglielmino, 1993; Lawler, 2003). If a high level of readiness level for self-directed learning exists, then there is a strong positive relationship with a high level of job performance (Guglielmino, 1993). Therefore, if teachers are ready to direct their own learning, and have the opportunity to do so, there is the potential for an increase in teacher performance and ultimately an increase in student achievement.

Thus, a carefully planned PD has much to consider if it aims to increase student achievement. A look at how PDs are evaluated to determine effectiveness can aid the PD planning process. Under these assumptions, a case study design was utilized for this study. The next section highlights this design.

Case Study Design

Case study as a methodological design allows for a detailed account of a case, or a bounded system (Johnson & Christensen, 2014). This study focused on adults using the assumptions of Adult Learning Theory to create their own PD experience. The bounded system of this case study is teachers having experiences in this PD, which allowed for an intimate view of that experience. To focus on the issues of the case, an instrumental case study design was selected. Instrumental case studies focus on a phenomenon rather than a participant. The participants serve to understand the phenomenon under investigation—in this study, teachers' experiences in a self-created PD experience. The issues of the case, or the research questions, are as follows:

1. In a teacher-created professional development, how do teachers participate?
2. When teachers develop their own peer observation program, what is the perceived impact on their own practice and what, if any, changes were seen in students?
3. What elements of professional development design do teachers value throughout this process?

While Chapter 3 will provide more insight into how this method was enacted, the next section will further explain what is meant by PD as well as different means to create and evaluate PD.

What is Professional Development?

Professional development (PD) is often seen as a way to increase teachers' knowledge and enhance their instructional practices after they have entered the teaching profession (Desimone et al., 2002). For the purpose of this study, PD is defined as any activity aimed at improving teacher knowledge, enhancing practice, and increasing student achievement. As policymakers strive to improve education through various reforms to increase student achievement, it is often teachers who are expected to implement the various reforms (Garet et al., 2001). Therefore, PD is viewed as the key component of systematic and standards-based educational reforms (Darling-Hammond & McLaughlin, 2011; Desimone et al., 2002; Fishman et al., 2003; Garet et al., 2001).

PD is complex and can be formal or informal in nature. Teacher learning could occur in hallway conversations between teachers or within a structured setting. Thus PD can have very different designs. There are various opinions regarding PD design (Fishman et al., 2003). Koellner and Jacobs (2015) view PD on a continuum, as shown in Figure 1, which ranges from highly specified to highly adaptive.



Figure 1

The Continuum of Adaptability of Professional Development Models (Koellner & Jacobs, 2015, p. 52)

Highly adaptive PD is driven locally and facilitation is based on guidelines that allow change based upon the context, whereas highly specified PD is for a predetermined experience (Borko et al., 2011; Koellner & Jacobs, 2015). This continuum allows for a variety of PD opportunities as well as formats, each of which differs in its offering to stakeholders (Koellner & Jacobs, 2015). Yet, regardless of format, the most effective PD is often seen as one that is tailored to the specific content, process, and context for its stakeholders (Guskey & Yoon, 2009; NSDC, 2001).

One way to offer PD is through workshops, which tend to fall on the highly specified end of the continuum as outlined by Koellner and Jacobs (2015). These workshops tend to occur outside of the school day and are led by an expert (Garet et al., 2001). Workshops have received criticism due to the insufficient time for the workshop and the lack of transfer to classroom practices (Garet et al., 2001; Guskey & Yoon, 2009). Over the past decade PD has changed drastically due to the movement away from standalone workshops, which was largely due to researchers identifying qualities of effective and ineffective PD by looking at PD with empirically valid methods (Desimone, 2009; Hill et al., 2013; Penuel et al., 2007). These empirically valid methods include observations, interviews, and survey/questionnaires as opposed to documenting teacher

satisfaction and descriptive studies (Desimone, 2009; Fishman et al., 2003; Garet et al., 2001; Guskey, 2003). This need came to light in 2007, when Yoon et al. examined 1,300+ studies and found only 9 that met the parameters of examining the effect of PD on student achievement. Thus, the authors recommended that future studies examine the effect on teachers and students as result of PD.

To meet this call of linking PD's effects on teachers and students, Desimone (2009) developed a framework to show the linkage through a path model (Koellner & Jacobs, 2015).

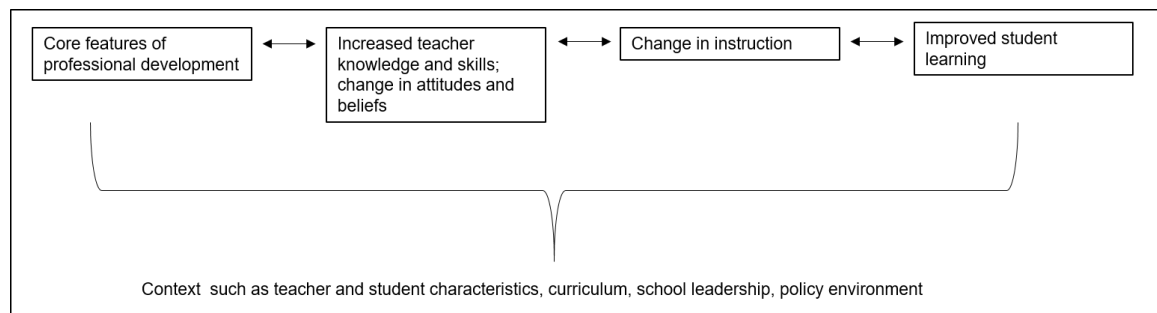


Figure 2

Conceptual Framework for Professional Development (Desimone, 2009, p. 185)

The framework (Figure 2) shows that PD can affect student achievement through increasing teacher knowledge and thus improving the classroom instruction, which leads to an increase in student achievement (Desimone, 2009; Fishman et al., 2003; Koellner & Jacobs, 2015; Yoon et al., 2007). This framework was used to inform a “Theory of Action” which also links PD to student achievement yet includes the added component of

teacher leaders (Koellner & Jacobs, 2015). Therefore, when designing PD, one needs to consider the goals of the PD and what scientifically based evidence can be gathered to support the goals and thus show the effects on teachers and students (Guskey & Yoon, 2009). By focusing more on empirically valid methods of assessing PD, aspects of Desimone's (2009) framework can be observed.

In a response to the criticism of workshops as well as identifying effective and ineffective PD, more reform or highly adaptive PD has emerged (Garet et al., 2001; Koellner & Jacobs, 2015). Adaptive PD can occur within the school day, over sustained periods of time, and can often be linked to individual teachers' needs and goals (Koellner & Jacobs, 2015). Sleeter (2014) states that more depth to this research on adaptive PD is required in order to truly understand the various formats, designs, and outcomes on teachers and students.

Designing and Evaluating Effective Professional Development

The conceptual framework outlined by Desimone (2009) shows how a well-designed PD can lead to improved student learning (Figure 2). There are multiple approaches to thinking about PD design, yet limited empirical evidence on which to base decisions (Fishman et al., 2003). Some of the ways that design can be explored are by looking at the content, process, and context (NSDC, 2001), the PD Orientation Framework (Marra et al., 2011; Park Rogers et al., 2010), and the features/elements of the PD (Darling-Hammond et al., 2009; Desimone, 2009). These methods can not only help designers with PD creation, they can also be useful with PD evaluation to determine what elements lead to an increase in student achievement (Hill et al., 2013). While the

following sections further describe each of these methods, there is an intentional focus on the features/elements of PD. While each of these methods can be helpful with both designing and evaluating PD, the feature/elements of PD is the most recent method that is utilized.

Content, Process, and Context of Professional Development

In 2001, the NSDC published *Standards for Staff Development* (2001). These 12 standards are organized into the categories of context, process, and content, and can be used to create PD as well as hold the possibility to influence future policy decisions (2001). Context is the idea of the specifics of the PD. Park Rogers et al. (2010) explain that the 4W questions can be thought of when trying to determine the context: who, what, where, and why. Process refers to the delivery format and instructional strategies that are used within the PD. Content is the specific knowledge and skills that teachers will be using within their classrooms (2010). The standards are currently in their third iteration. While they have lost the categories of context, process, and content, these categories are still referenced among researchers (NSDC, 2001), although more research is required to understand the effectiveness of each category compared to the others.

Orientations of Professional Development

The PD Orientation Framework can be used to look at a PD experience holistically to guide both designing and implementing the PD (Marra et al., 2011; Park Rogers et al., 2010). The idea of using a lens of orientations grew out of research on science teaching and science professional developers' orientations (Park Rogers et al., 2010).

There are five main orientations: activity-driven, content-driven, pedagogy-driven, curriculum materials-driven, and needs-driven. Activity-driven PD is often composed of hands-on activities that teachers could recreate within their classrooms (Park Rogers et al., 2010). Within activity-driven PD the pedagogical and/or conceptual value is not always clear (Marra et al., 2011). Content-driven PD aims to increase content knowledge and teacher confidence within a subject (Park Rogers et al., 2010). Pedagogy-driven PD focuses on instructional strategies that can help teachers increase student learning (Marra et al., 2011; Park Rogers et al., 2010). Park Rogers et al. (2010) note that curriculum materials-driven PD tends to be more highly structured since it focuses on helping teachers understand a set curriculum and experience the curriculum. The last orientation is needs-driven, which is specifically designed around the needs of teachers, who often complete a needs assessment in order for PD designers to better understand the teachers' needs in order to tailor the PD (2010). Networking and collaborative work are common within this orientation (Marra et al., 2011). These orientations are aimed to describe the entire PD project with a holistic lens.

While within each PD there tends to be multiple orientations, one often emerges as the dominant while the rest remain peripheral (Park Rogers et al., 2010). The focus of PD orientations emerged as a result of Desimone's (2009) work on the features of PD as a way to provide another lens to examine the complexity of PD (Marra et al., 2011). Desimone's (2009) work focused on discrete elements of PD. The PD Orientation Framework provides an alternative view since it looks at how all the design features come together (Marra et al., 2011).

Marra et al. (2011) investigated these orientations in relation to the PD outcomes by looking at 14 studies. With each study a team of raters, comprised of two people, examined various data sources to determine the orientation of the study. From this analysis, 4 studies were activity-driven, 3 were content-driven, and 5 were pedagogy-driven. The final 2 studies represented a new orientation of being balanced between content- and pedagogy-driven. While analyzing these data, the raters also found that the PD projects were not always continuous with their orientation: 6 of the projects' orientations were continuous in nature while 8 were intermittent. The findings showed that the more consistent the orientation, the greater mean of teaching impact. When seeking the perceptions of the participants Marra et al. found that the participants agreed with the raters on the orientation of their PD project. Additionally, teachers who participated in a balanced or content-driven orientation had a greater perception of their teaching improving. While this study examined the orientations of PD that was being implemented, they suggested future research focus on the development of the PD, specifically how it is conceptualized and enacted.

Features of Effective Professional Development

Desimone (2009) spoke to consensus that has emerged from researchers about core features of effective PD: content focus, active learning, coherence, duration, and collective participation. These features are the first step in the conceptual framework of PD (2009), indicating that the inclusion and quality of these features lead to an increase in student achievement. These features are further echoed through different policies in the

call for specifics regarding PD. For example, Desimone (2009) makes note of the call for content focus, duration, and coherence within The No Child Left Behind Act of 2001.

In a policy brief, Darling-Hammond et al. (2017) expanded upon these five core features and further identified seven features of effective PD: It is content focused, incorporates active learning, supports collaboration, uses models of effective practice, provides coaching and expert support, offers feedback and reflection, and is of sustained duration. Darling-Hammond et al. (2017) reviewed 35 studies that were selected due to the criteria of (a) being experimental, quasi-experimental, or used statistical modeling; (b) found positive growth in student achievement; and (c) were in peer-reviewed journals or research submitted to federal agencies. Coding these 35 studies began with the previous literature of Darling-Hammond et al. (2009) and Desimone (2009) and then codes for other features emerged, thus the seven features were identified.

These features are broad in nature in order to support the variance of activity that exists within the PD field (Desimone, 2009). Additionally, some overlap may exist between these features (Darling-Hammond et al., 2017). The impact of the PD is not a result of one of these features, but how the features come together and are implemented (Marra et al., 2011). In order to be all-inclusive I have combined the features from both Desimone (2009) and Darling-Hammond et al. (2017) in order to further describe them below.

Coherence. The features of coherence refer to the extent that the teacher's knowledge and beliefs are in line with the new learning as well as their goals for students (Desimone, 2009; Garet et al., 2001; Penuel et al., 2007). Additionally, coherence

addresses the consistency of the new learning with school, district, and state policies (Desimone, 2009; Garet et al., 2001). In order to achieve this coherence, it is important that all parties involved with the PD session are communicating to ensure alignment (Guskey, 2003). The more coherent a PD is, the more likely it will be effective (Garet et al., 2001).

Content focused. When PD is content focused, it is relevant to the discipline being taught. Having a content-focused PD allows teachers to experience a PD that is specifically tailored to the knowledge and pedagogical approaches of that specific content. When PD is content focused it is most likely job-embedded due to its relevance to the teacher's daily instruction (Darling-Hammond et al., 2017). Job-embedded PD has the ability to be tailored for each specific teacher's needs, the students' needs in the classroom, and the specific discipline being taught (Bates & Morgan, 2018). It is most likely due to this job-embeddedness that research has found a link between focusing on a specific content knowledge and pedagogical approaches to an increase in student achievement (Darling-Hammond et al., 2017; Desimone, 2009).

Incorporates active learning. There are many possibilities for what active learning can look like but the main criterion is that participants are engaged in the learning during the PD session (Bates & Morgan, 2018; Darling-Hammond et al., 2017; Desimone, 2009; Garet et al., 2001). Active learning might be applied through using authentic artifacts to engage participants through student work analysis, and/or lesson plan analysis. Any opportunity that allows participants to "make sense" of their learning

would fall under this element, since teachers would be able to analyze, reflect, and apply their new learning (Bates & Morgan, 2018; Darling-Hammond et al., 2017).

Supports collaboration. Collaboration is the process of professionals working and discussing together. This can take many forms from one-on-one to small group, large group, schoolwide, and/or across schools (Bates & Morgan, 2018). These collaborative groups need to be purposeful, intentional, and structured to maximize the benefits of time spent together (Guskey, 2003). When working together, teachers are able to support each other with their learning (Darling-Hammond et al., 2017; Penuel et al., 2007). The key to successful collaboration is trust (Bates & Morgan, 2018; Penuel et al., 2007). Further, “collective work in trusting environments provides a basis for inquiry and reflection into teachers’ own practices, allowing teachers to take risks, solve problems, and attend to dilemmas in their practice” (Darling-Hammond et al., 2017, p. 10).

Uses models of effective practice. Models help to provide a vision for teachers of what a practice should look like. Models can assist with curriculum, planning, and instruction. A model could look like a video, unit/lesson plan, peer observation, demonstration lesson, case study, or other curricula materials (Bates & Morgan, 2018; Darling-Hammond et al., 2017). Additionally, student work samples or artifacts can be used to determine and discuss models of student work (Bates & Morgan, 2018).

Provides coaching and expert support. Experts may come in the form of a mentor, coach, instructional leader, university faculty, and others may serve in this role of one who works with the teachers, providing job-embedded PD (Bates & Morgan, 2018). Experts can help to facilitate collaboration and may provide models of effective practice

for teachers. Coaching may serve in and of itself as a form of PD or it can be connected to a more formalized training (Carlisle & Berebitsky, 2011). Desimone and Pak (2017) attribute the popularity of coaching to its ability to meet the five features of PD as stated by Desimone in (2009): content focused, active learning, coherence, sustained duration, and collective participation. However, the ability for coaching to meet these features does depend on the role and model of each specific coach since the role of coach is often dependent upon the school or district (Bates & Morgan, 2018; Denton & Hasbrouck, 2009; Desimone & Pak, 2017).

Feedback and reflection. Opportunities to receive feedback and reflect are found to be effective components of PD. Feedback may come from a coach or expert but could also come from a peer. When constructive feedback is provided in a foundation of trust, this allows for opportunities for a change in practice (Bates & Morgan, 2018). The ideal scenario for giving feedback is within a collegial conversation that is based on trust (Brookhart & Moss, 2015; Nicolaidou et al., 2016). When feedback is intentional and constructive it should lead to reflection, which should improve instruction and student learning (Brookhart & Moss, 2015; Körkkö et al., 2016; Nicolaidou et al., 2016; Shortland, 2010).

The complementary practice of reflection allows teachers to reflect upon their practice in relation to the model (Bates & Morgan, 2018; Darling-Hammond et al., 2017). Darling-Hammond et al. state, “The practices of generating feedback and supporting reflection often include opportunities to share both positive and constructive reactions to authentic instances of teacher practice, such as lesson plans, demonstration lessons, or

videos of instruction” (2017, p. 13). Teacher growth and change in practice occur when teachers are able to reflect upon the feedback they have been give (Bates & Morgan, 2018). Much research has been done in regard to using reflection in education since reflection is often viewed as a bridge between theory and practice (Körkkö et al., 2016). In education, teachers often form their teaching identity through reflection as well as their feelings and beliefs (Daniel et al., 2013; Darling-Hammond et al., 2017; Körkkö et al., 2016). There are different levels, forms, models, and typologies of reflection, each of which help to identify when the reflection occurs as well as its depth. One way to ensure that quality reflection is occurring is to ensure that quality feedback is provided (Körkkö et al., 2016).

Sustained duration. When PD is sustained over time it provides teachers multiple opportunities to engage with the content (Darling-Hammond et al., 2017). To date, no threshold for the ideal number of opportunities has been agreed upon (Darling-Hammond et al., 2017). In attempting to quantify the threshold for sustained duration, Darling-Hammond et al. (2009) found a range of 49-100 hours on a single PD focus, and further noted that the average PD hours spent in the United States is 44 whereas many high-achieving nations average 100 hours. Desimone (2009) found support for 20 hours or more of PD to be ideal. From this we can see that teachers should be spending a significant amount of time receiving PD on a topic. This supports the movement away from standalone workshops on the highly specified end of the PD continuum (Koellner & Jacobs, 2015), with an effort to increase time and thus increase the transfer of practice (Garet et al., 2001; Guskey & Yoon, 2009).

Just as important as the number of hours spent in a PD session are what occurs during that session (Guskey, 2003). PD of sustained duration allows the teachers to identify a genuine problem of practice and then work to solve that problem (Bates & Morgan, 2018; Garet et al., 2001; Penuel et al., 2007). PD of sustained duration can be found closer to the adaptive end of the PD continuum since it provides the time necessary for PD to be aligned to specific needs of teachers (Koellner & Jacobs, 2015).

These effective features of PD are not mutually exclusive and most can be found within a successful PD. While a successful PD does not require having all the features, the Reading Recovery program has led to student gains and contains all seven features identified by Darling-Hammond et al. (2017). The next section provides research on specific models of PD involving peer observations.

