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**COMMUNITIES OF PRACTICE AND LEGITIMATE PERIPHERAL
PARTICIPATION: TEACHER LEARNING IN SOCIAL AND SITUATED CONTEXTS**

by

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ABSTRACT

COMMUNITIES OF PRACTICE AND LEGITIMATE PERIPHERAL PARTICIPATION: TEACHER LEARNING IN SOCIAL AND SITUATED CONTEXTS

Ryan Patrick O'Meara
Old Dominion University, 2020
Chair: Dr. Jay Paredes Scribner

Learning through social interactions in situated contexts represents a significant means by which teachers in schools learn their craft (Brown & Duguid, 1991; Lave & Wenger, 1991; Orr, 1996, Scribner, 1999). While research into the phenomenon of situated teacher learning exists, research into teacher's learning and evolving expertise with the context of high stakes accountability environments is lacking to date (Boylan, 2010; Davies, 2005; Hodkinson & Hokinson, 2003; Pyrko, Dörfler, & Eden, 2017). This case study explored how teachers with 5-10 years of experience have learned in social and situated contexts. Teachers studied taught within two different subject areas within a large suburban high school. A multiple-case study approach involving interviews, observations, and document collection was used to explore the phenomenon through the lenses of legitimate peripheral participation (LPP) and communities of practice (CoP) as a means of understanding how teachers become more expert, what they focus their learning on and why, and how and to what extent external influences impact the learning (Lave & Wenger, 1991; Wenger, 1998). This study also explores implications for school administrators.

The findings of the study demonstrated how teachers learn through social interactions in situated contexts as seen through the theories and concepts of LPP and CoPs. The three findings demonstrated; 1) how teachers develop the concept of a master teacher and how that influences learning; 2) how the pressures relating to standardized testing impacts how teachers interact with each other and what they practice in the classroom; and 3) how external influences from state,

district, or school levels influences the professional learning that occurs through social interactions in situated contexts. These findings contributed to studying professional learning in two ways; 1) Through demonstrating how teachers come to perceive the concept of a master teacher and how that influences their learning and; 2) By showing how external influences affect the work teachers do together. Additionally, this study also presents implications for practicing school leaders in designing professional development programs and in shaping the overall school climate.

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Dedicated to the memory of my grandfather, Jerome Thomas O'Meara, who lovingly pestered all of his grandsons by asking, "when are you going to get a master's?" Well, Pop-Pop, I took one more step for you.

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CHAPTER 1: INTRODUCTION

No single method exists to explain how people learn to do what they do (e.g. Schunk, 2016). This applies to simple aspects of everyday life and to how people learn to perform certain jobs. Teachers are no exception. Understandably, organizations will seek to shape how the learning occurs. Many organizations tend to “canonize” job descriptions within a company and expect employees to follow the prescribed direction when carrying out their work (Brown & Duguid, 1991; Orr, 1996; Orr, 1998). While employees may learn some of their job through such prescriptions, relying solely on that method ignores other aspects of adult learning. As situations and contexts change, manuals may not present solutions and employees must become adaptive to meet the new and different challenges (Orr, 1996). Social interactions, between customers and technicians, and between technicians themselves, often serve a larger role in how employees ultimately learn and resolve situated issues not addressed in formal trainings. This process extends to education in how teachers learn as a part of practice. Unfortunately, as this process occurs informally through social interactions, it remains a challenging phenomenon to study. However, research suggests the majority of learning occurs informally (Eraut, 2004). If the majority of professional learning occurs through this process, attempts should be made to better understand the phenomenon.

Learning in Situated, Social Contexts

With roots in sociocultural and constructivist learning theories, several researchers pioneered how learning occurs through informal social interactions in organizations (Brown & Duguid, 1991; Lave & Wenger, 1991; Orr, 1996). While Orr (1996) laid the groundwork for looking at how actual work practice is learned from a technician’s perspective rather than what management intends to happen, Brown and Duguid (1991) and Lave and Wenger (1991)

introduced the concept of communities of practice (CoP) as a conceptual means for studying the phenomenon. Additionally, Lave and Wenger (1991) advanced the concept of legitimate peripheral participation (LPP) as a framework for understanding the role of situated learning as a part of a CoP influences the arc from apprenticeship to mastery of a trade.

Brown and Duguid (1991) focused on demonstrating how impactful the work learned through CoPs can be on an organization and why management should seek to foster an environment where that type of learning can more readily occur. Lave and Wenger (1991) better defined the actual characteristics of a CoP that has served as the conceptual basis for studying the phenomenon. While a CoP can consist of a variety of actors, legitimate peripheral participation in the community also often serves the purpose by which a person moves from being a novice apprentice to become a master of a particular craft. This theoretical construct has been used to analyze how learning occurs in organizations, though study in how it applies to teacher learning in an educational context remains limited (Boylan, 2010; Davies, 2005; Hodkinson & Hokinson, 2003; Pyrko, Dörfler, & Eden, 2017).