Types of Adaptive Professional Development

In an effort to explore current practices with peer observations that occur within education we must look toward literature on adaptive professional development. As previously stated, adaptive PD is locally contextualized (Borko et al., 2011; Koellner & Jacobs, 2015). Structuring PD in this manner is aligned to Adult Learning Theory since it is job-embedded, based around problems of practice, and self-directed. There are many ways to design highly adaptive PD including the models of Instructional Rounds, Japanese Lesson Study, and Peer Coaching (see Figure 3). While many models of highly adaptive PD exist, these three models all contain a component of peer observations. The following sections provide a description of each of these types of PD to provide a greater understanding of why they are considered highly adaptive.

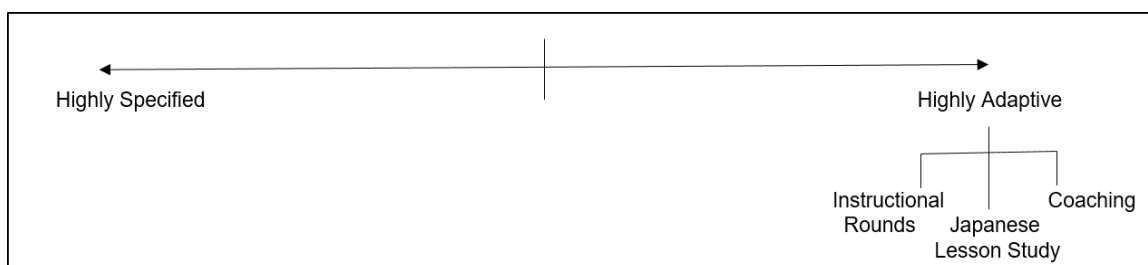


Figure 3

Types of Highly Adaptive Professional Development on the Continuum

What are Instructional Rounds?

Instructional Rounds were developed by professors at Harvard University. Instructional Rounds follow an inquiry process and are a way for educators to work collaboratively to improve instruction (City, 2011; Marzano, 2011). These rounds were developed to mimic the medical field and are composed of a minimum of four steps: identification of a problem, observations, debrief, and a focus on future work (City, 2011; City et al., 2009; Philpott & Oates, 2015). These rounds are completed in small groups of educators (City, 2011; Marzano, 2011). While rounds can be adapted based upon context, these four steps should look the same since this practice requires adherence to the protocol (City, 2011). The ultimate goal of these rounds is allow teachers to reflect upon their own practice while observing others, but ultimately the goal is an overall system improvement (Philpott & Oates, 2015). Each of the rounds are described more in detail below.

The first step of Instructional Rounds is identifying a problem, which will serve as the focus for the network. The network is the team of people who are conducting the

rounds. A problem is identified based on evidence; “data, dialogue, and current work”; and a rich problem includes: “a focus on the instructional core, is directly observable, is actionable, connects to a broader strategy of improvement, and is high-leverage” (City et al., 2009, p. 102). It can take time and many iterations to identify this problem of practice and is guided by a facilitator (2009).

The second step of Instructional Rounds is observations, during which teams of four to six people visit classrooms in order to collect evidence of teaching and learning (City et al., 2009). Often times there is no specific observation recording tool used for these observations; however, schools may ask for a specific note-taking tool to be used, or a network may create their own tool (2009).

The third step of Instructional Rounds is the debrief, which allows participants to sort through their collected evidence of teaching and learning in order to identify possible next steps related to the problem of practice. There are three steps to the debrief: description, analysis, and prediction. In the description step, participants read through their notes and then identify evidence related to the problem of practice. This is shared with the group in order to gain a larger picture of what was observed and what was not. In the analysis step participants make sense of the data and look for patterns. In the prediction step the participants connect teaching and learning by looking from the student perspective, as far as what students know and can do (City et al., 2009).

The fourth and final step is a focus on future work. This step requires participants to brainstorm the resources and support that are required to advance the instruction (City et al., 2009).

One of the keys to implementing Instructional Rounds is the role of facilitator. Facilitators keep the rounds moving and guides the work forward. They are key in both the planning and implementation phases of Instructional Rounds (City et al., 2009).

What is Japanese Lesson Study?

Japanese Lesson Study or “Jugyou kenkyuu has been the primary form of professional development in Japan for over 100 years” (Takahashi & McDougal, 2016, p. 514). Japanese Lesson Study is a collaborative approach to improve teacher instruction using an inquiry cycle (Lewis et al., 2012; Wilms, 2003). It has had much success with changing instruction in Japan (Takahashi & McDougal, 2016), which is attributed to this being a schoolwide effort, spending extended time engaged in this work, focusing on gaining knowledge of teaching and learning, and having a knowledgeable other present during this process (2016). Through interviews with teachers in both Japan and the United States, improvement has been noted as increased knowledge of subject matter, increased knowledge of instruction, increased ability to observe students, stronger collegial networks, stronger connection of daily practice to long-term goals, stronger motivation and sense of efficacy, and improved quality of available lesson plans (Lewis et al., 2004).

Japanese Lesson Study follows a process in which a group of teachers work collaboratively together. Teachers work within a team to design a lesson, one teacher teaches the lesson while the rest observe, then they rework the lesson for improvement, and another teacher teaches it to their class (Lewis et al., 2004; Puchner & Taylor, 2006;

Wilms, 2003). There are many goals of lesson study including increased knowledge of subject matter, instruction, and ability to observe students (Lewis et al., 2004).

What is Peer Coaching?

In 1980, Peer Coaching emerged as a means of PD in education (Joyce & Showers, 1980; Showers & Joyce, 1996). It was first proposed by Joyce and Showers as a means of increasing teacher implementation after a training (Darling-Hammond & McLaughlin, 2011; Joyce & Showers, 1980; Kohler et al., 1997; Lu, 2010; Showers & Joyce, 1996). While there is no universal definition of Peer Coaching, it generally means two or more professional colleagues working together to grow in their practice (Darling-Hammond & McLaughlin, 2011; Robbins, 2015; Waddell & Dunn, 2005; Zhang et al., 2017). Hooker (2013) states that the partnerships in Peer Coaching can be expert or reciprocal in nature. In expert peer coaching, the experienced teacher serves as the coach and the less experienced teacher as the observer. In reciprocal peer coaching two teachers of equal status work together to coach each other (Hooker, 2013).

In addition to proposing Peer Coaching, Joyce and Showers outlined several principles of the model including all teachers participate, no verbal feedback (to avoid evaluative comments and to instead focus on collaborative planning), during Peer Coaching one teacher serves as the “coach” and the other the “coached,” and collaborative work can be broader than observations and conferences (Showers & Joyce, 1996). While these were the originally proposed principles, various Peer Coaching models have adapted differing principles such as the components from Waddell and Dunn (2005), which include forecasting the need for transfer, training, practice,

nonevaluative feedback, questioning, and self-assessment. The varying principles fit with the flexibility of Peer Coaching as outlined by Robbins: “It is essential that the purpose of Peer Coaching reflects the needs and aspirations of the individuals who will be engaged in it” (2015, pp. 9–10). Therefore, Peer Coaching should look different in different settings due to the individuals involved. Thus, Peer Coaching would fall on the adaptive end of the PD continuum since it can continually evolve throughout the process and is driven locally (Koellner & Jacobs, 2015). By being adaptive and meeting the needs of the teachers involved, Peer Coaching aligns itself with the tenets of Adult Learning Theory. Since 1980 Peer Coaching has also emerged in other fields such as business, nursing, medicine, and health education; within education, Peer Coaching can be found in both preservice and inservice education as well as within both elementary and secondary schools (Waddell & Dunn, 2005; Zhang et al., 2017).

Peer Coaching has been a popular topic in journal articles which highlight it as a successful method to help knowledge transfer in both education (Jenkins et al., 2002; Jewett & MacPhee, 2012; Steinbacher-Reed & Powers, 2011) and medicine (Waddell & Dunn, 2005). These articles cite collaboration as a means of helping this transfer. Collaboration is also a tenet of both Instructional Rounds and Japanese Lesson Study (other highly adaptive PDs). Gero (2015) found that teachers who engaged in Japanese Lesson Study reported that they felt comfortable collaborating with colleagues. Collaborative discussions were also used as a means of evidence in Instructional Rounds in Scotland (Philpott & Oates, 2015). Research studies on Peer Coaching tend to be small-scale in nature: 20 teachers (Ma et al., 2018), 10 teachers (Jao, 2013; Soisangwarn

& Wongwanich, 2014; Zwart et al., 2007), and 4 teachers (Jao, 2013; Zwart et al., 2007). The small-scale nature of these studies aligns to the idea that adaptive PD tends to be small-scale and qualitative due to the varying nature of its flexibility (Koellner & Jacobs, 2015). The findings from these small-scale studies help us to see that teachers were more self-reflective, although there was little evidence of applying reflective practice (Soisangwarn & Wongwanich, 2014); that teachers value the process and the collaboration (Jao, 2013); that Peer Coaching had a greater effect than expert guidance on learning participation, design skills, and teaching practices (Ma et al., 2018); and teacher learning can start anywhere, and teachers reported more of a change of cognition than behavior (Zwart et al., 2007).

Impact on Culture

Each of these three models, Instructional Rounds, Japanese Lesson Study, and Peer Coaching, have the ability to influence the greater school culture as well as depend on the school culture for their success. All three models are inherently collaborative in nature and all rely on time and systematic support. Gero (2015) cautions that reform efforts can be thwarted by a school culture and that school culture needs to be directly addressed; unless culture is addressed the new idea will not reach its potential and instead might face some modifications to fit with the preexisting culture (2015). Therefore, to implement any of these models, a school needs to address its own culture and ensure that the school culture and systems are aligned to the fundamentals of the model.

What We Know About Adaptive Professional Development

As Koellner and Jacobs (2015) explain, due to the flexible structure of adaptive PD, research on these models tends to be qualitative in nature, which allows for a focus on context. However, being context dependent and flexible makes documenting the research more challenging. Since adaptive PD allows for self-directed learning, the researcher might not be able to identify key elements of the PD such as duration, participants, resources, content, and goals (2015). Thus research on adaptive PD models tends to be found mainly in small-scale qualitative studies. The following paragraphs detail some of these studies.

While there is a claimed lack of empirical data related to Instructional Rounds, we can look to an adapted Instructional Rounds process that was used in Scotland to find out what they learned (Philpott & Oates, 2015). Philpott and Oates suggest that using models and training are important prior to beginning rounds, as is having a strong understanding of the purpose of rounds. These foundations will help gain teacher buy-in as well as provide them with a visual for ways rounds can and should look. Additionally, Philpott and Oates caution us to think carefully prior to adapting rounds for contextual needs. Rounds were designed to follow a four-step process with adherence to protocols (City, 2011). And finally, we are encouraged to find ways to provide access to research throughout this process (Philpott & Oates, 2015).

Japanese Lesson Study has shown potential in the United States according to case studies and small-scale self-reporting surveys (Gero, 2015). Potential is visible in the collaboration lesson study provides and the link between collaboration and self-efficacy

as evidenced in a case study of two schools (Puchner & Taylor, 2006; Wilms, 2003). Gero (2015) administered a survey to 55 teachers who self-reported on their attitudes about lesson study after participating in a lesson study mandated and designed by their district. The results show that teachers feel comfortable with the collaboration, yet this is likely due to its low stakes since it was mandated by the district. The survey contained open-ended questions and from those questions themes of the necessity of teacher buy-in emerged as being critical and well as the desire for teacher autonomy (2015).

The above small-scale qualitative studies on adaptive PD reveal two themes that show the potential of adaptive PD. The first is the importance of teacher buy-in (Gero, 2015; Philpott & Oates, 2015). This theme matches the definition of adaptive PD since it is linked to individual teachers' needs and goals (Koellner & Jacobs, 2015). This theme is also in line with Adult Learning Theory, which calls for self-directed learning (Merriam, 2001): Therefore, teachers should be allowed teacher to shape the PD according to their needs and goals and thus generate buy-in. The second theme that emerged is the concept that collaboration leads to greater self-efficacy, which increases student achievement (Cantrell & Hughes, 2008; Puchner & Taylor, 2006; Wilms, 2003). Instructional Rounds, Japanese Lesson Study, and Peer Coaching all involve an element of collaboration. Adult Learning Theory reminds us that adults have a wealth of experiential knowledge (Merriam, 2001), and collaboration allows adults to build on their cumulative knowledge.

Numerous small-scale studies of coaching models show the promise of Peer Coaching as an effective form of PD. However, Lu (2010) found that Peer Coaching has not been a prevalent practice within education since the 1980s, when it originated. In

2010, Lu conducted a review of Peer Coaching scholarship in preservice teacher education from 1997-2007. Eight studies were found using the ERIC and Education Research Complete databases from the United States and New Zealand, selected based upon the following criteria:

- Did the study focus on preservice field experience?
- Was Peer Coaching the object of the study?
- Did the study have an empirically persuasive methodology?
- Did the study relate diverse structures and outcomes? (p. 749).

Seven of the studies reviewed occurred at the elementary level and one at the secondary level (Lu, 2010). I was surprised by the scarcity of articles related to Peer Coaching and even more surprised by there only being a single study at the secondary level. Therefore, I decided to extend this search to see the current state of Peer Coaching.

I began this process by using the same databases as Lu (2010), ERIC and Education Research Complete. Additionally, I attempted to use the same criteria except I switched the focus from preservice to inservice in order to see how this practice is used within schools today. I searched using the terms “Peer Coaching” and “inservice” looking at the years 2008-2019 (post Lu’s 2008 search). The initial search within Education Research Complete produced 6 articles, however only 1 of those articles met the criteria. The same search within the ERIC database produced 17 initial articles with only 4 meeting the criteria. Articles were predominately eliminated due to not meeting the criteria of being empirically persuasive, while others lacked a focus on Peer Coaching. This search provided me a glimpse of the current state of the field; it is by no means an

exhaustive search. This exploratory search did show me that there is potential for more current empirical research to occur with inservice teachers who are conducting Peer Coaching.

This search was expanded to include Instructional Rounds and Japanese Lesson Study, the two other PD models explored within this study. Using the search terms “Instructional Rounds” and “inservice” from 2008-2019 yielded two results in Education Research Complete. One of these was an article summarizing others’ empirical studies. The other was a nonempirical study. Thus neither of these results would meet the criteria set by Lu. This search yielded one result using the ERIC database, but the result was a practitioner’s book and therefore does not meet the criteria established by Lu. Similar to the search on Peer Coaching, the findings of this exploratory search show potential for more current research to occur with inservice teachers who are conducting Instructional Rounds.

Repeating this search for Japanese Lesson Study involved using the search terms “Lesson Study” and “inservice” from 2008-2019 with the same databases. This search was met with 10 results in the Education Research Complete database; 4 of the 10 met the criteria set by Lu (2010). In the ERIC database, this search was met with 47 results, of which 8 met Lu’s criteria. While there appeared to be a lot more articles in the initial searches, many were eliminated due to not having a focus on using Lesson Study as a PD model. These findings show that there has been more research conducted, as of late, regarding lesson study than Peer Coaching or Instructional Rounds. From these searches,

we can conclude that more research is needed to understand adaptive PD, specifically regarding Peer Coaching, Instructional Rounds, and Japanese Lesson Study.

Conducting these searches in Education Research Complete and ERIC produced a total of 16 articles that focused on inservice teachers, used a model of PD (Instructional Rounds, Japanese Lesson Study, or Peer Coaching), had an empirically persuasive methodology, and related diverse structures or outcomes (Lu, 2010). The majority of these studies were qualitative in nature, 13 out of 16. Three of these studies specifically mentioned using Case Study as their methodology. These studies all viewed the teacher as the case instead of the PD experience. The PD manifested from top-down reform in all 16 articles. The PD was either designed and implemented by a researcher within a school, a researcher within a graduate course, issued by the government, or nominated by a school administrator. This search supports the current literature on adaptive PD since the majority of these 16 articles were small-scale qualitative studies (Koellner & Jacobs, 2015) and the small quantity of studies support the need for more research on adaptive PD (Koellner & Jacobs, 2015; Philpott & Oates, 2015). This search also revealed a gap in the literature regarding bottom-up PD design since all 16 studies were a top-down reform. This current research adds to the small-scale qualitative studies on adaptive PD, addresses the need for more research with bottom-up PD design, and focuses on the case as the PD experience.

Advice from Scholarship on Creating an Adaptive Professional Development Program

The scholarship that was available on adaptive PD did outline several suggestions to consider when developing a program. An iterative model is suggested in order to best evaluate the PD's effectiveness (Fishman et al., 2003). Repetition would allow teachers to best test how they want to evaluate their program and also to make changes to the design based upon outcomes. Another suggestion is to start small scale (Borko et al., 2011; Guskey & Yoon, 2009) to allow teachers to evaluate the program to understand how it is working. Additionally, the program should be tested in multiple contexts to best understand how to make the PD work for all (Hill et al., 2013).

In order to assist with creating an adaptive PD, I created a chart which details how Instructional Rounds, Japanese Lesson Study, and Peer Coaching align to the design models of Content, Process, and Context; Orientations of PD; and Features of Effective PD. This chart was created from the literature reviewed within this chapter and can be found in Table 1.

Table 1*Professional Development Design and Evaluation*

Models to Design and Evaluate Professional Development		Instructional Rounds	Japanese Lesson Study	Peer Coaching
Content, Process, and Context of Professional Development	Context • Who • What • Where • Why	Can be adapted; Goal of overall system improvement	Can be adapted; Goals of increased knowledge of subject matter, instruction, and ability to observe students	Can be adapted; Original goal to increase teacher implementation after a training
	Process	Inquiry Process; Follows 4 steps: 1. Identification of a problem 2. Observations 3. Debrief 4. Focus on future work	Inquiry Cycle; As a team: 1. Design a lesson 2. One teacher teaches the lesson while the rest gather data on student thinking and learning 3. Debrief how students responded to the lesson 4. Rework the lesson for improvement 5. Another teacher teaches the lesson	Can be adapted
	Content	Based upon a problem of practice at the school level	Typically focuses on the same content within a small group (teachers have a shared curriculum)	To be determined by the Peer Coaching team
Orientations of Professional Development	Activity-driven Content-driven Pedagogy-driven Curriculum Materials-driven	May be present but is primarily oriented as needs-driven	May be present but is primarily oriented as needs-driven	May be present but is primarily oriented as needs-driven
	Needs-driven	Driven by a school need	Driven primarily by teacher team	Reflects needs and aspirations of the individuals

(continued)

Features of Effective Professional Development	Models to Design and Evaluate Professional Development	Instructional Rounds	Japanese Lesson Study	Peer Coaching
	Coherence	May be aligned to district or school goals	Focused within the context of the school's curriculum goals	May be aligned to district or school goals
	Content Focused	May focus on a specific content	Context is determined by the curriculum and is focused on by the group	May focus on a specific content
	Incorporates Active Learning Supports Collaboration	Involves small-group observations and debriefs Small group (All administrators, all teachers, or a combination)	Involves small-group planning, observations, and debriefs Small group of teachers; May have a facilitator; Can be done by teachers within a school, across a district, or as a large public demonstration	Collaborative work can be broader than observations and conferences Reciprocal – 2 teachers OR Expert – 2 people with 1 serving as an expert
	Uses Models of Effective Practice	Training for teachers is suggested in order to provide a model of the Instructional Round process and protocols	Use of instructional materials (curriculum, textbook) provided a basis for conversation and the “research lesson” but the lesson is refined through multiple teachings	Training for teachers is suggested to acquire skills for coaching
	Provides Coaching and Expert Support	Facilitated by a lead teacher	Receive feedback from both internal and external knowledgeable others throughout the cycle	If reciprocal, then 2 teachers provide each other with coaching support. If expert, then 1 person serves as the expert.
	Feedback and Reflection	Teachers reflect upon their own practice while observing others; Feedback is not provided to individual teachers unless explicitly requested	Receive feedback from both internal and external knowledgeable others throughout the cycle	The Peer Coaching team will determine how and if feedback will be provided. Reflection is up to the individuals on the team.
	Sustained Duration	To be determined by the participants	Typical duration is more than 5 weeks for 1 lesson study cycle	To be determined by the Peer Coaching team

When designing an adaptive PD grounded in peer observation, the teachers will ultimately determine the program's design. As a facilitator, I hoped to provide information, such as this chart, to guide their brainstorming and design making. Based upon the school culture, I anticipated that none of these PD models will be used in its truest form. Instead, I imagined that a hybrid would develop.

This chapter provided some insight into creating and evaluating effective professional development by exploring three models: Content, Process, and Context; the PD Orientation Framework; and features of effective PD. The most current approach used for PD creation and evaluation are the features of effective PD, which identifies discrete features that are found within effective PD: coherence, content focused, incorporates active learning, supports collaboration, uses models of effective practice, provides coaching and support, feedback and reflection, and is of sustained duration. These PD models stem from researchers reviewing successful PD projects in order to determine what elements are represented (Darling-Hammond et al., 2017; Desimone, 2009). This chapter also provided research on three types of adaptive PD: Instructional Rounds, Japanese Lesson Study, and Peer Coaching. Table 1 shows the intersection of these types of PD when compared with the models of PD. This study aimed to discover what is valued by teachers when they create their own adaptive PD. The plan the program's creation, implementation, and evaluation is described in detail within Chapter 3, including the methodology, data sources, and analysis.

Chapter Three

The purpose of this study was to explore creating and implementing a professional development (PD) created by teachers, who created a PD experience that enabled them to conduct peer observations. This study sought to understand this experience as related to PD participation, impact of the PD, and the valued elements of the PD design.

Chapter 3 details the methods of this study and further explains how this research occurred and how data was analyzed. For this study a qualitative approach was taken using an instrumental case study design. This chapter begins by identifying the research design and explaining its appropriateness. Then sections detail the context, participants, and background of the study. The data sources are identified and their collection process is explained. Then the data analysis process is explained by research question. This chapter concludes by providing insight into the trustworthiness, limitations, and delimitations of the study.

Research Design

Adaptive professional development is characterized as being flexible and able to change depending upon both want and need (Koellner & Jacobs, 2015). Therefore, when studying adaptive PD it makes sense to use a research approach that allows for flexibility. Qualitative research designs are flexible, allowing for modifications based upon changes

within the study (Maxwell, 2013). This study employed an adaptive PD structure and thus qualitative design was appropriate. Additionally, qualitative research is designed to be flexible, inductive, subjective, and strives to seek understanding of a phenomena (Johnson & Christensen, 2014; Maxwell, 2013; Stake, 1995). This study sought understanding of a specific PD experience. Within the qualitative design there are numerous methodologies that could be used. For this investigation, case study methodology was selected as the most suitable approach. Case study aims to understand a specific case, or bounded system, in order to provide a detailed account to further understand the phenomena (Johnson & Christensen, 2014; Stake, 1995; Yin, 2018). For this study, the case was the PD experience. Case studies can be either intrinsic or instrumental. An intrinsic case study seeks to understand a particular case whereas an instrumental case study prioritizes the issues, or research questions, over the case (Stake, 1995). Therefore, for this study a qualitative instrumental case study approach was employed.

This study focused on the following research questions based upon a PD experience at Montini High School:

1. In a teacher-created professional development, how do teachers participate?
2. When teachers develop their own peer observation program, what is the perceived impact on their own practice and what, if any, changes were seen in students?
3. What elements of professional development design do teachers value throughout this process?

Research questions can be either etic—derived from the researcher, or emic—derived from those within the case in nature (Stake, 1995). The above research questions are a combination of both etic and emic questions. Question one is an emic question. The teachers who were intimately involved in creating this PD experience sought the answer to this question. They wanted to find out if this PD had the capability of increasing teacher collaboration at the school and thus changing the school culture to becoming more collaborative. In order to measure this, we looked at the extent of teachers' participation within the PD. The second research question is etic in nature and stems from Desimone's (2009) Conceptual Framework for PD (Figure 2). This framework states that PD is directly linked to changes among teacher practice and student achievement. This question focuses on understanding the impact of the PD on both teachers and students from a teacher perspective. The third research question is also etic in nature. There are several approaches that can be utilized when designing PD and numerous elements that are deemed effective. This question strove to understand what teachers' value when they create a PD experience. The following sections detail how this study was enacted in order to understand the answers to these questions.

Context of Study

This study took place at Montini High School (a pseudonym), a medium-sized parochial high school. The school was founded over 30 years ago; however, it recently moved from its original location to about 33 miles outside a large metropolitan city in the Mid-Atlantic region of the United States. The school is now housed in a more rural setting and occupied a brand new building for the start of the 2020-2021 school year.

The majority of faculty and staff remained at the school throughout the relocation. The school has approximately 100 faculty and staff members. There are 84 faculty members whose ages range as noted in Table 2.

Table 2

Age Range of Faculty at Montini High School

Age Range	Number of Teachers
25-29	9
30-39	14
40-49	16
50-59	28
60-69	16
70-79	1

The journey into the field of teaching is very diverse among the faculty members. Some faculty took a traditional teacher training route at a 4-year institution, others followed an alternative path; for many, this serves as a second career and they are working towards their teaching credentials. Out of the 84 faculty members 40 have their highest degree a bachelor, 44 a masters, and 6 a doctorate. While the school has few novice teachers, the mean years of teaching experience of the teachers is 18 years.

The school serves approximately 950 students from Grades 9-12. The majority of students are Caucasian and from middle- to upper-class families and affiliate with the Catholic religion.

In previous years, class periods were 50 minutes in length and followed a rotating schedule. However, during the 2020-2021 school year, students followed a block

schedule in which class periods were 90 minutes in length. A rotating schedule was still utilized so class periods differed in start time depending upon the day. The rationale behind this schedule change was to adhere to the social distancing guidelines due to the Coronavirus, and to try to keep students out of the hallways as much as possible. Additionally, a hybrid structure was put in place for instruction. Students attended live classrooms every other day. On the days in which they were not in the school building they attended the classes virtually through Google Meet. This change was also put into place to reduce the number of students in the building at a time in order to adhere to social distancing as a result of the Coronavirus.

Researcher Background and Positionality

I have been in education for the past 17 years. I began my career as an elementary teacher. In this position, I was seeking out better ways to help my struggling readers and thus began working with an instructional coach to improve my reading instruction. Our work together was primarily after school hours but was driven by my own needs and wants. Through this work, I developed a love for teaching reading and then became a reading coach in a school. This work enabled me to further put into practice what I learned and also to share some of my knowledge of reading with other teachers. I worked as a school-based reading coach for three years and then transitioned to working at a district level, where I provided PD and support for school-based instructional coaches. I worked with 12 elementary school coaches and loved this work of training coaches. I visited two schools a day and provided on-site support for these coaches. Additionally,

throughout the year, I provided off-site PD for the coaches with ways to improve their coaching craft as well as their content knowledge.

For the past 5 years, I have been working at Montini High School. I initially started out in a part-time instructional coach position and then moved into a contract arrangement which primarily involves working with department chairs and establishing learning communities. Department chairs work in numerous capacities at the school and I work with them on improving their facilitation skills for meetings as well as student work analysis. Due to having been at the school in some capacity over the past 5 years, I do have relationships with both members of the faculty and the administration. This relationship helped me to gain access in order to conduct this study as well as eased the process of recruiting initial volunteers.

Throughout this study, I served as a participant–observer, meaning the researcher also participates/observes during the study (Glesne, 2016; Yin, 2018). My contract work at the school provided access to the school improvement plan which identified that peer observations would occur. Thus I was able to recruit a group of volunteer teachers to serve on an Advisory Board to pilot and create this PD experience. It was with this group of teachers that I served as a facilitator. I was a member of the group, guided all meetings, presented information to the teachers at the meetings regarding PD research, and facilitated discussions. In this position, I tried to ensure that decision-making power resided with the teachers by presenting ideas, but then asking what they wanted to do with the information and what they needed to know to make strides forward in creating the PD. The teachers directed the content of the meetings and decided upon the next steps

and dates for future meetings. The next section further details what this role of facilitator entailed. After the creation process, then I truly became an observer. Teachers would participate in their observations on their own, and it was only through the data collection that I began to understand their experiences.

As a teacher and instructional coach, social interactions have always been at the forefront of my role. I personally have learned from my interactions with others and I actively try to include social collaboration in both my teaching and the PD creation projects. Therefore, this study is positioned from a social constructivist epistemological stance. Social constructivism, the belief that knowledge is actively built through our interactions with others and our interpretations of those interactions, stems from the work of Lev Vygotski in the 1960s (Derry, 2013). The PD in this study was created through the collaboration of a group of teachers. The PD involved teachers orchestrating their own peer observations and sought to understand if further collaboration resulted. Therefore, social collaboration and gaining knowledge from that collaboration are at the core of this study. Additionally, the theory that drives this study is Adult Learning Theory which is based on the fact that adults have life experiences to share and have needs related to changing social roles (Knowles, 1973). This theory connects to social constructivism and acknowledges that we each have different interpretations of our life experiences, that adults have a lot to offer because of these experiences, and that we can learn from each other. The next section details how the collaboration with this PD began and how it relates to changing social roles within the school.

Background of the Advisory Board

Prior to this study an Advisory Board was established in 2019 in order to create a peer observation program through several iterations that involved the cycle of designing, piloting, and analyzing the program. The Advisory Board was a self-named group of volunteer teachers who gathered regularly to create a sustainable PD program that met teachers' needs. All 84 teachers were invited to join the Advisory Board, and 17 teachers wanted to participate to some degree. All 17 received meeting notes and were invited to the meetings. However, there was a core group of 8 teachers who consistently attended meetings. These 8 teachers consisted of 4 males and 4 females. Seven of these teachers have worked at the school for 10 years or more and 2 served as Department Chairs for their departments. These teachers knew that Peer Observations were going to happen since they were in the 5-year plan and thus sought to have some input. Once the Advisory Board was created, they were able to meet 9 times face-to-face over the course of the 2019-2020 school year. Each meeting lasted approximately 1 hour, and all meetings were held in a central location within the school building. An outline of the meetings can be found in Table 3.

Table 3*Outline of Advisory Board Meetings*

Meeting	Topics
1	• Incorporating this project into teachers' own personal and professional goals • Levels of participation in this project that are available • Timeline of project • Use of this project for dissertation
2	• Discussion of the school's 5-year plan and where peer observations are cited • Shared a PowerPoint which overviewed 3 models involving peer observations: Japanese Lesson Study, Instructional Rounds, and Peer Observations; provided articles for additional reading and reflection
3	• Collected data on thoughts of each of the 3 models involving peer observations, analyzed the data to identify patterns, and looked at the pattern of wanting to beg/borrow/steal ideas from other teachers
4	• Group discussion on the wanted gain for the observer and if we desire a similar gain for the observee • Planned first peer observation within the group in order to visit a classroom and see if you had a "gain" as the observer and if you wanted something as the observer. Additionally, there were no written requirements during the observation; at the next meeting we would discuss what people wrote and/or what people wanted to write during the observations.
5	• Collected data on both the observations and thoughts around the observations to identify patterns. When analyzing the data the group reached the conclusion that more data were required in order to see patterns and thus decided to repeat these initial observations.
6	• Collected data on both the observations and thoughts around the second round of observations in order to identify patterns. When analyzing the data the group reached the conclusions that observations need to last at minimum 20 minutes, some guidance should be provided on whom to observe and when during the lesson to observe, and more discussion is needed around which form use when observing.
7	• As a group we created a pro/con list for form use during observations as well as further questions we have • Shared 12 different observation forms with teachers and 1 teacher brought in their own form. Discussed likes/dislikes with each.
8	• Presented a draft form based upon prior meeting discussion and discussed the need to pilot the form • Discussion around the number of times we should conduct peer observations throughout the year • Drafted a purpose statement for peer observations
9	• Collectively made revisions/edits to the drafted form based upon piloting it and using it for an observation • Revisited and finalized the purpose statement • Discussed the possibility of incorporating peer observations into teachers' personal and professional goals for next school year. This would eliminate the need to state a number of times these observations should occur.

I facilitated each of these meetings with the Advisory Board but the meeting agendas, next steps, and date for the next meeting were created by the group at the conclusion of each meeting. At the conclusion of each meeting, I provided meeting notes to the members of the Advisory Board through the virtual platform of Google Classroom. Each of the nine meetings is further described in detail below.

Meeting 1 was to lay the groundwork. As a facilitator, I primarily led this meeting by sharing the gain for teachers' involvement in this project, the use of this project for their own goals, and the degree to which they could participate. Additionally, I shared the timeline for this project as well as using this project for my dissertation. The hope of this meeting was to provide transparency for the teachers about the scope of work they were going to engage in as well as their own gains from participating.

I was excited heading into Meeting 2 to discover that the teachers who had attended the first meeting were still present and willing to partake in this project. This second meeting was more of presentation than a discussion. I shared with teachers the school's 5-year plan which cites using peer observations in order to meet school goals:

1. Goal 1 for Year 1: Peer Observations are listed as evidence of a step to reach this goal: "Teachers provide evidence of implementing student-centered learning practices."
2. Goal 2 for Year 1: Peer Observations are listed as a step in order to achieve the goal to "Engage in continuous improvement process that produces evidence and measureable results of improving student learning and professional practice."

3. Goal 3 for Year 1: Peer Observations are listed as a step in order to achieve the goal to “Promote collaboration and collegiality to improve learner performance and organizational effectiveness.”

While the 5-year plan was adaptable and there was not necessarily a requirement to follow it exactly as written, the initial plan was to use peer observations as a means of accomplishing these tasks. Additionally, during this second meeting, I shared a PowerPoint presentation on three current models that involve peer observations: Japanese Lesson Study, Instructional Rounds, and Peer Coaching to provide teachers with a context for what peer observations could look like. At the conclusion of this meeting, I provided teachers with additional articles for optional reading to further their understanding of these models. During this conversation, the question was raised about the use of the Effective Learning Environments Observation Tool (ELEOT) during this process. ELEOT was first implemented the previous year and thus was still a new observation framework that was being used at the school for administrator evaluations and school accreditation. Then we set the groundwork that the next meeting would be a discussion of these models as well as the possibly incorporating the ELEOT and how it would work at our school.

At the third meeting I facilitated a discussion around the three models of peer observation that were presented previously. We utilized the “Chalk Talk” protocol (National School Reform Faculty [NSRF], 2020) in order to collect data on our thoughts. This protocol calls for questions to be written down and participants to answer the questions silently in a written format. Data was collected on the following questions:

- What do you like about Instructional Rounds?
- What do you still need to know about Instructional Rounds?
- What do you like about Japanese Lesson Study?
- What do you still need to know about Japanese Lesson Study?
- What do you like about Peer Coaching?
- What do you still need to know about Peer Coaching?
- How could we use the ELEOT in peer observations?
- What would be any cons to using the ELEOT?
- What do you personally hope to gain from doing a peer observation?

Once the Advisory Board had completed writing, as a collective group we passed around the papers and read over the answers. Then we opened up the conversation for any patterns that emerged through the answers. The major pattern that we noticed was the desire to gain ideas from our peers through these observations. It was also discovered that we need more clarity around the administrator evaluations in order to determine how and if ELEOT could be used. Finally, our major concerns with these models were time, structure, and logistics. We concluded this meeting with the decision to review the data individually more in detail, to consider the idea of observation as a sole gain for the observer, and to find out more information about the administrator evaluations.

In Meeting 4, we continued our conversations from the previous meeting. This meeting was an open conversation format in which I provided the topics (stated from Meeting 3) and then the group discussed. The structure of administrator evaluations was shared during this meeting and the idea of school culture was raised. Teachers expressed

a fear of using the ELEOT due to the training required as well as the fear of the formal evaluation culture. Teachers returned to the idea of observations being a gain for the observer and a chance to organically build relationships and change school culture. They stated that currently teachers were working in isolation; they would communicate among their department but there was very little cross-department collaboration and little chance to observe each other even within the department. The Advisory Board expressed a hesitancy towards using Instructional Rounds due to the training required, the lack of a defined school problem, and the need for a facilitator. They also expressed a hesitancy towards Japanese Lesson Study because several teachers only taught one subject, as well as the time commitment and the need for a knowledgeable other. At this time, I proposed the idea of us trying out each of the models, but the board wanted to proceed with just conducting simple peer observations. These observations would follow a modified reciprocal Peer Coaching model in which two teachers would partner, one serving as the observer and the other the observee, however they could not switch roles. The Advisory Board understood that the goal of professional development is to increase student achievement, yet they felt that in order to get there they first needed to change the school culture to be more collaborative. Therefore, we decided to conduct an observation of a fellow member of the Advisory Board, individuals would set up their own observations, collect data in a manner they see fit, and then be prepared to further discuss the idea of a gain solely for the observer.

In Meeting 5, we conducted a modified “Chalk Talk” (NSRF, 2020). Instead of writing our answers on a piece of paper, we wrote on sticky notes. As a facilitator, I made

this decision in order to ensure that accurate data were collected around teachers' actualities and thoughts with the observation they conducted. The following questions were answered:

- How did it feel to be observed?
- How did it feel to observe?
- How long did you observe for? Was it too long, short, or perfect?
- What did you write down? And/or what did you want to write down?
- Other comments

After the group had completed the questions, we read the answers to identify patterns. We noticed a lot of logistical items when establishing observations such as: they can be arranged in person or via email, framing the goal of the observation was key, and observees should provide a big window (across a week) in which the observation could take place. Questions were raised around computer use for recording observational data as well as walking around the room during the lesson. This meeting concluded with the realization that while we had some ideas, we needed more data and we probably needed to create a guidance page for teachers to answer some of the logistical questions that would emerge. Attendance was low at this meeting and there was not enough data to draw conclusions; therefore, we decided to repeat observations in order to gather more data.