When using LPP and CoP as the framework for studying how learning occurs through informal social situations, it is necessary to define what learning means and how organizations intend to cause learning. Therefore, for the purposes of this study it is important to clearly delineate the differences between professional development (PD) and professional learning (PL). This study will retain a focus on the learning teachers do in social and situated contexts and should not be confused with the intentional efforts to cause teachers to learn (i.e. PD). A discussion of the differences between PD and PL will help provide clarity to the focus on the learning, specifically in certain contexts. Like many other types of organizations, school districts and administrators develop and provide a variety of mentorship and PD programs designed to

improve teacher capacity (Avalos, 2011; Coldwell, 2017; Martin & Hargreaves, 2014). Effective PD efforts should take into account how teachers learn and the contexts they inhabit (Avalos, 2011). To that end, collaboration among teachers has become more commonplace in schools as a means through which teachers can improve their practice (Smith, 2017). Often, teacher collaboration is intentionally set up by school administrators in the form of professional learning communities (PLC) with clear guidelines and prescribed processes (McLaughlin & Talbert, 2007; DuFour & Fullan, 2013). Mentorship programs are established to pair veteran teachers with newcomers. While PLCs or other intentional mentorship programs can produce results, they do not necessarily reveal entirely how teachers learn from working with peers. As Lave and Wenger (1991) demonstrated, learning also occurs through social interactions in situated contexts. In an educational setting, as in other organizational settings, this results in informal communities of practice (CoP) that do not necessarily operate within clearly defined structures but do significantly impact how teachers learn.

Statement of the Problem

A simple understanding of how teacher learning occurs, and how much learning occurs, through informal means does not equate to a transfer into schools leveraging that knowledge to their advantage. In fact, current pressures schools face (i.e. state and federal accreditation) may cause the opposite to occur. If an emphasis on high-stakes testing still remains in the current educational landscape in the United States, then it stands to reason teacher development programs and school PD efforts will continue to reflect that focus, often in direct contradiction to what is understood about teaching and learning (Selwyn, 2007). When tests require students to perform basic skills, instruction will often mirror that low-level expectation (Szczeniul, Nehring, & Carey, 2015). Given these pressures, examining how teacher learning is taking place may

easily be displaced by the ever-present pressure to meet accreditation standards. If the learning occurring outside of what schools intend represents a significant amount of how learning occurs, then increased study could assist educators in how they foster that learning (Eraut, 2004).

Organizations, schools included, seek to provide professional development and training in ways that can be codified and reproduced when applied to new situations (Orr, 1996). Technicians are often asked to rely on a manual. With questionable effectiveness, teachers may attend a large-scale conference, participate in in-service model training, or take part in a series of one-time sessions in a large group setting with the intention of teacher applying what was learned to the classroom setting (Bredeson & Scribner, 2000; Smylie, 1996). While retaining some value in furthering the knowledge of teachers, this approach largely ignores the vast amount of learning that is taking place as a part of daily practice (Korthagen, 2010; Lambson, 2010). If the learning occurring in the field differs from how management intends, then developing a greater understanding the phenomenon of how workers learn through social interaction as a part of practice warrants attention.

The problem in regards to the phenomenon of how employees learn informally through social interactions does not lie in an understanding that the phenomenon exists but in the lack of understanding of the phenomenon itself, especially in an educational setting. Schools at large have recognized the importance and need for teacher professional learning and have attempted to provide PD to meet that need (Smylie, 1996). However, given the demands placed on teachers in meeting accreditation standards, less attention has been paid to the informal learning teachers do on a daily basis. These informal settings may also represent where the majority of learning is taking place. Therefore, this problem deserves attention as a further understanding of the phenomenon may aid in organizations attending to or leveraging the knowledge to achieve

desired ends. The lack of understanding may also account for why organizations tend to revert to formalized trainings.

Purpose and Research Questions

The purpose of this study is to explore the relationship between how novice teachers learn to become proficient or master teachers and how the learning that occurs through social and situated contexts influences that arc. This will be explored using the theory of legitimate peripheral participation (LPP) which posits a person goes from the periphery of a given field to a master of the trade through learning in social and situated contexts. That learning often occurs through communities of practice (CoP) which help provide some conceptual markers through which to study how the learning occurs. While this study will attempt to isolate the social aspect of teacher learning to the extent that is possible, a recognition that this type of learning occurs as a part of a broader context will remain. Therefore, it will be important to examine the effect of external factors (e.g. school administrators) on the learning done through a CoP, in either fostering or inhibiting the process, will be examined.

Research Questions

For this study, I will seek to address the following research questions:

1. What factors (e.g. social, political, organizational) influence how novice teachers learn through a social and situated context?
2. To what extent do teachers learn through social interactions with more experienced peers?
3. How do external influences affect the learning that occurs in social and situated contexts?
4. What are the implications of learning within social and situated settings for developing novice teachers into more expert professionals?

Key Terms

Throughout this study, certain key terms will be used to frame the review of literature and the resulting discussion. The following key terms are offered to assist the reader and defined in relation to how they will be used in this study.

- *Communities of Practice (CoP)* refers to the informal group through which participants learn as they negotiate a situated context. The three necessary components for a CoP to exist are mutual engagement, joint enterprise, and shared repertoire (Lave & Wenger, 1991; Wenger 1998).
- *Informal Workplace Learning* refers to the unintentional learning that occurs “learning that lacks systematic support explicitly organized to foster teacher learning” (Hoekstra et al., 2009).
- *Joint Enterprise* refers to the how a CoP negotiates the context they inhabit (Wenger, 1998).
- *Legitimate Peripheral Participation (LPP)* refers to the sociocultural learning theory that provides a framework for understanding how a person moves from being a novice apprentice to a master of a trade through participation in a CoP (Lave & Wenger, 1991).
- *Mutual Engagement* refers to the engagement around a shared practice (Wenger, 1998).
- *Professional Development (PD)* refers the intentional effort to change teachers’ attitudes and behavior towards teaching.
- *Professional Learning (PL)* refers to the formal and informal means through which learning takes place as a result of actively participating in a profession (Eraut, 2004).
- *Shared Repertoire* refers to the shared discourse through which CoPs make sense of the situation around them (Wenger, 1998).

- *Situated Learning* refers to how learning takes place through the negotiation between general knowledge and the specific situation at hand (Lave and Wenger, 1991).

CHAPTER 2: LITERATURE REVIEW

Teacher learning significantly impacts the improvement of schools (Smylie, 1996) and schools understandably attempt to shape that learning (Avalos, 2011; Coldwell, 2017; Little, 1993; Guskey, 2003; Evans, 2014). Those attempts, though, do not necessarily attend to learning that occurs outside of the school's deliberate efforts to develop teachers. Some of this may reflect the pressures resulting from high-stakes testing (Selwyn, 2007). Some may result from a lack of a full understanding of the phenomenon. This study seeks to focus on the informal aspect of professional learning in schools. However, before studying how teacher learning occurs, especially from a sociocultural perspective, it is important to review how organizational learning is traditionally understood. In doing so, I will make distinctions between how learning occurs in formal and informal ways. Throughout the review, I will include the broader research that applies to organizations in general. Next, I will discuss specifically how teacher learning is typically viewed. I will also delineate the difference between professional development and professional learning in schools so they are not used interchangeably for the purposes of this study. Then, I will focus on how teachers learn in social and situated contexts and introduce the theoretical and conceptual frameworks of legitimate peripheral participation (LPP) and communities of practice (CoP) as a means of studying the phenomenon. This will include defining what the term "community" means for this study as opposed to how it is typically applied to an educational setting. Lastly, I will offer a review of how LPP and CoPs have been previously applied to school research and the limitations the theories and concepts present. Finally, I will explain why this study adds to the body adds to the body of research.

Formal Professional Learning

As noted earlier, learning can take place in a variety of ways (e.g. Schunk, 2016). Formal and informal learning represent two broad categorizations for how learning occurs. Eraut (2004) contended learning occurs as a part of a continuum through formal and informal means. While this study will focus on the informal ways in which teachers learn their craft, it is helpful to offer the juxtaposition of how formal learning occurs or is intended to occur. In an effort to exert control, or because they view employees as commodities, organizations will seek to develop methods for training employees to follow prescribed methods and processes (Orr, 1996). Manuals are produced to guide employee work and trainings are held in an attempt to canonize practice so as to promote consistency across an organization (Brown & Duguid, 1991; Orr, 1996). Though learning does occur through these formal means, it has been demonstrated the majority of workplace learning takes place through informal means (Eraut, 2004). Despite evidence of futility, organizations have long attempted to formally exert control over how employees learn (Orr, 1996). This has been demonstrated in schools as well (Smylie, 1996).

Formal Professional Learning in Schools

A consensus exists that helping teachers develop their practice serves as an essential component for improving schools though little consensus exists as to how to effectively make that happen (Avalos, 2011; Coldwell, 2017; Little, 1993; Guskey, 2003; Evans, 2014). Just as organizations will do in a broader sense, schools will attempt to influence this development through formal means in an attempt to cause teachers to learn (Whitcomb et al., 2009; Evans, 2014). Evans (2014) defined professional development (PD) as the “process whereby people’s professionalism may be considered to be enhanced, with a degree of permanence that exceeds

transitoriness” (p. 188). This change in attitude and behavior appear as central themes in defining PD though it is almost equally agreed upon that concisely defining PD will remain elusive (Evans, 2014). For the purposes of this study, I define PD as the intentional effort to change teachers’ attitudes and behavior towards teaching.

If teacher learning is essential to changing teachers’ practices then schools justifiably will seek to shape that learning in a way that produces the desired changes (Smylie, 1996). However, it should not be implicitly assumed that this will constitute learning on the part of the teachers. In fact, intentional formal efforts to help individuals develop professionally may result in learning that is not congruent with the larger vision and goals of the organization and can be subversive to those efforts at times (Orr, 1996; Wenger, 1998; Guskey, 2003). Therefore, even if learning is occurring as a result of formal efforts, that learning may not represent what the schools intend.