In Meeting 6, we repeated the exact same protocol to collect data as in Meeting 5. We used the same questions and then from our analysis concluded that the ideal time for a peer observation was a minimum of 20 minutes and then exiting whenever there was a

natural break in the lesson. At this time the members of the Advisory Board did not want or expect anything in return for hosting a teacher to observe them; instead, they more looked forward to seeing another teacher. They also feared the feedback they may receive from a peer and thought it could potentially harm school culture as well as require training on how to give feedback. Additionally, some organic conversations occurred between Advisory Board members as they prearranged meetings among each other (to see a classroom discussion) and followed up with each other (to learn more about how they have students research). A major pattern that emerged from these data was a need to further discuss using observation forms, whether we wanted one, and what it should look like. Therefore, this was proposed to be the next meeting topic. I encouraged the Advisory Board to bring any form they had or wanted to create as well as any ideas.

The seventh meeting began by co-creating a pro/con/question list for observation form use. Once we had generated this list, we began looking at a variety of forms in order to see what we liked. I shared 12 different forms with teachers (checklists, scripting forms, guided questions) and one teacher brought a form to share. We discussed the fear of checklists due to training and limiting experiences to a box. Board members seemed to like a form with a couple guiding questions for the observer and an additional fill-in-the blank thank you to be left for the observee. They also liked the idea of having a form as opposed to a reflection since it could be completed on the spot. At this time, the board leaned towards using paper/pencil to complete the form since this would allow a distinction between peer observations and formal administrator evaluations. The idea of changing school culture was also revisited and decided that it needed to be discussed

further. If this was our intended purpose of the observations, then what was the current state of our school culture and what was our desired culture? The question was also raised about the number of observations that would be required over the course of a year. At the conclusion of the meeting, I offered to create a draft of a peer observation form based upon the feedback and we discussed that the agenda for the next meeting would be to revise/edit the form as well as further discuss our purpose statement and the amount of peer observations that would occur.

In the eighth meeting, I shared a draft peer observation form. We discussed the form but ultimately concluded that we needed to test the form by conducting an observation. Then we discussed the number of times we should recommend that peer observations occur. This conversation returned us to the desire for organic relationships to form as a result of peer observations. Therefore, we discussed that instead of setting a number of visits, that we possibly ask teachers to set a goal around their visits and then document whether their goal was met. I agreed to find out if this could become a part of the goal-setting work teachers were already doing with establishing their own personal and professional goals each year. As a collective group, we drafted a purpose statement for peer observations:

The purpose of peer observations is to build a community of teachers that collaborate as measured by: conducting further peer observations on your own, meeting with teacher for planning/feedback sessions, and/or implementing practices within your classroom based upon a peer observation (essentially going beyond the requirement).

This meeting concluded with the agreement to pilot the observation form and for the next meeting be prepared to discuss changes to the form as well as revisit the drafted purpose and the idea of goal setting with observations.

The ninth meeting began by discussing the drafted peer observation form and how we each used the form. We went through each section of the form and discussed our own individual use as well as any concerns regarding revisions or edits for that section. While board members shared, I collected notes on form changes. It was proposed that I put the form on a Google Document which would allow them to make further comments or changes. Then we discussed the drafted purpose and all agreed that this was indeed our purpose of peer observations. Additionally, we revisited the idea of goal setting with observations and were all in agreement that this was the ideal scenario. From this meeting our next steps included presenting our proposal to administration, gathering a larger group of teachers to pilot observations, and tweaking the peer observation form.

Due to the Coronavirus pandemic, schools were closed for the remainder of the year shortly after our ninth meeting (spring 2020). A few weeks into the closure, Montini High School began virtual instruction for the students. Fortunately, the Advisory Board had already established an online sharing platform through Google Classroom, thus the conversation was able to continue. This shift in instruction from in-person to virtual raised the question of virtual peer observations. The Advisory Board saw the ability for this to occur and thought it should remain an option to conduct observations, so this was added to the PD proposal. A one-page proposal was submitted to the administration (Appendix A) as well as the drafted observation form (Appendix B). The proposal was

for a modified reciprocal Peer Coaching structure. In a typical reciprocal Peer Coaching teachers might observe each other. In the proposal by the Advisory Board, one teacher would observe another teacher of equal status, however the roles could not be reversed. The administration approved this PD and it was ready for implementation. The next section details the participants in this study, who they are, and how they were selected.

Research Sample

The sampling used for this study consisted of a mixed purposeful sampling meaning that more than one sampling strategy was in use (Johnson & Christensen, 2014). The main form was comprehensive sampling, in which all teachers within the school were eligible participants. One challenge that occurs with comprehensive sampling is the practicality of it as well as the expense (Johnson & Christensen, 2014). All teachers within the school would be participating in the resulting PD experience per direction from the school administration. After completing the PD teachers were asked to consent that this data could be used for research purposes. Data collected included: the number of planned versus actual observations, teachers' responses to prompts about the observations, and a questionnaire asking about this experience. These data sources are further described later in this chapter. Once the data were gathered, it informed further sampling to best answer the research questions.

Purposive sampling was used in order to seek out five to eight teachers to participate in an interview. Teachers were selected based upon the number of peer observations they conducted over the course of the year. The ideal representation would be to have a range showing both extremes: including both teachers who participated in

numerous peer observations, as well as teachers who participated in a single observation. Teachers were asked to participate based upon ensuring that this range was represented.

All 84 faculty members within the school were invited to participate in this study. Since safety procedures related to the Coronavirus prevented large group gatherings, I met with each department individually during a virtual department meeting. At these meetings, I outlined the aims of the study, invited faculty to participate, explained what would be required in terms of their participation, and asked willing participants to sign a consent form. This process yielded 29 initial participants. However, once the data collection began there was some attrition and 26 participants were able to contribute to the data for this study. Of the 26 participants, 8 were selected for follow-up interviews. One of these did not want to participate in the interview and thus 7 teachers were interviewed. Of the 7 teachers, 3 exceeded their goal number of observations, 2 failed to meet their goal, and 2 met their exact goal. These 7 teachers conducted anywhere from 1 to 15 peer observations. The next section details the ethical considerations that occurred both before and during this study.

Ethical Considerations

Prior to the start of this study, I followed procedures in order to ensure that this study would be conducted in an ethical manner. This began by ensuring that the George Mason University Institutional Review Board (IRB) approved this work and found it to be ethical. This involved submitting a proposal as well as all of the forms that would be used within the study. Following approval, the research began (Appendix C).

The original plan was that at the beginning of the 2020-2021 school year, prior to teachers establishing their personal/professional goals, teachers would be informed of how their goal setting was involved in this study and informed consents would be sought (Appendix D). The consent form made teachers aware of the study's purpose, procedures, risks, benefits, as well as limits to confidentiality (Johnson & Christensen, 2014). Teachers would be told this information orally, then given time to read the form, and receive an opportunity to ask questions prior to choosing whether or not to participate. Later in the study, teachers who agreed to be interviewed would be reminded of this consent form again prior to the interview.

However, since large group gatherings could not occur due to Coronavirus, I had to resort to an alternative plan. Therefore, I reached out to each department chair and requested a few minutes with each department in order to discuss this study and seek informed consent. I met with each of the 13 departments through Google Meet and informed teachers about the study, invited them to participate, and offered those willing to participate the informed consent. In order to make this easier for teachers, I submitted an amendment to the IRB requesting that teachers could electronically sign their name to the consent form, and the amendment was approved (Appendix E).

One important ethical consideration is the importance of maintaining the privacy of participants. This privacy was ensured by removing teachers' names from any form and using pseudonyms for any individual's names as well as the name of the school throughout research. Additionally, no identifiable information was used. This consideration was part of the consent form and participants were reminded of this

throughout the research. Once consent was gained, data collection began. The next section details data use and collection.

Data Collection

This section details the data collected throughout this study. This case study was guided by three research questions (RQ). To answer these questions different data were collected to best address each question. Table 4 displays the data collected and the question(s) addressed.

Table 4

Data Sources

Data Collected	Research Question Addressed		
	1	2	3
Teachers' planned vs. actual number of peer observations conducted	X		
Teachers' responses to written prompts about the observations	X		
Questionnaire sent to all teachers on their perceptions and ranking of PD design elements		X	X
Follow-up interviews with teachers	X	X	X
Advisory Board meeting notes			X

Table 4 provides a brief glimpse into the data collection, and the following paragraphs further detail and describe the data collected for each question.

The first data source, teachers' planned versus actual number of peer observations conducted, addressed the first research question: In a teacher-created professional development, how do teachers participate? This research question assessed the degree to which teachers participated within the PD, which the Advisory Board deemed as the PD's ultimate result. The Advisory Board decided to measure this as whether the teachers went

above and beyond the school requirement that all teachers would participate in one peer observation over the course of the school year. At the beginning of the school year, teachers set their own personal and professional goals; one of the goals would be centered around conducting peer observations. Teachers set a goal and identified the number of peer observations they hoped to achieve over the course of the school year. In the late spring, teachers were asked to provide evidence of their goals and the actual number of peer observations that they conducted. This data source informed us with both teachers' initial goals to let us know their plan, as well as the actual number of observations they conducted.

The second data source, teachers' responses to written prompts about the observations, also addressed the first research question. Teachers were asked to respond to numerous prompts, such as: "Did you meet with a teacher you observed to further discuss the lesson?" (Appendix F). These prompts provided some insight into whether the teacher did anything beyond just observing the teacher. This could look like teachers conducting multiple peer observations, following up observations with further conversations with teacher, and co-planning with teachers. This information provided further information on how teachers got involved within the PD.

The third data source, the questionnaire, provided some insight into teachers' perceptions about their own professional growth, the growth within students, and their value of the PD's design elements. Thus the data from this questionnaire support both the second research question: When teachers develop their own peer observation program, what is the perceived impact on their own practice and what, if any, changes were seen in

students?, and the third research: What elements of professional development design do teachers value throughout this process? This questionnaire was based on teachers' perceptions and thus illustrated their specific thoughts regarding this PD (Appendix G). These questions asked teachers about when they were arranging their peer observation experiences, to what degree they sought to ensure their experience was activity-, content-, pedagogy-, or curriculum-driven. Other questions asked teachers their perceived presence of the features of effective PD as well as what features they would have liked to have a stronger presence. Additionally, teachers were asked about the perceived impact these observations had on their own teaching practice as well as what, if any, changes they saw in students as a result of their observations.

The fourth data source, interviews, occurred after all the other data sources had been collected. I conducted all interviews in late spring, with participants selected based upon the number of observations they submitted with their goals (Data Source 1) in order to best provide a range of number of observations. My ideal number of interviews was between five to eight; however, it was important to have enough interviews to display the range of observations that occurred. Seven interviews actually occurred. The interviews followed an interview protocol (Appendix H) and were semi-structured to allow for teachers to receive the same questions but also for variation among the interviews in order to allow for teachers to speak freely (Johnson & Christensen, 2014; Yin, 2018).

The last data source, Advisory Board meeting notes, provided insight into the design choices that were made during the PD creation process. This illustrated what was valued during the creation process and thus what elements were present within the PD.

Throughout this process, any meetings that were held with the Advisory Board or teachers at-large were documented through meeting notes. These notes were provided electronically to the Advisory Board after each meeting for their review. These notes provided data for any elements of PD that were discussed in meetings (Yin, 2018).

Once data were collected from each source, the interviews were transcribed and all the data were organized in order to prepare for the data analysis.

Data Analysis

In qualitative research, beginning data analysis is often referred to as interim analysis, which is the idea that data collection and analysis do not necessarily happen in a linear format, instead it tends to be a cyclical process that occurs throughout the entire research project (Johnson & Christensen, 2014; Miles & Huberman, 1994). This research project was no different and followed the interim analysis process. When analyzing data, they were first analyzed by type of data and then compared across data sources to provide a holistic picture of the phenomenon (Miles & Huberman, 1994; Stake, 1995). The process of data analysis differed slightly based upon the research question and the data collected, therefore the following paragraphs detail the data analysis by research question.

Two main types of data were collected for Research Question 1: In a teacher-created professional development, how do teachers participate? The data included two numbers: the teacher's goal number of peer observations (set at the beginning of the year) and the actual number of peer observations that occurred. Additionally, the data also included written statements from teachers providing any additional evidence of these

observations. The numerical data (the goal and the actual number of observations) were analyzed through quantitative coding or counting (Glesne, 2016; Maxwell, 2013). This process involved listing the numbers; determining whether goals were met, failed, or exceeded; and finally organizing them into a format to see the represented range. The other data source collected was teacher's written responses, which received a thematic analysis to identify themes or patterns that emerged in the data through a process called coding in which segments of data were identified and connected (Glesne, 2016; Johnson & Christensen, 2014; Maxwell, 2013). Explanation building was the analytic technique used to code the data. This allowed the focus to be on the explanation of how teachers did or did not extend their participation within the PD. Yin identifies a 6-step iterative process to code the data:

- Form an initial theoretical statement
- Compare data against initial statement
- Revisit statement
- Compare other details from case to statement
- Compare across cases
- Repeat the process. (2018, p. 180)

An inductive process was utilized through these six steps. Inductive coding is entering the process with an open mind and generating the codes from the data itself (Johnson & Christensen, 2014). This process provided an explanation for teachers' involvement within the PD experience.

Upon collecting and organizing questionnaire data aligned to Research Questions 2 and 3, thematic analysis began. These data also followed an explanation building analytic technique. This analysis utilized an inductive coding categorization using the same 6-step iterative process as in response to Research Question 1. These data provided an explanation of teachers' perceptions of how the PD impacted themselves and their students.

Follow-up interviews were conducted with teachers in order to further explore and understand their experiences with this PD. Upon completion of these interviews, they were transcribed. After the transcription the same thematic analysis began using the same process as with the other data sources.

The data collected from the Advisory Board meeting notes followed a thematic analysis process utilizing the explanation building analytic technique. The same 6-step process was used; however, instead of following an inductive process it was coded through a priori codes. This analysis provided details on the elements valued by the Advisory Board; therefore, the data needed to be coded by these elements, thus a priori or preexisting codes were used (Johnson & Christensen, 2014; Miles & Huberman, 1994). The elements that were used can be found in Table 1. This analysis showed us the Advisory Boards' perceptions of the elements. The next section provides details on the trustworthiness of this work.

Trustworthiness

Trustworthiness or validity deals with the credibility of one's work. When thinking about the validity of this project, the two main threats identified by Maxwell

(2013) were both a reality: researcher bias and reactivity. The following paragraphs further describe these threats.

Research bias is when the researcher obtains results which are consistent with their own personal desired results (Glesne, 2016; Johnson & Christensen, 2014; Maxwell, 2013). One researcher bias that I have is that PD should be inherently linked to student achievement. I personally agree with Desimone's (2009) core conceptual framework, which links PD to increased teacher knowledge, to change in instruction, and to improved student learning. During meetings with the Advisory Board during the PD creation, I was aware of this bias and had to refrain from allowing that to dictate the direction of the PD. Ultimately, the teachers on the Advisory Board felt that in order to improve student achievement they first had to focus attention on school culture. They desired a culture that is more collaborative. Thus, we decided to measure teacher participation in this PD as a means of seeing if we were increasing our efforts with collaboration. With this project, I needed to be aware of this bias as well as others that may have emerged. In order to avoid researcher bias during data collection and analysis, these activities occurred within the collective Advisory Board, who served as "multiple investigators," meaning that multiple people to collect, view, and analyze the data (Johnson & Christensen, 2014; Miles & Huberman, 1994). Having multiple investigators helped to confirm and challenge the data findings as well as limit researcher biases. As another way to combat researcher bias, multiple sources of data were utilized in order to better understand the phenomenon (Johnson & Christensen, 2014). Multiple sources allowed for

different perspectives to emerge and thus created a more holistic view of the PD experience.

The second threat to trustworthiness is reactivity, which is described as my own influence on the study as a researcher (Maxwell, 2013). Reactivity may have emerged due to the fact that I have been with the school in some capacity for the past 5 years, thus I have relationships with the faculty, staff, and administration, which could be both an asset and a hindrance during this project. Having prior relationships made it very easy to recruit people to participate in the Advisory Board and help with the PD design. The relationships also had the potential of impacting discussions and sharing within the Advisory Board, as well as in interviews. This impact have may been positive since teachers may have felt comfortable with my presence, yet it could also have hindered the process due to the fear of sharing too much information with a known person. Additionally, my relationships may have hindered this work because I may have been viewed as an expert with professional development. In an effort to limit my influence on this project, all data collection and analysis occurred within the Advisory Board rather than solely by the researcher (see the above paragraph).

In addition to addressing the threats on trustworthiness, rich data were provided throughout this study. Rich data are detailed and varied in order to provide a holistic picture of the phenomenon (Glesne, 2016; Maxwell, 2013). By addressing these threats of researcher bias and reactivity as well as providing rich data, this study's trustworthiness was increased and thus its credibility. The next section details the limitations that bound this study.

Limitations and Delimitations

All studies contain both limitations: external restrictions on the study, and delimitations: boundaries established by the researcher (Glesne, 2016). This section describes both the limitations and delimitations on this study.

Some of the limitations were the fact that it was bound by those who volunteered to participate through interviews and those who volunteered to serve on the Advisory Board to create the PD. I wanted to ask for volunteers for this project in order to get those who were invested in seeing this project to fruition. Additionally, by asking for volunteers, chances were that those who were really interested in developing and having a role within professional development at the school are the ones who volunteer. Thus, asking for volunteers may not have ensured that a diverse sampling was represented.

Some of the delimitations included the focus on a single school setting. This study was a focused, small-scale study that occurred in a single high school. This enabled us to tailor this project specifically for this school in order to meet our needs. However, school needs differ at different schools, so while this study provided insight into this experience at Montini High School, the PD creation process could look very different at another school. A future study could repeat this process at another school and then compare the differing processes between these two studies.

Having an awareness of the limitations and delimitations of this study allowed for a greater knowledge of restrictions as well as provided some openings for further studies to occur.

Summary

This chapter identified the method of this qualitative instrumental multiple case study which sought to understand the phenomena of a PD experience at Montini High School. It strove to understand more about PD participation, impact, and valued elements of its design. Teachers volunteered to serve on an Advisory Board which created the PD experience. Throughout the PD experience data were collected through questionnaires, interviews, comparing number of observations, and meeting notes to increase understanding. Each data source was analyzed in relation to the research questions following an interim analysis process. Steps were taken to increase the trustworthiness of this study by addressing threats of researcher bias and reactivity. Finally, this chapter identified limitations and delimitations to the study such as being bound by volunteers and occurring in a single school. In the next chapter, Chapter 4, the findings of this study will be presented.

Chapter Four

This qualitative case study investigated the experiences and impact of a Professional Development (PD) experience. The PD was designed by teachers with the hope to change the school culture to be more collaborative through peer observations. This study focused on teacher participation within the PD, the impact of the PD, and the elements of PD design that teacher's value. This chapter presents the findings of the following research questions:

1. In a teacher-created professional development, how do teachers participate?
2. When teachers develop their own peer observation program, what is the perceived impact on their own practice and what, if any, changes were seen in students?
3. What elements of professional development design do teachers value throughout this process?