In exploring schools’ formal efforts to impact learning, it is important to draw a distinction between PD and professional learning (PL). Since PD intends to cause learning, an understanding of how the learning occurs is essential. Professional learning will be more fully explored later in this review. I will briefly discuss how PD has occurred in schools and how PL, though the goal of PD, stands as a separate entity. I offer this with the intent of demonstrating why it is necessary to expand the knowledge base about how teachers learn. Since PD does not necessarily imply learning, it is important I make a distinction between PD and PL as they apply to this study. PD serves as the intentional effort whereas learning occurs naturally (Lave & Wenger, 1991; Printy, 2008).

Professional development programs in schools do not always fall within the realm of formal learning, but they often do (Lieberman & Miller, 2014). It should also be noted the

pressures schools face in an era of accountability to get students to perform on standardized tests that measure basic skills (Selwyn, 2007; Szczesiul et al., 2015). Professional development programs can reflect that pressure (Selwyn, 2007). Workshops, in-service models, and large-scale conferences represent examples of formal efforts on the part of schools to cause learning. These models often assume information will be presented to teachers with the expectation they apply the new skills in their practice without accounting for context (Little, 1993). While formal trainings, like large-scale conferences, may possess merit for other reasons, they do not necessarily effect a change in classroom practice (Bredeson & Scribner, 2000). Though much of how schools intend for teachers to develop persists in the formal sense, PD programs have evolved. In a synthesis of research articles from 2000 to 2010, Avalos (2011) demonstrated how PD efforts have moved away from traditional in-service models and have begun taking into account how PD should be differentiated to meet teaching learning needs and specific contextual situations. In fact, a growing appreciation of how teachers learn informally has gained traction (Smylie, 1996; Whitcomb et al., 2009; Korthagen, 2010). However, even when schools do this, they continue to provide formalized structures for how the learning should occur.

Professional Learning Communities

Professional learning communities (PLC) serve as one example where schools have attempted to provide formalized structure to foster learning in a more intimate environment that attends to teachers' need for context to embed learning (Lieberman & Miller, 2014).

Professional learning communities group teachers, often by content area, and establish clear norms and procedures for examining student data and planning for instruction (McLaughlin & Talbert, 2007). I also deliberately use PLCs as an example so as to clearly define what "community" means for the purposes of this study and to draw distinction between formal and

informal learning. This study uses the concepts associated with CoPs as a means of viewing and understanding teacher learning through informal means while PLCs, though attempting to attend to concepts associated with informal learning, remains bound to a formalized structure.

Clearly defining how the term community is applied to this study is necessary to avoid confusion with how the term is used in other educational research and practice (i.e. PLC). I use the metaphor of community to tease out the nuances involved in social and situated learning in schools. In terms of collaboration, schools consistently engage in Wenger's (1998) idea of designed organizations by mandating teachers work together in groups. This often takes the form of PLCs which may group teachers by content area (Hargreaves & Dawe, 1990; Mitchell, 1999; DuFour & Fullan, 2013). It may also take shape in the form of technical coaching relationships.

Though perhaps retaining some value, Hargreaves and Dawe (1990) designated a difference between contrived collegiality and a collaborative culture. In fact, contrived collegiality (i.e. PLCs) can take form at the expense of a collaborative culture where teachers retain more control over determining and reflecting on their own practice (Hargreaves & Dawe, 1990). Hoekstra et al. (2009) further expanded, "the relationship between collaboration and learning is not self-evident: it depends on how this collaboration is interpreted and shaped" (p. 293). While intentionally forming and manipulating learning communities in schools may possess some value and benefit, doing so requires significant amount of work on the part of the participants or administrators to avoid having the PLCs disintegrate (Hargreaves & Dawe, 1990; Mitchell, 1999; McLaughlin & Talbert, 2007).

The term "community" in PLCs may also possess some contradictions in terms of how a community truly operates (Watson, 2014). Whereas Lave and Wenger (1991) and Wenger

(1998) noted CoPs take shape informally and without clear boundaries, schools establish PLCs with prescribed norms and procedures (McLaughlin & Talbert, 2007). Even when acknowledged that teachers learn in a social and situated context, the immediate inclination can be to associate PLCs as the vehicle to this type of learning (Whitcomb, Borko, & Liston, 2009) or to assume the concepts of CoPs directly apply to PLCs (Lieberman & Miller, 2014). While a case may be made that social and situated learning can be facilitated in this manner, for the purposes of this study, any reference to community should not be confused or transposed with the term community as a part of a PLC.

Informal Professional Learning

I do not contend that learning does not occur through formal methods or that formalized learning retains little or no value. In fact, I subscribe to Scribner's (1999) suggestion schools support both informal and formal learning opportunities to foster a culture that values PL. I also adopt Eraut's (2004) contention that learning is part of a continuum that occurs through formal and informal means, with the majority of learning taking place in the informal sense. I offered a review of how formal learning is intended to occur in organizations and schools to highlight the need to further study how PL happens in an informal sense. In this next section, I will briefly explain the theoretical basis for sociocultural learning. I will then review the research into how learning occurs as a part of practice. Finally, I will discuss how vital role the social and situated setting plays in how PL occurs.

Whether looking at a factory, a software company, or a school, the idea that people learn through informal, social interactions does not constitute new theory. The basis for the ideas and theories discussed later in this paper find their roots in sociocultural and constructivist learning theories. Constructivist learning theories generally revolve around four assumptions: knowledge

construction, cooperative learning, self-regulation, and motivation to learn (Kantar, 2014; Loyens, Rikers, & Schmidt, 2006). While many theories, like Piaget's, are based in constructivist theory, Vygotsky advanced in the early 1900s the idea of the social environment's influence on learning that occurs through practice. Vygotsky emphasized learning cannot be dissociated from the context in which it takes place (Schunk, 2016). When looking at how learning takes place in organizations, using this lens can illuminate the social interactions at play.

Learning as a Part of Practice in Situated Contexts

I previously discussed how employers intend employees to learn in a formalized sense. While that type of effort may cause professional growth, it vastly underestimates the other type of learning taking place beyond the reach or control of the employer. Organizations can easily overlook this phenomenon but should be wary that, "awareness of explicit learning does not mean implicit learning is not taking place" (Eraut, 2004, p. 250). In fact, management and technicians can view the same job from entirely different perspectives (Orr, 1998). Informal learning in social settings as a part of practice occurs whether employers intend for it to happen or not and often represents how the majority of workplace learning occurs (Eraut, 2004). Organizations that ignore this phenomenon actually risk limiting innovation as they only focus on the formalized training for employee development (Brown & Duguid, 1991).

To further the understanding of how learning occurs through social interactions, it is essential to discuss the role the situational context has on that learning. Organizations often attempt to formalize training, or create a designed organization, with the idea that employees will take the concepts learned and apply them in the field (Orr, 1996; Wenger, 1998). The purpose of this study does not seek to disprove the merit of such an approach but rather to recognize how learning takes place in situated contexts (Lave & Wenger, 1991; Sawyer, 2002; Cobb et al.,

2003; Korthagen, 2010; Nicolini, 2011). The concept of situated learning centers on the idea that learning is an important aspect of social practice. However, the term situated learning also falls victim to ambiguity in definition. It can imply that it is a separate and specific type of learning whereas Lave and Wenger (1991) noted all activities are situational. Therefore, learning is always occurring in a situational context and it is where abstract generalities are given meaning in relation to the given place and time of the moment (Lave & Wenger, 1991). It is through these situations that “knowing manifests itself” (Nicolini, 2011, p. 616). This understanding that learning cannot be entirely divorced from the context in which it takes place and must take into account the views of the persons involved. Just as with other fields, the situated aspect of learning remains essential for teachers’ professional learning (Avalos, 2011; Sawyer, 2002; Korthagen, 2010).

Social and situated Learning in Schools

In focusing on the informal aspect of teacher learning it is first important to discuss the role the social context plays in that learning. Research has confirmed the informal, social nature of practice significantly impacts teacher learning (Wilson & Demetriou, 2007; Hoekstra et al., 2009). Hoekstra et al. (2009) defined informal workplace learning as “learning that lacks systematic support explicitly organized to foster teacher learning” (p, 278). Just as Brown and Duguid (1991) and Lave and Wenger (1991) previously suggested in an organizational sense, the social setting provides the venue by which teachers evaluate the interaction between the abstract concepts learned in formal trainings with that of the realities of their situated context (Wilson and Demetriou, 2007). It remains important to note while PD is aimed at purposefully improving teacher practice and student achievement (Guskey, 2003), learning takes place regardless and does not necessarily imply improvement (Hoekstra et al., 2009; Printy, 2008).

Several researchers have suggested effective PD should instead be more individualized, involve inquiry, and promote collegiality (Guskey, 2003; Evans, 2014). As Lave and Wenger (1991) suggested learning takes place in situated contexts, effective PD should also account for the unique contexts of schools (Guskey, 2003). Literature on how situated learning that takes place in schools using the theories and concepts presented next will be more thoroughly reviewed later in this chapter.

Communities of Practice and Legitimate Peripheral Participation: Applied Theories of Social Learning

In order to learn more about how people (teachers, in the case of this study) learn from a constructivist perspective, I will make use of a conceptual and theoretical framework that will allow for certain characteristics to emerge and to make sense of what is uncovered. The metaphor of community evokes an image that can be used as a framework for studying the phenomenon of learning as a part of practice in situated, social contexts. Specifically, the concept of communities of practice (CoP) and the associated characteristics will be offered as a conceptual framework. Additionally, the theory of legitimate peripheral participation (LPP) will be utilized to help understand the process by which teachers move from novice apprentices to veteran masters of their craft through participation in a CoP.

Communities of Practice

The concept of CoPs as a means through which learning takes place derived from the work of several early researchers (Brown & Duguid, 1991; Lave & Wenger, 1991; Orr, 1998). While traditional attempts to define jobs and processes may have a place, they vastly overlook the actual practice at play, that which often determines the success of an organization. Orr (1998) demonstrated through a study of field technicians, and through his earlier studies, that

their work tended to be “situated and interpretive” (p. 448). Therefore, simple manuals could not be applied to fix each situation. Rather, social interactions between customers and technicians, and between technicians themselves, played a larger role in ultimately resolving issues in the work.