Numerous sources of data were collected in order to address each research question. Table 4, which can be found in Chapter 3, displays each of the data sources and the research questions they address. The collected data include: teachers' planned versus actual number of peer observations, teachers' responses to written prompts, a questionnaire, follow-up interviews, and Advisory Board meeting notes. The data collection occurred in a cyclical process (Johnson & Christensen, 2014; Miles &

Huberman, 1994). As data were collected they were first analyzed by the type of data and then data sources were compared to address each research question. Much of the analysis involved open coding. Through the data analysis, patterns of technology, content, and pedagogy emerged. These patterns were evident in both the questionnaire as well as among teacher interviews. Within each section below, the data are organized by these patterns.

A second type of coding occurred with the Advisory Board meeting notes: a priori codes. Three models of PD design were explored in this study and the features of these designs were used as the a priori codes. The models of PD and their features can be found in Chapter 2, Table 1. The findings from these codes are presented under Research Question 3.

This chapter is organized by research question. In each section, the data collected are identified, organized, and analyzed by type of data. Then data are analyzed across data sources in order to best answer each question. This chapter concludes by addressing the trustworthiness measures that were undertaken in this process.

All 84 faculty members within the school were invited to participate in this study. There were 29 initial participants. However, once the data collection began there was some attrition and 26 participants were able to contribute to the data for this study. Teachers were allowed to self-select whom they chose to observe, and did so for a variety of reasons, including: observing friends, convenience, and a desire to see someone who teaches the same students or the same content. The following sections outline the data collected by these participants for each research question.

Data Analysis: Research Question 1: Participation in Teacher-Created Professional Development

The first research question, In a teacher-created professional development, how do teachers participate?, utilized the data from teachers' goal setting. In the fall of 2020 teachers set a goal for the number of peer observations they hoped to conduct. The number of observations were reviewed for the 26 teachers participating within this study. The mean goal of observations that teachers set was 2.2, while there was a range of 1-5 observations. In the early spring of 2021, teachers identified the actual number of peer observations they conducted. The mean number of observations conducted was 2.8 while the range was 1-15 observations. Additionally, 6 participants exceeded their initial goal, 15 met their initial goal, and 5 failed to meet their initial goal. These data show that there was an increase in the mean of peer observations between teachers' set goals and the actual number they conducted. There was also an increase in the range of observations between the goals and actual number.

In addition to teachers providing the observations conducted, teachers also answered a few short questions regarding their observations (Appendix F). The questions were geared towards whether the observer extended their participation in this professional development by following up with the teacher whom they observed. Table 5 details the responses of the 26 participants for each question. The response was deemed "not available" if the participant did not answer that question.

Table 5*Teachers' Extended Participation in the Teacher-Created Professional Development*

Type of Post-Observation Follow Up	Yes	No	Not Available
Met with a teacher post-observation	15	8	3
Met with a teacher to plan a lesson post-observation	3	19	4
Scheduled an additional observation with the same teacher	1	22	4
Any other gathering/meeting with a teacher	0	22	4

Note. $N = 26$.

Table 5 shows us that while many (15) teachers followed up with the teacher they observed, other forms of collaboration such as planning, additional observations, et cetera had yet to occur.

The data collected and analyzed in response to Research Question 1 show that many teachers conducted more peer observations than they had set as a goal, and that collaborative efforts had begun with teachers meeting with each other. The data also show that while some teachers exceeded their expectations, others conducted the minimum number of observations (one). Additionally, while many teachers met with the teacher they observed, other forms of collaboration had yet to occur (co-planning, additional observations).

Data Analysis: Research Question 2: Impact of Teacher-Developed Professional Development on Practice and Students

The second research question, When teachers develop their own peer observation program, what is the perceived impact on their own practice and what, if any, changes were seen in students?, utilized data from a questionnaire given to teachers as well as

information gleaned from interviews conducted by the researcher. The collected data are organized below first by perceived changes to teacher practice and then by perceived changes in students.

Perceived Changes in Teacher Practice

Participants were given a brief questionnaire through a Google Form that inquired about their perceptions regarding peer observations (Appendix G). The questionnaire asked, “How, if at all, did your peer observation experience impact your teaching practice?” Teachers noted an impact on technology, pedagogy, and content. Other comments that teachers made were related to their own personal gain, as well as provided feedback but lacked an example for the impact on their practice. Table 6 displays examples of the written comments that teachers made within the questionnaire.

Table 6

Examples of Teachers' Comments in Questionnaire Regarding Perceptions of the Impact of Peer Observations on Practice During Professional Development

Impact	Questionnaire Comments
Technology	• “the use of Kami to make annotations on text” • “It helped me to understand different technology that I could use to make my class better and engage the students” • “Jamboard for students to share their work.”
Pedagogy	• “I incorporated at least two different comprehension strategies and investigated one more that I observed” • “made me reflect on, and seek out ways to better accommodate students in our special needs program” • “lesson provided great impetus for me to attempt a mapping the plot activity in my class.”
Content	• “Helped me understand how the teacher(s) were presenting the content to the students and their approach” • “I was able to observe a wonderful teacher who gave me several ideas to think about when teaching the same lesson” • “It was great to see how other language teachers implement different learning strategies to motivate their students to learn a foreign language.”
Comments Related to Personal Impact	• “Gave me more confidence to ‘step out of my comfort zone’ and try new things with the students” • “I observed the logistics of a teacher teaching remotely. I don’t hope or expect ever to do that, but just in case the need arises, I now have some idea of how it would work” • “I am new to the school and trying to get a firm hold on all the many strategies that all the different teachers use” • “Validates my instruction”
Comments Lacking Specific Examples	• “It was good to see what strategies teachers use with their students that I might be able to apply or adapt in my instruction with my students” • “It was helpful to see how teachers of other subjects teach.... However, I’m not sure yet how it will impact my actual teaching practice”; “It gave me ideas to use for my own teaching” • “Observing different teaching styles and strategies should always have an impact. It’s like cooking, adding ingredients to make something better – ALWAYS. I love to watch teachers in action because it offers a reflection of how you teach”

From these comments we can see that there is a range of specificity in teachers' comments. The more specific teachers were, the easier it was to categorize the data, as well as to see the change in practice. Teachers who were specific tended to note one item from their peer observation and how they implemented or used that item.

In addition to the questionnaire, several teachers were asked to participate in an interview. I conducted an interview with 7 of the 26 participants. Teachers were selected for interviews based upon the number of observations conducted in order to get a range of participation, anywhere from 1-15 peer observations. One teacher conducted 1 peer observation, 3 teachers conducted 2, 1 conducted 3, 1 conducted 4, and 1 conducted 15 peer observations. Three of the teachers exceeded their set goal of observations, 2 met their set goal number of observations, and 2 failed to meet their goal number of observations. The 7 teachers interviewed spanned 5 different academic departments. Prior to the interview teachers were given an Interview Protocol (Appendix H) which provided them an overview of the questions asked. Two of the questions specifically asked about changes in teacher practice: "What were you hoping to get out of the observation? And did you?" and "How has this/these observation(s) aided your teaching practice?" These questions allowed teachers to share their experiences. The following four experiences show the different ways in which teachers conducted some of these observations.

One teacher spoke of how he watched a recording of a Physics teacher who was teaching about the difference between all types of gravity. In the recording he saw both the force of gravity as well as the gravitational force constant at the same time, which made this teacher consider his own teaching and how he had always taught these

concepts separately. Since he watched a recording he commented on the ability to go back and relisten to the teacher's wording.

Another teacher shared her observation in which the teacher being observed was teaching remotely, while she was in person with her students. She shared the assignment which students were working on and it made her think of ways to modify it for her own sophomore class.

A third teacher shared her observation in which she heard about a "round robin, kind of like the appointment book" from one of her teaching friends. Hearing this from her friend made her curious so she scheduled an observation in which she went into the classroom and watched this in action.

Teachers also conducted observations by joining classrooms through Google Meet and thus were watching the class online. Due to the Coronavirus, a type of hybrid teaching occurred during the subject school year in which half the class was in person and half the class joined through Google Meet. A teacher who observed by joining the class through Google Meet desired to "see what it felt like to be in that class" and saw some "Flip Grids and some of the Jamboards, you know some of the alternate methods."

Once I began having interviews with teachers I realized that one impact that the Coronavirus has had on this experience was allowing teachers a wide variety of modes in which they could conduct their observations. I discovered four main modes: Teachers conducted "traditional observations" in which they physically attended another teacher's classroom and watched them teach. Teachers conducted observations in which they went to another teacher's classroom and there were students in the classroom but the teacher

was teaching remotely. During this school year, teachers taught a hybrid format in which half of the students were in person and half were remote. Therefore, some teachers conducted observations in which they joined the class remotely through Google Meet. And the final mode was due to classes having a virtual component in which half the class was online or the entire class was taught online: Some teachers were able to conduct observations by watching a recording of a lesson. Curious about these various modes, I reached out to the 26 participants and asked if they would please share the mode(s) in which they conducted their observations. The findings are in Table 7.

Table 7

Teacher Observations Conducted by Mode

Number of Traditional Observations	Number of Observations in which the Observer was Present but the Teacher was Remote	Number of Observations in which the Observer joined the Class Remotely (through Google Meet)	Number of Observations that Occurred from Watching a Recorded Lesson
26	22	13	14

Note. Interviews were conducted with 7 of the 26 participants, each of whom conducted between 1 and 15 peer observations.

Table 7 shows that teachers conducted their observations in various modes, with the majority of teachers still conducting traditional observations. When comparing teachers' perceived impact with the mode of their observation, patterns emerged. Teachers who conducted traditional observations tended to share their perceived impact in terms of pedagogical knowledge. For example, teachers commented: "She was doing a

1-pager with her students so I wanted to see how she introduced that” and “I have implemented a similar vocabulary lesson which I observed and it has been very successful.” Teachers who conducted observations in which the observer was present but the teacher was remote tended to share technological impact. For example, teachers commented:

What I learned from her is that you don’t have to talk all the time; she had a great way of saying, “for the next 15 minutes I’m going to log in and see what you’re writing and comment on,” and that “you’re going to continue to write,” and what I saw was even in the fact that she was not physically present she had a great control of the room and I observed the logistics of teaching remotely.

Teachers who conducted observations by joining the class remotely (through Google Meet) reported a perceived impact on both technological and content knowledge.

Teachers who observed remotely commented, “utilizing more tools (charts, polls) within the Google Meet to try to engage the virtual students” and “Since I saw the way certain material was presented/taught, I was able to break it down more for my students.”

Teachers who conducted an observation by watching a recorded lesson commented on a perceived impact in content knowledge. One teacher expressed,

I felt like a student in his class and not that I was observing his teaching style as much as I was saying, “ooh that’s good; I could use that in my class to make a connection across the curriculum.”

Another teacher said,

When I teach all about gravity I typically cover each type of G [gravity] when I get to that section and I never really focus on kind of one section where, “okay let’s talk about the different types of G” right away the way she did it, so I think that’s what I’m going to do from now on.

While most observations fit within this pattern of the different modes yielding different takeaways, there were a few outliers. One outlying observation was with a teacher who observed a class in which the teacher was remote. For most observations within this mode the perceived impacts on teachers were related to technology. However, one teacher shared that she was purposely seeking how teachers utilized their time within the block schedule, and thus scheduled a peer observation with the purpose of looking at the structure of the period. In the observation she saw, “she separates her class into six parts” which include a combination of teacher direct instruction, student individual work time, as well as group work with breakout sessions. From this same observation the teacher also commented on seeing that “she allows students to leave the Google Meet if they complete the goals and assignments for that class, so I think it’s really good because the students really appreciate that they get to leave early...it motivates students to focus.” This observing teacher was able to take away both ideas for pedagogy (lesson structure) and technology (leaving a Google Meet).

These data yielded the information that the mode in which a peer observation is conducted can influence the impact on teacher practice. The following section shares the data analysis related to the perceived changes in students.

Perceived Changes in Students

Within the questionnaire, teachers were asked, “If you implemented a strategy that you observed into one of your own classes, what was the strategy? And how did it affect the students in the classroom?” Additionally, teachers were asked, “What changes, if any, were seen in students as a result of your peer observation experience?” Table 8 displays examples of the written comments that teachers made within the questionnaire regarding changes in students.

Table 8*Examples of Teachers' Comments in Questionnaire Regarding Changes in Students During Professional Development*

Changes	Questionnaire Comments
Technology	• “I began using breakout rooms more frequently after my observation. The teacher I observed used this technique and the class was engaged and enjoyed the process and interaction with other students. It is an excellent way to get everyone involved while we remain in a virtual environment” • “I used Kami to ask students to annotate, but I modified what I observed. I made it, in a way that will involve the students more. I think it was useful to the students” • “Utilizing more tools (chats, polls) within the Google Meet to try to engage the virtual students” • “The active posing of questions and posting polls led to a bit more interaction between the two cohorts”
Pedagogy	• “I have implemented a similar vocabulary lesson which I observed and it has been very successful” • “More comprehensive warmups, they transitioned better and played better throughout class”, “lecture with PowerPoint – enhanced learning” • “One strategy was assigning ‘sharing your response’ to students when going over activities. It seems that they feel better prepared to share their work instead of just calling their names as we go over the answers”
Content	• “It just gave me better insight on how the teacher was teaching the subject material. This allowed me to answer questions and better prepare the students when it came to those particular teachers’ classes” • “I have made sure that we are moving through the curriculum at the right pace” • “Since I saw the way certain material was presented/taught, I was able to break it down more for my students”
No Observed Change	• “I have not implemented any of the strategies that I observed. They were similar to ones that I use in my classroom” • “Not yet implemented”
Comments Related to Teacher, Not Students	• “Just the renewed knowledge of math content that I had not seen in many years” • “Added/modified formative assessment with Google slides to help monitor student progress” • “Students in the first class I observed were engaged and excited. I wanted to have that same energy in my classroom. The second classroom was not as lively, and I realized that that was what I did not want in my classroom”

Teachers who were able to implement a strategy were able to speak to their perception of impact on students. The lack of specificity of some comments alludes to minimal effect on students. Comments that were specific in nature spoke to having a perceived effect on engagement and usability.

Also part of the interviews conducted with 7 of the 26 participants was a means to further understand their experiences with peer observations. The participants who were interviewed were the same participants as identified above in regard to change in teacher practice. Within the interviews teachers were asked, “How has this/these observation(s) changed or impacted students (if any)?” The analysis from the interviews showed that some teachers had implemented a strategy from their observation and others thought about a strategy or created a plan to implement at a future date. The following paragraphs detail the findings based upon whether a strategy was implemented based upon an observation.

Teachers who implemented a strategy that they saw in a peer observation commented on the strategy as well as the impact on students. An example of this was with one teacher who observed a fellow teacher change their camera angle for the students who were remote. This teacher commented,

But the one thing I did observe as far as the teaching the students at home, what, he would switch the camera around, but do it intentionally and then stand in front of it, you know when he’s doing some demonstrations of how physics of motion stuff work.... I was like, “well that’s something I’d never thought of doing.” I couldn’t think of a lot of ways that it would be immediately applicable to my class

just because of the different nature of what I'm doing most the time there isn't really something that I need to act out. But I did actually, just a couple of days ago with my class. I did act out a little thing. And I didn't do it exactly the way he did, but I moved my computer onto one of the tables in the front of the room, rather than on the podium so I could get a little bit of a different position to build more ability to move around as I was acting out this scene.

This teacher felt that changing the camera positioning increased the access virtual students had to the content of the lesson.

Of teachers who made plans to implement some of their takeaways from observations and commented on such plans, one stated:

I'm planning to do that next year and especially at the beginning of the chapter, because I think it would help them [students] because I think that's part of the problem is, you know we go through, and we talk about the force of gravity and then we use it in kinematic equation and everything but we really just don't talk about what gravity is. And then gravity on earth, which we kind of assume for every type of physics problem until you are somewhere else, and you have to use a different or derive a different gravity. And I think that's where the kids get confused, so I think it would be good to do that on one lesson at the beginning, closer to the beginning of the class.

The teacher with this plan could comment on their hope for a change in students based upon implementing what they observed, yet will have to wait to see the actual impact once they have implemented the strategy.

Some teachers commented on ideas from their observations and questioned some of their own practices, but had yet to implement any strategies from their observations. One teacher commented on the use of group work amidst COVID safety procedures, which require students to maintain a distance from each other: “The teacher did group work. I do not feel comfortable yet with like breakout sessions and group work now...my group work is more like hands-on activities so I’ve got to find a way that I can institute that.” While such teachers thought about strategies gleaned from their observations, they were unable to speak to an impact on their own students due to the lack of implementation.

From these analyzed data sources we can tell that among teachers who implemented a strategy that they gleaned from a peer observation, the effect on students was mainly in regards to the perceived engagement, enjoyment, usability, and access to the information. Teachers did not comment on perceiving academic gains from strategies they observed.

Data Analysis: Research Question 3: Valuable Professional Development Design Elements

The third research question, What elements of professional development design do teachers value throughout this process?, utilized data from the questionnaire given to teachers as well from the Advisory Board meeting notes. The questionnaire asked participants what they sought out with their experience in peer observations. This study focused on three professional development (PD) designs: Content, Process, and Context of PD; Orientations of PD; and Features of Effective PD. The Advisory Board provided

information to teachers on the context, process, and content of the PD; therefore, the questionnaire asked teachers specifically about the Orientations of PD and the Features of PD.

Meeting notes were taken during each Advisory Board meeting, then analyzed utilizing a priori codes from the features of the three PD designs. The designs and features can be found in Chapter 2, Table 1. The meetings first began in the fall of 2019. At these beginning meetings, a lot of the meeting was focused on “context,” “coherence,” and “needs-driven” as the Advisory Board discussed the connection to the school goals and the 5-year plan. After the initial meetings, it became apparent that the bulk of meeting time was spent discussing the “process” of what peer observations would look like: what forms to create, what guidance to provide to teachers, and debriefing our own piloting of the ideas put forth.

From these meetings three forms were created for teacher use: an optional notetaking form to record notes during a peer observation, an optional thank you note to give to a teacher post-observation, and a guidance page on how to conduct peer observations. When discussing the “process” of these observations two main features were present: “needs-driven” and “supports collaboration.” The Advisory Board spent a few meetings discussing the purpose of peer observations at the school and established the purpose as:

The purpose of peer observations is to build a community of teachers that collaborate as measured by: conducting further peer observations on your own, meeting with teacher for planning/feedback sessions, and/or implementing

practices within your classroom based upon a peer observation (essentially going beyond the requirement).

In addition to this desire to building a collaborative community, the Advisory Board kept returning to the idea of being “needs-driven” and allowing teachers to choose whom they observed, for how long, and how many observations they wished to do. The intent was that the teacher would decide their own needs in regard to peer observations. Therefore, from analyzing these notes, the features that the Advisory Board valued (based upon time spent in discussion) were process and context from the PD model Context, Process, and Content; needs-driven from the Orientations of PD; and coherence and supports collaboration from the Features of Effective PD.