Orr (2006) noted the question driving his seminal work, *Talking about Machines*, was, “what might be learned by studying work practice instead of accepting the word of management about how work is done?” (p. 1807). If the actual work getting done by technicians in the field differs vastly from what management intends, and is more important to the overall success of the organization, then it would follow to determine and define exactly how the actual work practices are learned. Brown and Duguid (1991) and Lave and Wenger (1991) drew upon Orr’s work to study and define the concept of CoPs to explain how that learning occurs in organizations, particularly with how newcomers learn a trade or skill from masters of a particular craft. Lave and Wenger (1991) contended CoPs do not necessarily constitute well-defined groups with identifiable boundaries but rather “imply participation in an activity system about which participants share understandings concerning what they are doing and what that means in their lives and for their communities” (p. 98). This is not to suggest, though, that CoPs lack for defined characteristics or structure. However, this lack of formal, identifiable structures and boundaries should not imply CoPs cannot be studied or recognized within an organization.

While several researchers helped introduce the idea of CoPs as a means through which learning takes place in organizations (Brown & Duguid, 1991; Lave & Wenger, 1991; Orr, 1998), Wenger (1998) most fully explored the concept in a manner that could be applied to study CoPs. Wenger (1998) suggested CoPs consist of three components: mutual engagement, a joint enterprise, and a shared repertoire. CoPs are not intentionally formed or defined by an

organization, but rather form on the basis of the existence of the three necessary components. Participants in a CoP may not be cognizant of their participation in the group. Additionally, participants may belong to more than one CoP and various CoPs may overlap and interact with each other (Wenger, 1998; Cobb et al., 2003). It is therefore necessary to explore this idea of the concept of boundary encounters between CoPs to adequately study the phenomenon.

Mutual Engagement

Any attempt to study the effect of CoPs on learning should revolve around the main features of the community. Mutual engagement, an essential component of a CoP, results when members of a community interact around a common practice. The members all bring unique perspectives and different life experiences to the group. The community may involve positive, supportive interactions but just as equally include tension and conflict. Regardless of the type of interactions, the engagement through the shared practice remains necessary (Hodkinson & Hodkinson, 2003; Wenger, 1998). In a school, teachers come from various backgrounds with varying values and perspectives. They form communities of practice around the shared work of teaching (Hodkinson & Hodkinson, 2003).

Joint Enterprise

Mutual engagement alone does not define a CoP but rather is more fully negotiated through a joint enterprise. When the CoP negotiates the full complexity of mutual engagement, the resulting joint enterprise they own creates a mutual accountability within the group (Wenger, 1998). Teece, Rumelt, Dosi, and Winter (1994) suggested learning occurs “because of joint understanding of complex problems” as part of a “social and collective phenomena” (p. 15). In a school setting, a CoP mutually engages around the shared practice of teaching. However, the joint enterprise adds complexity to the group as they negotiate the context they inhabit. For

instance, a CoP of teachers may possess a skeptical attitude toward an administrative initiative and will exert energy in resisting it. In this way, the mutual engagement revolves around the shared practice of teaching but the joint enterprise further defines the CoPs existence to include more of the context within which they exist. Several studies have suggested this joint activity within a shared context impacts new teacher self-efficacy and furthers individual teacher learning (Clement & Vandenberghe, 2000; Lasky, 2005).

Shared Repertoire

The final component of a CoP, shared repertoire, “includes the discourse by which members create meaningful statements about the world” (Wenger, 1998, p. 83). The specific language (i.e. words, actions, stories) the CoP adopts become a part of their practice. The repertoire will both reflect the history of the CoPs and remain ambiguous. This enables the CoP to make sense of their history of mutual engagement and engage in new situations (Wenger, 1998). In a school setting, a CoP consisting of teachers will develop spoken and unspoken routines, language or gestures that reflects their practice and allows them to negotiate the meaning of new situations as they present themselves.

When taken together, the existence of mutual engagement, joint enterprise, and a shared repertoire serve as necessary components around which the community operates (Wenger, 1998). The metaphor of a community can conjure a variety of images. In relation to how the metaphor applies to the social and situated learning that takes place in the workplace, Pyrko et al. (2017) advanced the concept of CoPs “thinking together” as a means to bolster the metaphor. Pyrko et al. (2017) suggested that the structural elements of a CoP (mutual engagement, joint enterprise, and shared repertoire) develop because this thinking takes place.

Boundary Encounters

Mutual engagement, joint enterprise, and shared repertoire represent the three essential concepts that make a CoP exist. However, it is essential to understand the additional concept of boundary encounters as CoPs do not exist in a vacuum. In using the metaphor of community, it could be easy to view CoPs as isolated entities. While that simplistic view would aid in studying the phenomenon, reality remains more complex. Wenger (1998) noted boundary markers exist for CoPs but that the presence of markers does not constitute a true CoP nor does the absence of markers imply one does not exist. In fact, practitioners can belong to multiple CoPs at once. Therefore, it is important to discuss the concepts related to viewing these boundary encounters.

To understand how boundary encounters occur among CoPs, it is necessary to define the ideas of boundary objects and brokering. Wenger (1998) noted sociologist Leigh Starr “coined the term *boundary object* to describe objects that serve to coordinate the perspectives of various constituencies” (p. 106). Simply put, they are things CoPs have in common or an enterprise they share. In educational settings, boundary objects have been used to demonstrate how boundary encounters occur. Hodkinson and Hodkinson (2003) emphasized the learning of a CoP cannot be isolated from the broader context. For instance, Cobb et al., (2003) demonstrated how students’ test scores served as a boundary objects that helped bring various CoPs together around a shared understanding. Cwikla (2007) found the lack of a clear mission can also serve as a boundary object around which boundary encounters exist just a clear, shared mission can. Regardless of example, it is essential to look for these objects, tools, or artifacts when studying how CoPs operate, especially in relation to one another.

While boundary objects serve as the common thing CoPs use to interact with other CoPs, the concept of brokering also facilitates boundary encounters (Wenger, 1998). The broker may

not belong to a particular CoP but rather serve as someone who makes connections between various CoPs and can “open new possibilities for meaning” (Wenger, 1998, p. 109). This person’s effectiveness lies in being able to find links between CoPs and in the ability to build relationships and communicate (Cwikla, 2007; Wenger, 1998). In a school, brokers between CoPs in schools can involve an array of people. For example, an instructional coach may serve as a bridge between CoPs consisting of teachers and CoPs of administrators (Cwikla, 2007). An administrator may also take on the role of a broker, finding the shared enterprises between CoPs and facilitating the boundary encounters that occur (Cobb et al., 2003; Cwikla, 2007).

Legitimate Peripheral Participation

The characteristics of a CoP provide some conceptual markers by which to make sense of what is happening when people learn through social interactions in situated contexts. This conceptual framework also exists within a theoretical framework that helps in viewing how participation in a CoP assists in the mastery of a particular craft. Lave and Wenger (1991) pioneered the development of legitimate peripheral participation (LPP) as a theoretical framework for analyzing how learning occurs through situated activities. The theory aimed to shift focus towards the sociocultural process of learning through communities of practice (CoP). LPP built on (or sought to clarify) previous work on apprenticeship and includes several concepts intended to focus analytical research on learning (Lave & Wenger, 1991). Lave and Wenger (1991) suggested the use of the term “apprenticeship” had been ill-defined and “had become yet another panacea for a broad spectrum of learning-research problems, and it was in danger of becoming meaningless” (p. 30). LPP diffuses the idea that learning occurs in a specific and structured location (i.e. schooling) but that instead is a characteristic of social practice. Lave and Wenger (1991) demonstrated how LPP can be used as a method for

analyzing the learning process. The theory has since been used as a lens to analyze how learning occurs with varying implications for practice (Boylan, 2010; Davies, 2005; Hodkinson & Hokinson, 2003; Pyrko, Dörfler, & Eden, 2017).

Legitimate peripheral participation describes the process by which newcomers in a given field become full participants in a community of practitioners (Lave & Wenger, 1991). This process does not necessarily occur through a detailed and preconceived manner, but rather more through a variety of learning experiences. The newcomer need not be an expert, either in theory or practice, only legitimately accepted as a member of the group (Lave & Wenger, 1991; Lambson, 2010). Once legitimately recognized, newcomers participate on the periphery as they move towards full participation as an established veteran of the trade. Lave and Wenger (1991) proposed LPP “as a descriptor of engagement in social practice that entails learning as an integral constituent” (p. 35). Wenger (1998) further advanced the concept of the trajectory of participation to include marginal participation, peripheral participation, and full participation.

Communities of Practice and Legitimate Peripheral Participation in Schools

Once it has been established what I intend for the term community to mean relative to a CoP, reviewing how the theory of LPP and the concepts of CoP as they have been applied to schools merits review. Lave and Wenger (1991) deliberately avoided looking at schooling when developing and applying LPP as a theoretical framework for analyzing learning though they did recognize the need for future study in the area. Lave and Wenger (1991) believed using LPP and the concepts of CoPs could shed significant light on how learning occurs in schools. However, the challenge remains in studying the naturally occurring phenomenon versus attempting to intentionally cause the phenomenon to occur. In subsequent years, LPP has been applied to

educational settings, though more research is certainly warranted (Korthagen, 2010). The results of this research will be reviewed later and help bring focus to the necessity of this study.