The questionnaire asked teachers specifically about the Orientations of PD. The questions asked teachers which orientation they sought and provided a definition of that orientation; for example: To what degree did you seek your peer observation(s) to be activity-driven? Activity driven means that you sought out and experienced an activity that you could recreate in your own classroom. Teachers were not asked about the Needs-Driven orientation. Since teachers could schedule their own observations, it was assumed that they sought observations that would benefit them in some way, as designed by the Advisory Board. The other four orientations—Activity-Driven, Content-Driven, Pedagogy-Driven, and Curriculum-/Materials-Driven—were present and allowed teachers to note the degree to which that orientation was sought. Teachers responded using a scale of 1-5 with 1 meaning not at all and 5 meaning always. Figure 4 displays teachers’ responses for each orientation using the scale.

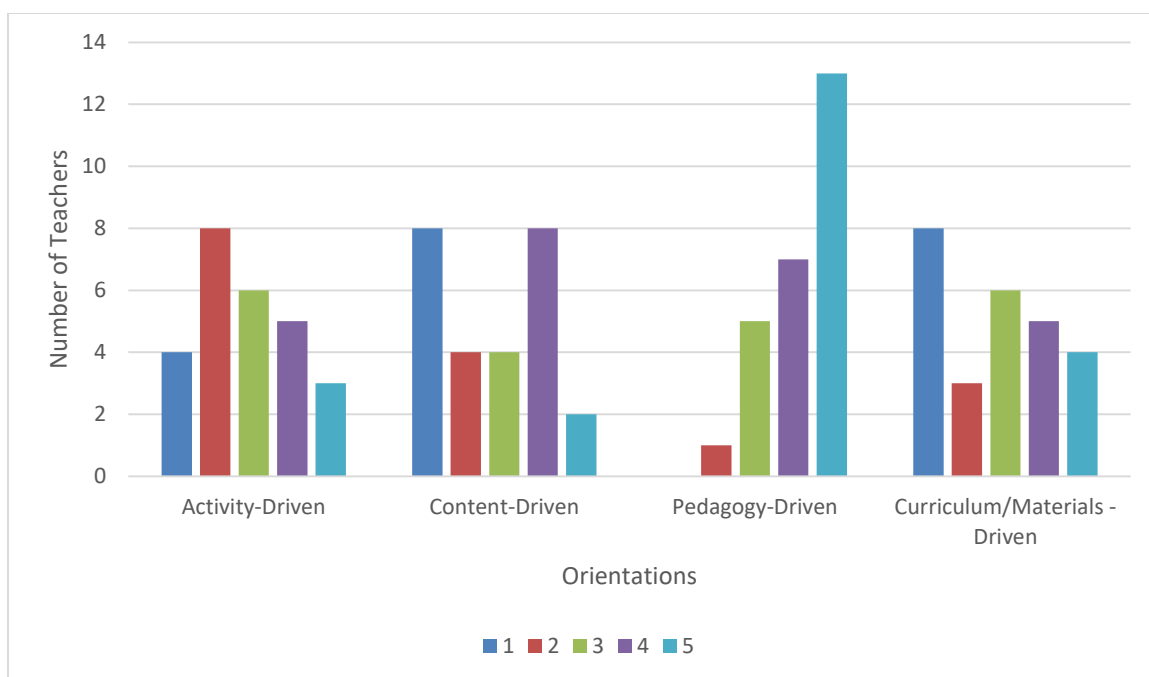


Figure 4

Professional Development Orientations Sought by Teachers for Peer Observations

From Figure 4 we can see that a range of orientations was present and teachers were highly seeking observations to improve their pedagogy.

The questionnaire also asked teachers about the Features of Effective PD. Teachers were given a list of all of the features: Coherence, Content Focused, Incorporates Active Learning, Supports Collaboration, Uses Models of Effective Practice, Provides Coaching and Expert Support, Feedback and Reflection, and Sustained Duration. Utilizing this list of features, teachers were asked three questions. The first question asked teachers to check all of the features that they perceived as present during their peer observation experience. The second question asked about which features were

valued. The third question asked teachers to identify features they wished had a greater presence. Figure 5 displays teachers' responses to these questions.

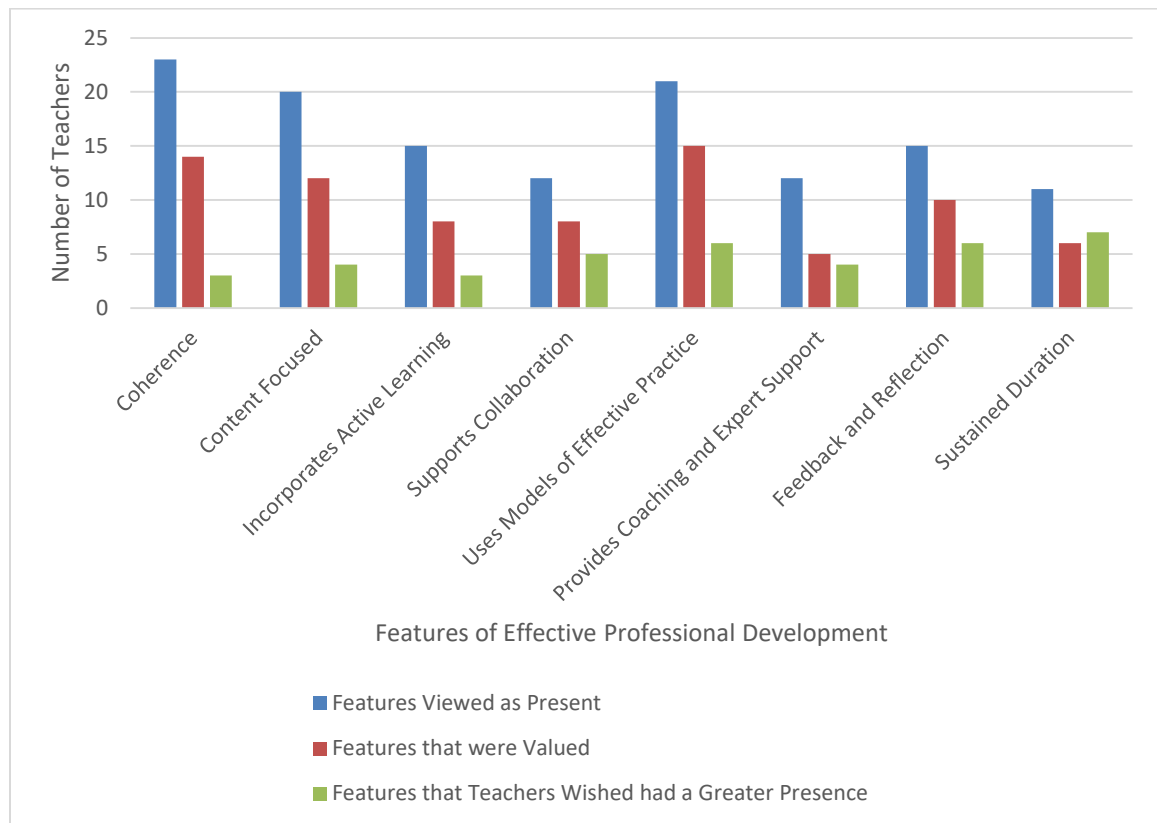


Figure 5

Features of Effective Professional Development that were Present, Valued, or Desired During Peer Observations

In response to the first question about which features were viewed as present during the peer observations, out of 26 teachers the top three were Coherence (23 teachers), Uses Models of Effective Practice (21 teachers), and Content-Focused (20 teachers). The bottom three features perceived as present were Supports Collaboration

(12 teachers), Provides Coaching and Expert Support (12 teachers), and Sustained Duration (11 teachers).

The second question asked teachers to check all the features they valued during their peer observation experience. Of the 26 teachers, the top three features they valued were Uses Models of Effective Practice (15 teachers), Coherence (14 teachers), and Content-Focused (12 teachers). The bottom three features that they valued were Provides Coaching and Expert Support (5 teachers), Sustained Duration (6 teachers), and both Incorporates Active Learning and Supports Collaboration (8 teachers).

The third question asked the 26 teachers to check all the features that they wished had a greater presence during their peer observation experience. These answers were more spread out among the features, with the top three features they wished for a greater presence being Sustained Duration (7 teachers), Feedback and Reflection (6 teachers), and Uses Models of Effective Practice (6 teachers). The bottom three features that teachers wished had a greater presence were Coherence (3 teachers), Incorporates Active Learning (3 teachers), and 4 teachers wished that both Content-Focused and Provides Coaching and Expert Support had a greater presence.

The teachers who completed this questionnaire showed that what they perceived as present and what they valued the most about their peer observation experience were the same three features: Coherence, Content-Focused, and Uses Models of Effective Practice. Yet, teachers also responded that they wished for Models of Effective Practice. This could indicate that some observations did not provide models of effective practice.

These data from both the Advisory Board meeting notes and the questionnaire provide some insight into the features of PD valued by teachers. The Advisory Board designed the PD to focus on coherence and with the intended purpose of supporting collaboration. Based upon this questionnaire we learned that while the purpose was to support collaboration, many teachers did not view supporting collaboration as present within this PD experience. However, the teachers did view a strong coherence within the PD. The next section provides details on how trustworthiness was ensured during this data analysis.

Trustworthiness

Within Chapter 3, two main threats to validity were identified: researcher bias and reactivity. In order to maintain trustworthiness and reduce the threats of bias and reactivity during this analysis process, multiple investigators were utilized. Both the Advisory Board and the school administrators served as additional investigators.

The Advisory Board served as an additional investigator with whom data were shared to review, comment, and question. Additionally, the data served as a means for the Advisory Board to consider the future of the peer observation program. Some of their initial thoughts about the data included: “confirmed to me that this is beneficial while not being taxing,” “A large number saw strategies they would like to try and many did utilize them in their classes,” and “It was encouraging to see positive feedback from this process.” Some questions that arose their curiosity were between types of observations as well as faculty members who did not opt into the study. The Advisory Board saw the need and wanted to continue with peer observations, and continue utilizing them in a

simple, open-ended format. Other comments included the idea to possibly find ways for faculty members to share their experiences with the faculty at large, and to keep the same format. Therefore, the Advisory Board wanted to make the suggestion to the school administration that Peer Observations continue in the same format for a second year. Several members of the Advisory Board agreed to serve in the capacity of working with the school administration to ensure that Peer Observations continue in the future in this same nature.

After the Advisory Board made their review and analysis these data were shared with the school administration. Therefore, the school administrators served as another group of investigators. The purpose of this meeting with administrators was to gain their opinions on the data, double-check my analysis, provide them with the desires of the Advisory Board, and begin the conversation regarding the future of this peer observation program. The administration focused on the themes raised by teachers of flexibility, convenience, and ease in conducting peer observations. The hope of the administration was to continue this program and continue to have the teachers who served on the Advisory Board be the face of the program. The administration had three main takeaways from these data. They realized that teachers want to be the ones to set goals for the number of observations they conduct rather than being told how many to conduct. The second takeaway involved the administrators' awareness of the various modes in which teachers conducted observations and how the impact of the observations varied based upon mode. The final takeaway was the need for teachers to have a greater awareness of some the strengths of their peers. Teachers commented within the data regarding not

knowing whom to observe. Administration recognized this as a need to build greater collaboration and to help others know some of the “good things going on within the building.”

These two groups of people served as “multiple investigators” who provided another lens on the data. Both groups looked over data sets, and while doing so, asked deep questions to challenge thinking but also to confirm analysis. The Advisory Board questioned the data around the number of observations that were conducted within and outside the department. They wanted to ensure that the correct numbers were there in order to make assumptions around where teachers are conducting their observations. These groups helped to combat the threats of researcher bias and reactivity.

In addition to having multiple investigators, the use of multiple data sources helped to combat the threat of researcher bias. Each research question within this study analyzed multiple sources of data in order to best answer each question (Table 4). By looking at multiple sources, the investigators were able to more holistically answer the questions and understand participants’ experiences.

Also identified within Chapter 3 was the proposal to use rich data within the analysis to provide this study’s readers a better understanding of the data. Throughout Chapter 4, data were captured within tables, charts, and quotations to help ensure a sense of trustworthiness.

Summary

This chapter aimed to provide the data analysis in response to each of the three research questions. From these data we can conclude that teachers did participate in the

PD at a slightly greater level than they anticipated according to the number of peer observations they conducted. Peer observations did promote some collaboration among teachers, with teachers communicating post-observations. Peer observations did have a perceived impact on teachers' practice and the impact can be related to the mode of observation conducted. The perceived impact peer observations had on students is mostly noted through levels of student engagement, accessibility to material, and enjoyment. The Advisory Board created this PD with values placed on coherence, supporting collaboration, being needs-driven, and focusing on the process and context. Teachers valued the coherence within the PD and sought for it to have greater support of collaboration. The next chapter further dives into this analysis, its implications, and its connection to literature.

Chapter Five

This qualitative case study investigated the experiences and impact of a professional development (PD) experience designed by teachers with the hope of changing the school culture to more be collaborative through peer observations. This study focused on teacher participation within the PD, the impact of the PD, and the elements that teachers' value with the PD design. This chapter discusses the findings and implications of the following research questions:

1. In a teacher-created professional development, how do teachers participate?
2. When teachers develop their own peer observation program, what is the perceived impact on their own practice and what, if any, changes were seen in students?
3. What elements of professional development design do teachers value throughout this process?

This chapter is organized by these research questions. In response to each research question the data collected per that question are briefly summarized and then discussed in relation to existing literature. The sections after these questions holistically look at the study to discuss the impact of the Coronavirus, the limitations and implications, as well as recommendations for future research.

Discussion: Participation in Teacher-Created Professional Development

The first research question, In a teacher-created professional development, how do teachers participate?, is emic in nature since it was designed by the Advisory Board, meaning the teachers who created this PD experience (Stake, 1995). The teachers hoped that peer observations might lend themselves to changing the school culture to be more collaborative in nature. In order to assess whether collaboration was enhanced, participants set the goal number of observations in the fall of 2020 as well as the actual number of observations that were conducted by spring 2021. Participants also provided some written responses (Appendix F) about any collaborations that occurred as a result of conducting a peer observation. The findings (see Chapter 4) show an increase in both the mean and range of peer observations between the teachers' set goals and the actual number of peer observations they conducted. Within teachers' written responses, we saw that while some teachers followed up with the teacher they observed, other forms of collaboration had yet to occur. Therefore, to answer this research question, in this teacher-created professional development, teachers got slightly more involved than they had initially planned during the first year of implementation.

This PD experience was designed by the Advisory Board with the intent for collaboration to occur organically. The findings from this first year show that teachers were conducting observations at a slightly higher level than they initially planned and some collaboration occurred. These results raise the question to the Advisory Board of whether they are satisfied with this level of collaboration for this first year of peer observations. An alternative for the Board to consider is shaping the program to

inherently build in collaboration. Instructional Rounds and Japanese Lesson Study both have a collaborative approach since they require teachers to work and discuss within small groups (City, 2011; Lewis et al., 2012; Philpott & Oates, 2015; Wilms, 2003). Peer Coaching differs from Instructional Rounds and Japanese Lesson Study. In Peer Coaching there is a value on collaboration, yet it reflects the needs of individuals (Jao, 2013; Robbins, 2015). Viewing these results, the Board proposed to stay the course and continue this program in a Peer Coaching fashion for a second year, the 2021-2022 school year, to see if more collaboration occurs. School culture can play a factor in PD (Gero, 2015). The Board recognized that culture change takes time and wants to see if continuing this program allows time for an increase in collaboration to occur. One of the main reasons for the lack of collaboration is mostly likely the impact of the Coronavirus, which will be further discussed in a later section.

One implication these results hold for other schools wishing to implement peer observations is to consider the degree to which they wish collaboration to occur. If they desire teachers to collaborate immediately, they should seek out a model built around collaboration such as Instructional Rounds or Japanese Lesson Study. If their desire, like Montini High School, is for collaboration to occur organically, then Peer Coaching might be an option.

Discussion: Impact of Teacher-Developed Professional Development on Practice and Students

The second research question, When teachers develop their own peer observation program, what is the perceived impact on their own practice and what, if any, changes

were seen in students?, came from the need to link PD to improved student learning (Desimone, 2009; Fishman et al., 2003; Koellner & Jacobs, 2015; Yoon et al., 2007).

While this study did not provide a direct linkage to student achievement, it did strive to gather teachers' perceptions around any impact in practice or changes in students. In order to best gather teachers' perceptions, a questionnaire was provided to all 26 participants and follow-up interviews occurred with 7 participants. In the questionnaire teachers provided examples in which peer observations impacted their practice, commenting on the observations having a perceived impact with pedagogy, technology, and/or content.

The follow-up interviews provided more insight into this perceived impact and teachers further described their observations. From these interviews, I discovered the various modes in which teachers conducted peer observations. Teachers conducted their observations in four main ways: traditional observations, remote observation through Google Meet, in-person observation while the teacher was remote, and by watching a recorded lesson. Based on this new knowledge, I reached out to the participants and asked them to identify the mode in which they conducted observations. Comparing teachers' perceptions on the impact to their teaching practice to the mode in which they conducted their observation, patterns began to emerge. Teachers who conducted traditional peer observations tended to have a perceived impact on pedagogy. Teachers who conducted a remote observation through Google Meet spoke to a perceived impact on technology and content. Teachers who observed in-person while the teacher was

remote spoke to a perceived impact on technology. Teachers who watched a recorded lesson spoke to a perceived impact on content.

Most existing studies focus on one mode of observation (Alaniz et al., 2013; Baecher, 2011; Borko et al., 2011) or on a model of PD that contains peer observations (Arani et al., 2010; Bruce & Ross, 2008; Callahan et al., 2016; Chokshi & Fernandez, 2004; City, 2011; City et al., 2009; Druken, 2015; Goodwin et al., 2015; Guild, 2012; Kohler et al., 1999; Lewis et al., 2004; Marzano, 2011; Philpott & Oates, 2015; Puchner & Taylor, 2006; Rahal & Educational Research Service, 2010; Robbins, 2015; Slater & Simmons, 2001; Takahashi & McDougal, 2016; Troen & Boles, 2014; Wilms, 2003).

This research builds upon those studies by identifying that the mode of observation can yield different takeaways for teachers. While the scale of this study was small, the patterns were promising. When the pattern did not follow, it was due to the fact that the teacher sought a specific takeaway from their observation. For example, a teacher who specifically was looking to see how the lesson was structured within a block schedule left her observation with a perceived impact on both how she will structure her block schedule (pedagogy) as well as some ideas for technology despite conducting her observation in-person while the teacher was remote. Future studies could look more at these different modes as well as when the teacher seeks out something specific with peer observations. Therefore, in response to the second research question, when teachers develop their own peer observation program the perceived impact on teachers varies depending upon the mode of observation and/or if the teacher has a preconceived idea of what they want to see in the observation.

This research question also seeks to understand any perceived changes in students as a result of peer observations. To best understand this question, data from the questionnaire and follow-up interviews were utilized. Not all teachers who participated in this study implemented a strategy they saw from a peer observation. Teachers who implemented a strategy spoke about it impacting students in terms of usability or engagement. Some participants spoke about their plans to implement a strategy and how they thought it might help students, but since they had not yet implemented they could not speak to its impact. And some teachers did not glean anything from their peer observations to implement within their classrooms. While teachers were able to share perceptions about how peer observations impacted or will impact students, none of their comments were directed at specific academic gains. Some of the teachers had yet to implement an observed practice into their teaching; therefore, those teachers were unable to speak to a change in students.

Those teachers who were able to implement an observed practice and spoke to a change in students could have lacked a focus on academic gains for several reasons. One reason may be related to the school culture, as the school is just beginning to use data to inform instruction in a structured manner. A second reason is that the implemented observed practice is not measurable. One teacher spoke to having changed the directions on an activity and felt the students had a clearer understanding of the task. Another reason for the lack of academic focus may stem from teachers observing teachers outside of their content area. If a more academic focus is desired from peer observations, then

more direction should be provided to the teachers for how to measure and collect these data.

Discussion: Valuable Professional Development Design Elements

The third research question, What elements of professional development design do teachers value throughout this process?, utilized data from Advisory Board meeting notes as well as participants' responses within the questionnaire. The Advisory Board meeting notes showed that the teachers who created this program spent time in meetings discussing the process and context of the PD, the desire for it to be needs-driven, and the elements of coherence and supporting collaboration. While the Advisory Board explored through discussion the models of Japanese Lesson Study, Instructional Rounds, and Peer Coaching, they were not interested in spending the time experiencing each of these models. Their main focus during meetings was on what peer observations would "look like" and what would be required of teachers. The focus was on the context and process of the PD experience (Park Rogers et al., 2010). In these meeting discussions Advisory Board members emphasized the need for coherence, to ensure that the created peer observation program would meet the needs of the schools 5-year plan (Desimone, 2009; Garet et al., 2001; Guskey, 2003; Penuel et al., 2007).

Another goal of the Advisory Board was to create a model that would support collaboration. The Advisory Board named the purpose of peer observations as

The purpose of peer observations is to build a community of teachers that collaborate as measured by: conducting further peer observations on your own, meeting with teacher for planning/feedback sessions, and/or implementing

practices within your classroom based upon a peer observation (essentially going beyond the requirement).

They sought for collaboration to occur organically as teachers were in each other's classrooms more and further began to trust each other (Bates & Morgan, 2018; Penuel et al., 2007). The Advisory Board did not establish restrictions on peer observations; instead, they strove to have a needs-driven orientation to allow the PD to be designed around the needs of teachers (Park Rogers et al., 2010). The Advisory Board unintentionally utilized the assumptions of Adult Learning Theory, specifically in regard to adults directing their own learning (Knowles, 1973; Merriam, 2001). The board strove to remain needs-driven by allowing teachers to establish whom they wish to conduct a peer observation with, when they wanted to conduct it, and what they hoped to take away from the observation. One of the benefits of having teachers create their own PD is that they understand the problems or needs of PD participants and consider their own desires from a PD experience (Merriam, 2001; Mezirow, 1981). Therefore, as they brainstormed and piloted ideas, they genuinely thought about whether they would like to do this during the school year and how much work was involved. Two of the reasons they did not want to pursue Japanese Lesson Study or Instructional Rounds was due to the need for a facilitator and the fact that additional PD that would be required for teachers to understand the process of undertaking these models. The Advisory Board feared the amount of time that would be required and questioned who would facilitate. While they liked both models, they sought a simpler system that would not require a facilitator nor prior training to implement.

The responses within the questionnaire shed light upon the orientation of PD: While the Advisory Board created the PD to be needs-driven, teachers could seek out other orientations by the context of their peer observations (Park Rogers et al., 2010). While participants responded to a range of orientations, the majority sought to be pedagogy-driven to focus on gaining instructional strategies (Park Rogers et al., 2010). This range of orientations reemphasized that a needs-driven PD allows teachers to shape the PD around their own needs and wants. The questionnaire also asked about the features of PD that they deemed as present. Participants viewed coherence as present, a feature heavily focused on throughout the PD creation by the Advisory Board. However, participants did not feel as though this PD supported collaboration. While collaboration was a goal of the Advisory Board, little collaboration occurred through the subject school year as a result of peer observations. This may be due to the fact that teachers were cautious when working with others due to the Coronavirus. Teachers feared the spread of the virus and thus face-to-face gatherings were very limited. This could also be due to it being the first year of this PD's implementation at the school. The continuation of peer observations might yield a different result in terms of an increase in collaboration with more adults getting Coronavirus vaccinations and being more familiar and comfortable with peer observations. Changing school culture takes time, and more time is needed to see if collaboration will increase as a result of peer observations (Gero, 2015)

In response to the third research question, the elements of PD design that were valued among teachers within the Advisory Board were context and process, a needs-driven orientation, and a desire for coherence and to support collaboration. The Advisory

Board strove to accomplish this with a lens toward Adult Learning Theory, specifically around the assumption that adults need to direct their own learning (Guglielmino, 1993; Knowles, 1973; Merriam, 2001). An element of PD design that was valued among participants was coherence. This PD experience was designed to be aligned to the school's 5-year plan by establishing the structure of peer observations, and teachers expressed an awareness this. While there are various methods to design and evaluate PD, the impacts on the teachers showed what they thought about themselves and their own needs.

Impact of the Coronavirus

The Coronavirus impacted this study in numerous ways, both positively and negatively. In March 2020 schools were closed for in-person education. Montini High School made the transition to virtual learning which lasted for the remainder of the school year. At this point of the year the Advisory Board had created a plan for peer observations but had yet to propose the format to the school administration. An email with a proposal was sent to the school administration at this time (Appendix A). The school administration approved this proposal and the peer observation process was set to begin in the fall of 2020.

At the start of the school year in the fall of 2020, the coronavirus was still a present threat in the area. Therefore, Montini High School opened in a hybrid format in which half of the students were present while half joined class remotely through Google Meet. This format of learning continued for the entire 2020-2021 school year. Within the school building, everyone wore a face mask and dividers were placed between desks in

classrooms. In order to reduce the amount of movement in the school, the school began teaching in a block schedule which allowed for class periods to last 90 minutes. In addition to this format of learning, large group gatherings were not allowed in order to prevent the spread of the virus. All of these safety procedures and the effect of teaching within a new school building created a large learning curve for teachers at the beginning of the year. Therefore, teachers were not presented with the peer observation program until October. This provided a late start to peer observations, but it provided teachers with an opportunity to get “settled” prior to beginning. Since there were no large group gatherings, teachers were provided with an instructional video as well as an observation form (Appendix B), a thank you form (Appendix B), and a direction page (Appendix I). The initial plan was to present the program to teachers at the beginning of the year. Additionally, in order to gain consent to participate in the study, the initial plan was to present to the faculty at-large at the beginning of the school year. Instead, I had to request permission from each department chair to speak to their departments at individual department meetings through Google Meet. This presented the obstacle of having an additional “gatekeeper” in gaining access to participants (Glesne, 2016; Maxwell, 2013; Miles & Huberman, 1994). While I was able to navigate through this process, it did present challenges.

One of the advantages of the impact of the Coronavirus was that it yielded the opportunity for teachers to conduct their observations in various modes. Prior to the Coronavirus, the Advisory Board thought that teachers would all conduct traditional peer observations in which they entered each other’s classrooms to watch each other teach.

With the rise of technology use as well as the hybrid teaching due to Coronavirus, different modes of peer observation became available. The members of the Advisory Board decided that teachers could conduct observations however they wished, which then afforded teachers the flexibility to determine how they would conduct their observations. If Montini High School had only provided in-person learning for the 2020-2021 school year, other modes of observation might not have been as readily available. Having the various modes of observation available led to the discovery that different modes tend to yield different takeaways for teachers.

One of the possible disadvantages is that COVID safety precautions advised teachers not to gather in groups in order to prevent the spread of the virus. Therefore, the limited collaboration that occurred during the subject year with peer observations may be partially attributed to teachers striving not to collaborate to prevent the spread of the virus.

The rise of the Coronavirus presented many challenges with implementing peer observations and this study. Despite difficulties, the virus also posed the opportunity to expand the mode in which peer observations were conducted. Therefore, we can say that the Coronavirus did impact this study in numerous ways.

The Need for Intentionality

This case study sought to understand the PD experience at Montini High School. Through this study, three research questions were explored in depth. Data showed that teachers got more involved than they initially planned; the mode in which the observation was conducted mattered; the perceived impact on students was not related to academic

gains; and teachers valued the context, process, and needs-driven orientation and desired coherence and collaboration. In an upcoming section, the implications of this study are further outlined. However, my own takeaway from conducting this study is the need for intentionality when designing PD. This applies to any future PD that I create but also to all PD creators. There are ways for teachers to get involved within the PD design and teachers appreciated that. Therefore, in future PD that I design, I will intentionally look to see how I can continue to involve teachers. This study showed the importance of the mode of observation. Therefore, when I create future PDs, I will need to be intentional about how teachers conduct observations and whether the mode will meet the intended outcomes. In this case study, there were no perceived academic gains in students. In future PD, I will need to be intentional with the design if this is desired. I will also have to have intentionality to ensure coherence between the aims of the PD and the school, since this is an element valued by teachers. Therefore, my main takeaway from this case study is the need for intentional work in PD. In an upcoming section the implications for PD designers and school administrators are further identified in detail.

Limitations

This section revisits the limitations and delimitations described in Chapter 3 and further contextualizes them within this study. External restrictions or limitations exist within all studies (Glesne, 2016). Chapter 3 describes the main limitation to the study as being bound by those who volunteered to participate. This study consisted of 26 volunteer participants, which is roughly a fourth of the teaching staff at Montini High School. While this sample size provides a glimpse of the perceptions of teachers, there is

still a large body of teachers whose experiences were not shared due not participating in this study. As stated above, recruiting volunteers changed slightly due to COVID safety procedures and I had to speak to each department individually and remotely through Google Meet, which may have impacted the number of volunteers of this study. Volunteers may also have been impacted due to the increase in workload of teachers as they moved to a block schedule in a hybrid format.

The delimitation or boundary established by the researcher, identified in Chapter 3, is that this study focused on a single school setting (Glesne, 2016). The focus of this study was on the PD experience of 26 teachers at Montini High School who participated in peer observations. A benefit of conducting this study at Montini was that many schools had different teaching modes during the Coronavirus pandemic, and this was limited to the hybrid format teaching mode Montini utilized during the subject school year. This hybrid format opened the doors to teachers conducting peer observations in a variety of ways. However, this study could have looked very different in another school or in multiple schools due to the variety of teaching modes that arose from the Coronavirus.

Knowing these limitations and delimitations further opens doors for future research. In an upcoming section recommendations for future research are addressed as related to the limitations and delimitations of this study.

Implications

This study shows us that peer observations can add to the collaboration among teachers, the mode of observation can impact the perceived effect on teacher practice, and that teachers value specific elements of PD such as cohesion and being needs-based.

Based on the results of this study there are numerous implications which mainly effect two stakeholder groups: professional development creators and school administrators. The following paragraphs detail the implications for each group.

PD is a way to increase teachers' knowledge and enhance instructional practices and can be formal or informal in nature (Desimone et al., 2002; Fishman et al., 2003; Koellner & Jacobs, 2015). Therefore, PD can come in many designs and be created either externally or locally within the school (Fishman et al., 2003; Koellner & Jacobs, 2015). Since PD can have multiple designs, this study has implications regarding whomever creates the PD, specifically if the PD involves peer observations. Based upon this study the perceived changes in teacher practice varied according to the mode in which the teacher conducted their peer observation. Therefore, if no directions are provided for what teachers should look for when conducting a peer observation, the creator should consider how the mode can affect the impact. If the creators of a PD involving peer observation seek a certain outcome of their observations, they should consider directing teachers toward a specific mode of observation. For example, if PD creators want teachers to gain content knowledge, they might have teachers conduct virtual observations or watch a recording of a class being taught. If PD creators want teachers to gain a pedagogical strategy, they might have teachers conduct traditional peer observations. If PD creators want teachers to gain a technology skill, they might have teachers conduct their observations while the teacher is remote or by joining through a video conference. If the PD creators seek to identify a specific "look-for" during an observation, specifying the mode of the observation might not be as crucial.

In addition to the implications for PD creators, the results of this study also effect school administrators, who may suggest peer observations to teachers as a part of a larger PD or individually to a teacher. School administrators should consider the mode in which they suggest that teachers conduct their observations since the mode can affect the impact on teacher practice. This will enable administrators to ensure that teachers get the intended outcome out of the observation. Another alternative to considering the mode is providing the teacher with a specific “look-for” in order to direct their observation, which can yield an impact on that specific practice.

Finally, there is one implication that affects both groups of stakeholders—PD creators and school administrators: the need for cohesion. This study showed that the creators of this PD experience, the Advisory Board, sought to align the experience to the school’s 5-year plan. The participants viewed coherence as present during this PD and valued the cohesion. PD creators and school administrators should be communicating with each other to ensure that there is consistency with the PD and school, district, and state policies (Desimone, 2009; Garet et al., 2001; Guskey, 2003; Penuel et al., 2007).

These implications for the two stakeholder groups—PD creators and school administrators—help to shape both creating and implementing PD, specifically when peer observations are involved. Knowing these implications will not only assist with future PD creation and implementation, but also lead to recommendations for future research. The following section details some recommendations.

Recommendations for Future Research

This study contributed to the body of research that utilizes peer observations as a means of PD. As with any study, more opportunities for future research always emerge. Future research could include looking more closely at the modes of peer observation, further examining teacher-created PD, and increasing the length of a study. The following paragraphs go more in depth with these suggestions.

This study indicated that mode of observation can yield different takeaways. Since we only focused on teachers' perceived impact, a future study can focus on the actual impact based upon the modes of observations to support the perceptions of the teachers with data showing the impact. Additionally, this study indicated that if teachers enter a peer observation with an idea of what they hope to observe, this may change their perception of the impact of the observations. Future studies could look closer at this idea and explore exactly how having "look-fors" can shape peer observations.

This PD was created by teachers. Participants seemed to appreciate the fact that this experience was created by their peers, but this study was not solely focused on this creation process. This study provided data on elements of PD that were valued by teachers that can be taken into account for future PD. Future studies could explore the logistics, sustainability, and impact of a PD created by teachers.

The PD experience in this study spanned two years. The PD experience was created in the first year by a group of teachers, the Advisory Board. This study focused on the second year of this experience in which the peer observations were enacted. The results show that limited collaboration occurred as a result of this PD experience, yet

teachers desired collaboration. This low level of collaboration may be partially attributed to the rise of the Coronavirus and the need to follow social distancing practices.

Increasing the length of this study or a similar study may yield answers as to whether peer observations can increase collaboration over time, and to what degree.

While this study adds to the PD research field, it also opens the door to future research and exploration into utilizing peer observations, teachers creating PD, and increase of collaboration over time.

Summary

This chapter sought to discuss and answer each research question of a qualitative case study which investigated the experiences and impact of a Professional Development (PD) experience. The questions researched were:

1. In a teacher-created professional development, how do teachers participate?
2. When teachers develop their own peer observation program, what is the perceived impact on their own practice and what, if any, changes were seen in students?
3. What elements of professional development design do teachers value throughout this process?

From the findings of this study, we can see that teachers got slightly more involved with the PD than they had initially planned. We learned that the perceived impact on teacher practice varied based upon the mode of the observation and that perceived changes in students dealt mainly with organization and engagement. Finally, teachers value the needs-based PD and the elements of cohesion and collaboration. This study was largely

impacted by the Coronavirus, particularly during recruiting participants, completing the consent process, and implementing peer observations.

This study contributes to the body of research on PD with peer observations and also reveals opportunities for possible future research. After considering the limitations, delimitations, and implications to this study, several examples of future research are recommended to further contribute to this field's literature.

Appendix A

Proposal

Dear Administrators,

Over the course of SY 19-20, a small group of educators met nine times in order to discuss, pilot, and create a proposal for Peer Observations to occur at Montini High School for SY 20-21. This group was formed in order to create a program that would be designed to fulfill the requirements under the school's five-year improvement plan which state the following for year 1:

- Goal 1 for Year 1: Peer Observations are listed as evidence of a step to reach this goal and the step reads "Teachers provide evidence of implementing student-centered learning practices"
- Goal 2 for Year 1: Peer Observations are listed as a step in order to achieve the goal of "Engage in continuous improvement process that produces evidence and measureable results of improving student learning and professional practice"
- Goal 3 for Year 1: Peer Observations are listed as a step in order to achieve the goal of "Promote collaboration and collegiality to improve learner performance and organizational effectiveness"

As a group, we created the following purpose statement for peer observations: *The purpose of peer observations is to build a community of teachers that collaborate as measured by: conducting further peer observations on your own, meeting with teacher for planning/feedback sessions, and/or implementing practices within your classroom based upon a peer observation (essentially going beyond the requirement).* While we would like to eventually focus more on student outcomes, we feel that our first must focus on creating a more collaborative school culture.

In order to fulfill this purpose, teachers will not be required to conduct a certain number of observations over the course of the year. Instead, we propose that teachers, use Goal #4 of their Personal and Professional Goals to indicate how many observations they would like to do over the course of the year. Then when teachers provide evidence of their goals, we will be able to measure whether that goal was met or exceeded. In order to promote more observations to take place, we would like to ask for Department Chairs to identify at least 3 cycles (over the course of the year) in which they will not have a department meeting, thus to free teachers up to conduct an observation. Our hope is that teachers organically build relationships with each other in order to plan together, discuss

instructional practices, and conduct more peer observations than they initially stated in their goal.

Teachers will schedule their own observations. They will be encouraged to try to conduct observations both within and outside their departments and will be provided with some guidance about how to schedule and whom to schedule with.

During the observation the observing teacher will record notes (on the attached form). This form will be used just for him/her to collect ideas while observing. This form will not be collected. The second page of the form is a “Thank You” letter. This letter will be completed by the observing teacher and left in the classroom at the end of the observation.

Thank you for your consideration of this proposal. We look forward to hearing your thoughts.

The members of the Advisory Board

Appendix B

Peer Observation Form

Partner 1 (observer)	Date	Duration of Visit	I saw: ☐ The beginning of class ☐ The middle of class ☐ The end of class ☐ The entire class period
Partner 2 (observee)	Period	Subject	

*This form is to be used for the purpose of recording any information that will be helpful for you with your own instruction. **This form is not shared with anyone.** Use the guiding questions to help frame your thinking during the observation and to help you to find key points that you use within your classroom.*

What was being taught in the observed lesson?

What did you notice in observing the students?

What were some of the strengths of the teacher that you noticed?

What key takeaways do you have based upon this observation?

Other observations, questions, or notes that you want to remember:

Partner 1 (observer)	Date	Duration of Visit	I saw: ☐ The beginning of class ☐ The middle of class ☐ The end of class ☐ The entire class period
Partner 2 (observee)	Period	Subject	

After the observation, please complete the following sheet for the teacher you are observing. Upon completion, please fold this piece of paper in half and leave it on top of the teacher's desk prior to exiting the classroom.

Dear _____,

Thank you for opening up your classroom to me and letting me observe! While I was there I liked _____

_____. Because of this visit I want to learn more about _____. I am looking forward to learning more and possibly trying this out in my own classroom.

Thank you so much,

Appendix C

IRB Approval Letter

 Office of Research Integrity and Assurance Research Hall, 4400 University Drive, MS 6D5, Fairfax, Virginia 22030 Phone: 703-993-5445, Fax: 703-993-9590	Please note that department or other approvals may be required to conduct your research in addition to IRB approval. If you have any questions, please contact Katie Brooks at (703) 993-4121 or kbrook14@gmu.edu. Please include your project title and reference number in all correspondence with this committee. GMU IRB Standard Operating Procedures can be found here: https://rdia.gmu.edu/topics-of-interest/human-or-animal-subjects/human-subjects/human-subjects-sops/ This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within George Mason University IRB's records.
DATE: December 17, 2019 TO: Seth Parsons FROM: George Mason University IRB Project Title: [1498329-1] When Educators Create their Own Professional Development SUBMISSION TYPE: New Project ACTION: APPROVED APPROVAL DATE: December 17, 2019 REVIEW TYPE: Expedited Review REVIEW TYPE: Expedited review category #7 Thank you for your submission of New Project materials for this project. The George Mason University IRB has APPROVED your submission. This submission has received Expedited Review based on applicable federal regulations. Please remember that all research must be conducted as described in the submitted materials. Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding followed by a signed consent form unless the IRB has waived the requirement for a signature on the consent form or has waived the requirement for a consent process. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require that each participant receives a copy of the consent document. Please note that any revision to previously approved materials must be approved by the IRB prior to initiation. Please use the appropriate revision forms for this procedure. All UNANTICIPATED PROBLEMS involving risks to subjects or others and SERIOUS and UNEXPECTED adverse events must be reported promptly to the IRB office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed (if applicable). All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to the IRB. This study does not have an expiration date but you will receive an annual reminder regarding future requirements. Please note that all research records must be retained for a minimum of five years, or as described in your submission, after the completion of the project.	
- 1 - Generated on IRBNet	- 2 - Generated on IRBNet

Appendix D

Consent Form

When Educators Design Their Own Professional Development

Principle Investigator: Dr. Seth Parsons

Student Researcher: Patty Salerno, PhD Candidate

IRB #1498329-1

INFORMED CONSENT FORM

RESEARCH PROCEDURES

This research is being conducted to analyze the creation and implementation of a teacher designed professional development involving peer observations. While all teachers will be participating in the professional development involving peer observations during the 2020-2021 school year, there are several options for participation with the research of this project. The options include (please check the option that shows your level of participation):

- ☐ Participate on the Advisory Board. This board will meet regularly throughout the 2019-2020 school year in order to create and pilot the professional development with peer observations. If you agree to participate at this level, you will be asked to collect data throughout this process in terms of observation notes and feedback as well as assist with the data analysis of these materials. Participation in this board will span over 2 academic school years with meetings during the 2020-2021 school year to evaluate the implementation of the professional development.
- ☐ Volunteer to share data as a result of your professional development experience during the 2020-2021 school year. If you agree to participate at this level, you will be asked to provide feedback in terms of observation notes, questionnaires, and you may receive an invitation to participate in an interview to further share your experience. Participation at this level will require about 2 hours of time during the 2020-2021 school year (observation and providing feedback).

RISKS

The foreseeable risks include sharing any degrees of stress or discomfort with researchers around having a peer observe them in the classroom as well as the sharing of any discomfort felt from observing others.

BENEFITS

The benefits to you include creating your own professional development as well as gaining ideas from peers during observations and building a more collaborative school community. In addition, the benefits to student include new or different strategies being used within classrooms.

CONFIDENTIALITY

The data in this study will be confidential. Throughout this study the following data will be primarily collected through observation notes, interviews, and a questionnaire. The observation form and questionnaire will not have any names or identifying information on it in order to maintain confidentiality. They questionnaire will be conducted electronically. While it is understood that no computer transmission can be perfectly secure, reasonable efforts will be made to protect the confidentiality of your transmission. Within interviews participants will be asked to use a pseudonym to protect confidentiality. The de-identified data could be used for future research without additional consent from participants.

VIDEO/AUDIO RECORDING

Video/Audio recording will occur during interviews in order to best capture the conversation and provide feedback on teachers' experiences. These interviews will be conducted via Zoom. Those who participate via Zoom may review their website for information about their privacy statement. <https://zoom.us/privacy> During interviews, teachers will use pseudonyms in order to maintain confidentiality. The electronic recordings will be stored on a computer until the conclusion of this study, in which they will be deleted. The Student Researcher will transcript the recordings. The Advisory Board will receive a copy of these written transcriptions for the sole purpose of identifying themes in order to better improve the professional development. Copies will be distributed at the start of Advisory Board data analysis meetings and will be collected at the end of meetings. When the data is not in use, it will be stored in a locked location and will be available solely to the Principle Investigator and Student Researcher.

PARTICIPATION

Your participation is voluntary, and you may withdraw from the study at any time and for any reason. If you decide not to participate or if you withdraw from the study, there is no penalty or loss of benefits to which you are otherwise entitled. There are no costs to you or any other party.

CONTACT

This research is being supervised by Dr. Seth Parsons in the College of Education and Human Development and conducted by Patty Salerno in the College of Education and Human Development at George Mason University. Dr. Seth Parsons may be reached at 703-993-6559 and Patty Salerno may be reached at 703-627-7849 for questions or to report a research-related problem. You may contact the George Mason University Institutional Review Board office at 703-993-4121 if you have questions or comments

regarding your rights as a participant in the research.

This research has been reviewed according to George Mason University procedures governing your participation in this research.

CONSENT

I have read this form, all of my questions have been answered by the research staff, and I agree to participate in this study.

_____ I agree to video/audio taping.

_____ I do not agree to video/audio taping.

Signature

Date of Signature

Appendix E

IRB Amendment Approval

 Office of Research Integrity and Assurance Research Hall, 4400 University Drive, MS 6D5, Fairfax, Virginia 22030 Phone: 703-993-5445; Fax: 703-993-6590	
DATE: December 17, 2020	
TO: Seth Parsons	
FROM: George Mason University IRB	
Project Title: [1498329-2] When Educators Create their Own Professional Development	
SUBMISSION TYPE: Amendment/Modification	
ACTION: APPROVED	
APPROVAL DATE: December 17, 2020	
REVIEW TYPE: Expedited Review	
Thank you for your submission of Amendment/Modification materials for this project. The George Mason University IRB has APPROVED your submission. This submission has received Expedited Review based on applicable federal regulations. You are required to follow the George Mason University Covid-19 research continuity of operations guidance. You may not begin or resume any face-to-face interactions with human subjects until (i) Mason has generally authorized the types of activities you will conduct or (ii) you have received advance written authorization to do so from Mason's Research Review Committee. In all cases, all safeguards for face-to-face contact that are required by Mason's COVID policies and procedures must be followed. Please remember that all research must be conducted as described in the submitted materials. Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding followed by a signed consent form unless the IRB has waived the requirement for a signature on the consent form or has waived the requirement for a consent process. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require that each participant receives a copy of the consent document. Please note that any revision to previously approved materials must be approved by the IRB prior to initiation. Please use the appropriate revision forms for this procedure. All UNANTICIPATED PROBLEMS involving risks to subjects or others and SERIOUS and UNEXPECTED adverse events must be reported promptly to the IRB office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed (if applicable). All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to the IRB. This study does not have an expiration date but you will receive an annual reminder regarding future requirements.	
- 1 - Generated on IRBNet	

Please note that all research records must be retained for a minimum of five years, or as described in your submission, after the completion of the project. Please note that department or other approvals may be required to conduct your research in addition to IRB approval. If you have any questions, please contact Katie Brooks at (703) 993-4121 or kbrook14@gmu.edu. Please include your project title and reference number in all correspondence with this committee. GMU IRB Standard Operating Procedures can be found here: https://oria.gmu.edu/topics-of-interest/human-subjects/ This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within George Mason University IRB's records.
- 2 - Generated on IRBNet

Appendix F

Goals Setting/Evidence Prompts

This document will be provided to teachers at the beginning of the year when they establish their goals and again in the spring when they submit evidence of their goals.

During the 2020-2021 school year all teachers will participate in peer observations. In Goal #4 of their Personal and Professional Goals to indicate how many peer observations they would like to do over the course of the year.

When citing evidence for this goal note the number of actual peer observations that occurred. Additionally, please note whether you:

- Met with a teacher you observed to further discuss the lesson
- Met with a teacher you observed to plan a lesson together
- Met with a teacher who observed you to further discuss the lesson
- Met with a teacher who observed you to plan a lesson together

Appendix G

Questionnaire

Directions:

1. How many peer observations did you conduct thus far in the school year?
2. Did you observe any teachers who teach the same course as you?
3. How many teachers did you observe within your own department?
4. How many teachers did you observe outside of your department?

The following questions aim to get your perception on the orientation of this PD experience. This experience was largely needs-driven since it allowed you to make the selection of who you were observing, what you wanted to see, and what you wanted to get out of the experience. Thus you were able to tailor this experience to meet your needs. When you arranged your observation(s) to what degree did you seek out the following. Please respond using a 1-5 scale, where 1 is not at all and 5 is to a great degree.

1. To what degree did you seek your peer observation(s) to be activity-driven?
Activity driven means that you sought out and experienced an activity that you could recreate in your own classroom.
2. To what degree did you seek your peer observation(s) to be content-driven?
Content-driven means that the aim was increase your content knowledge within the subject that you teach.
3. To what degree did you seek your peer observation(s) to be pedagogy-driven?
Pedagogy-driven means that the aim is to focus on instructional strategies that can help you increase student learning.
4. To what degree did you seek your peer observation(s) to be curriculum-driven?
Curriculum-driven means that the aim was to help you understand a set curriculum.

There are 8 identified features of effective professional development. The features are: coherence, content focused, incorporates active learning, supports collaboration, uses models of effective practice, provides coaching and expert support, feedback and reflection, and sustained duration. All of these features do not have to be present to make the professional development effective. The following questions are aimed at understanding your perception of these features in relation to your peer observation experience.

1. Which of the following features did you perceive as present during your peer observation experience? Check all that apply.
 - ☐ Coherence (alignment between your knowledge/beliefs, goals for students, and consistency with school policy)

- ☐ Content focused (relevant to your discipline)
 - ☐ Incorporates active learning (allows you to be engaged during the professional development)
 - ☐ Supports collaboration (allows you to work with others)
 - ☐ Uses models of effective practice (provides a vision for what a practice should look like)
 - ☐ Provides coaching and expert support (this can take many forms; did you get help and support from others?)
 - ☐ Feedback and reflection (provides opportunities for feedback and reflection)
 - ☐ Sustained duration (provides multiple opportunities to engage with the content)
2. Which features did you value the most during this peer observation experience? Check all that apply.
- ☐ Coherence (alignment between your knowledge/beliefs, goals for students, and consistency with school policy)
 - ☐ Content focused (relevant to your discipline)
 - ☐ Incorporates active learning (allows you to be engaged during the professional development)
 - ☐ Supports collaboration (allows you to work with others)
 - ☐ Uses models of effective practice (provides a vision for what a practice should look like)
 - ☐ Provides coaching and expert support (this can take many forms; did you get help and support from others?)
 - ☐ Feedback and reflection (provides opportunities for feedback and reflection)
 - ☐ Sustained duration (provides multiple opportunities to engage with the content)
3. Which features did you wish had a greater presence during this peer observation experience? Check all that apply.
- ☐ Coherence (alignment between your knowledge/beliefs, goals for students, and consistency with school policy)
 - ☐ Content focused (relevant to your discipline)
 - ☐ Incorporates active learning (allows you to be engaged during the professional development)
 - ☐ Supports collaboration (allows you to work with others)
 - ☐ Uses models of effective practice (provides a vision for what a practice should look like)
 - ☐ Provides coaching and expert support (this can take many forms; did you get help and support from others?)
 - ☐ Feedback and reflection (provides opportunities for feedback and reflection)

- ☐ Sustained duration (provides multiple opportunities to engage with the content)

The following question seek to understand the perceived impact these peer observations had on your own practice.

1. After conducting a peer observation, which of the following did you do? Check all that apply.
 - ☐ Meet with the teacher to discuss the lesson
 - ☐ Ask the teacher for assistance with lesson planning
 - ☐ Schedule another peer observation with the same teacher
 - ☐ Research a strategy that you saw during the observation
 - ☐ Plan to implement a strategy that you saw during the observation
 - ☐ Implement a strategy that you saw during the observation into one of your classes
 - ☐ Met with the teacher after you tried to implement the strategy in your classroom
 - ☐ Asked another teacher about a strategy that you saw during the observation
2. How, if at all, did your peer observation experience impact your teaching practice?

The following question seek to understand any perceived changes that occurred with students as a result of your peer observation experience.

1. If you implemented a strategy that you observed into one of your own classes, what was the strategy? And how did it affect the students in the classroom?
2. What changes, if any, were seen in students as a result of your peer observation experience?

Thank you for sharing your peer observation experience. If there is anything else that you feel ought to be shared, please comment below. Thank you.

Appendix H

Interview Protocol

The following protocol will be used in interviews:

1. Thank the participant for attending and revisit the consent form (everyone should have already signed).
2. Remind participants that interviews will be recorded and ask if it is okay to proceed. Then start recording.
3. Guide participants through the following questions:
 - a. In thinking specifically about the observations you conducted:
 - i. How many observations did you conduct?
 - ii. How did you decide who to observe?
 - iii. What was your process for making arrangements to observe?
 - iv. How was your observation?
 - v. What were you hoping to get out of the observation? And did you?
 - vi. How has this/these observation(s) aided your teaching practice?
 - vii. How has this/these observation(s) changed or impacted students (if any)?
 - viii. Did you seek any “follow-up” with this teachers after the observation? If so, what did that look like?
 - b. In thinking specifically about times in which you were observed?
 - i. Did anyone observe you? If so, how many people?
 - ii. How did you feel about this observation?
 - iii. Did you have any sort of “follow-up” with this teacher after the observation? If so, what did that look like
 - c. In thinking holistically about this PD experience?
 - i. What was your initial thoughts when you heard that this PD was designed by your peers?
 - ii. What was the best part of this PD experience?
 - iii. What is one element of this PD experience that you want to keep? And what is one thing that you wish to change? Explain.
 - d. Ask if there are any questions that the participants have about this experience or anything else that they would like to share.
4. Thank participants for sharing and remind them about the confidentiality of their answers.

Appendix I

Directions for Peer Observations

Over the course of SY 19-20, a small group of educators met nine times in order to discuss, pilot, and create a proposal for Peer Observations to occur at Montini for SY 20-21. This group was formed in order to create a program that would be designed to fulfill the requirements under the school's five-year improvement plan which states the following for year 1:

- Goal 1 for Year 1: Peer Observations are listed as evidence of a step to reach this goal and the step reads "Teachers provide evidence of implementing student-centered learning practices"
- Goal 2 for Year 1: Peer Observations are listed as a step in order to achieve the goal of "Engage in continuous improvement process that produces evidence and measureable results of improving student learning and professional practice"
- Goal 3 for Year 1: Peer Observations are listed as a step in order to achieve the goal of "Promote collaboration and collegiality to improve learner performance and organizational effectiveness"

As a group, we created the following purpose statement for peer observations: *The purpose of peer observations is to build a community of teachers that collaborate as measured by: conducting further peer observations on your own, meeting with teacher for planning/feedback sessions, and/or implementing practices within your classroom based upon a peer observation (essentially going beyond the requirement).*

Peer Observations will be used to meet Goal #4 of teachers' personal and professional goals. Teachers will individual set a goal for the number of observations they want to do for this school year. The intent of peer observations is to provide a means to beg, borrow, and steal ideas from others. They have been created with the intent of solely being a learning opportunity for the observer. The teacher who is observed See sample goal below:

Sample Goal 4

For Standard 4, Interpersonal Relationship: By the end of the school year 20-21, I will observe XX number of teachers in order to gain new ideas for my own practice. This will be evidenced through a statement of my actual number of observations as well as some anecdotal notes regarding the observations

The process of conducting peer observations is as follows:

1. Schedule an observation: Each teacher will schedule their own observations. It is recommended that you conduct observations both within and outside of your department. These observations can occur in-person or virtually. Select a teacher whom you would like to see, ask if you can observe, and if there is something specific you want to see, ask about it (ex: I would love to see how you start the class period OR I would love to see how you hold Socratic Seminars). Additionally, within the request, the teacher should indicate when they are able to observe and ideally provide numerous options of dates/periods. The ideal timeframe for observations is approximately 20 minutes. Observations can occur at any time over the course of the school year.
2. After asking to observe, you need to wait for a response from the teacher. The teacher may say NO or they may say YES. If the teacher is agreeable to the observation, they should provide a couple of dates/periods in which they could be observed.
3. Attend the observation at the scheduled time. While you are observing take notes on the Observation Form. This form will be used just for you to collect ideas while observing. This form will not be collected nor will it be shared with the teacher you are observing. At the end of the observation, please complete the “Thank You” letter. This letter is to be left in the classroom at the end of the observation for the teacher you observed. (Note: If you have prearranged with the teacher to take notes on your computer during the observation and therefore provide the thank you letter electronically, you may do so. If you have not prearranged this with the teacher, please take notes by hand.)
4. After the observation, teachers may choose to follow-up with the teacher, however this is entirely optional.
5. In the spring, evidence will be needed for your personal and professional goals. In regard to Goal #4. Please respond to the following questions within a Word Document and upload that as your evidence.
 - How many peer observations did you actually conduct thus far during the 2020-2021 school year?
 - After the observation(s), did you do any of the following?
 - Met with a teacher you observed to further discuss the lesson
 - Met with a teacher you observed to plan a lesson together
 - Scheduled an additional observation with the same teacher
 - Any other gathering/meeting with the teacher you observed that might not have normally occurred

If NO, just answer with that and feel free to provide any explanation.
If YES, please explain what you did and why.

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Biography

Patricia Salerno graduated from Villanova University in 2004 with a Bachelor's in Human Services. She received her Masters of Education from the University of Notre Dame in 2006 and a Masters in the Art of Teaching Reading and Literacy from Marygrove College in 2009. Patricia has spent the last 17 years in education serving as a teacher, instructional coach, and providing training for teachers and coaches.