LPP has been used as an analytical tool when examining educational settings from a student-centered perspective (Boylan, 2010; Consalvo et al., 2015; Davies, 2005; White, 2010) and in relation to new teacher learning (Consalvo et al., 2015; Korthagen, 2010; Lambson, 2010). From a student-to-teacher, classroom perspective, Boylan (2010) revealed some difficulties in applying LPP as a way of analyzing learning through situated contexts. If Lave and Wenger's theory is applied in an apprenticeship type perspective, direct application to a classroom setting does not correlate. Boylan (2010) used a math classroom to illustrate this point. An LPP application would suggest the math teacher as the master teacher and the students legitimate peripheral participants engaged in learning math. However, in this situation, the teacher is not a full participant in the process of learning math but rather in learning more about teaching math (Boylan, 2010). This does not suggest LPP cannot be applied to discovering more about the learning process in classrooms, just that it may be fraught with some difficulties. Therefore, for the purposes of this study, a shift towards how it may apply to teacher learning seems more appropriate.

Lave and Wenger (1991) emphasized learning occurs through LPP in CoPs regardless of whether it is intentional or not. That assertion assumes new teachers are learning through LPP. Derry (2008) bolstered this type of learning through social practice by noting participants need to be provided opportunities to work with a concept even when a full grasp of the concept is absent. Participants need only have the ability to be in the space which the concept operates. For education, this would suggest new teachers do not need to fully grasp the concepts of effective teaching but have enough to be accepted into the space as a teacher. From there, participation in

a CoP, with a helpful mentor, a new teacher can move along the trajectory from peripheral to full participation (Lambson, 2010).

The study of Lave and Wenger's LPP have not yet been fully applied to new teachers and how they learn as part of communities of practice (Korthagen, 2010; Lambson, 2010). Lambson (2010) demonstrated elements of LPP to be present in the education of new teachers when paired with a veteran teacher and suggested the importance of trying to provide new teachers with this experience. However, assuming this process can be generalized and replicated on a mass scale does not adequately appreciate how the process occurs. Korthagen (2010) argued, "Teaching is to a large degree a gestalt-driven activity" in that each teacher's individual history and background will affect sensory perceptions in situations that require reaction. Therefore, the focus of teacher preparation programs should focus more on how to help shape teachers' gestalts and reflect on practices within a professional community to make connections and develop effective practices (Korthagen, 2010). Whereas traditional teaching preparation programs focus on teaching theory to be applied to later practice, Korthagen (2010) proposed theory only becomes meaningful to teachers only after they acquire the motivation to pursue it.

When looking at CoPs in an educational context, CoPs cannot necessarily be viewed exactly as Lave and Wenger intended. The outside pressures from management or other outside entity also warrant consideration when studying CoPs in schools. Hodkinson and Hodkinson (2003) suggested a need to modify Lave and Wenger's (1991) application of LPP. Legitimate peripheral participation suggests, as has been discussed previously in this paper, newcomers sit legitimately on the periphery as they move towards becoming master full participants (Lave & Wenger, 1991). Hodkinson and Hodkinson (2003) asserted this interpretation did not directly apply when each member of the CoP represented an established veteran with learning certainly

still occurring within the group. The authors also suggested, while CoPs do exist in isolation from administration, it should not be assumed the communities are immune from external pressures. In fact, the CoP inevitably has to modify its practices and learning to at least tacitly comply with new directives (Hodkinson & Hodkinson, 2003).

Applications of CoPs and LPP in Schools

If it is accepted that learning occurs through legitimate peripheral participation within CoPs then it logically follows that attempts to intentionally set up the process would be a worthwhile venture. When training new teachers in education, the newcomers are often paired with veteran teachers. However, it should not be assumed this relationship constitutes a CoP. In fact, the newcomer (and the veteran teacher) may be a part of another CoP that may not be visible to the school administration or in which the teacher is even aware of being part. Pyrko et al. (2017) emphasized “cultivating CoPs is not about deciding to ‘set up a CoP’, but about making efforts to learn more about one’s own learning and ways of improving it” (p. 405). Brown and Duguid (1991) noted it essential organizations recognize and legitimize the existence of CoPs as a means of fostering understanding of learning. Without this recognition, organizations (i.e. schools) will instead rely on traditional methods and remain unaware of the key role CoPs are playing in the learning process (Brown & Duguid, 1991; Orr, 2006). Orr (1996) also found the technicians he studied valued their community. If that same value can be applied to teachers, the CoPs likely hold great sway on how newcomers and veterans alike are learning within the organization. Cwikla (2007) noted, even when schools attempted to foster CoPs, schools encountered issues in having the groups represent true CoPs. Awareness of LPP and CoPs, and the principles associated with them, may serve a better purpose for schools than intentionally attempting to manipulate the process.

Critiques and Limitations of LPP

Legitimate peripheral participation as a means to analyze learning within situated contexts does not escape criticism, particularly in how it deals with issues of power and with its application to schools (Consalvo et al., 2015; Fuller, Hodkinson, Hodkinson, & Unwin, 2005; Hodkinson & Hodkinson, 2003). Fuller et al. (2005) discussed how the inequity of power distribution within a CoP affects the learning within the group. Those with power can control resources and thereby limit or expand participation in the group. While Lave and Wenger acknowledged this aspect, their work did not properly explore the topic (Fuller et al., 2005). Nicolini (2011) suggested power and the learning that occurs in situated contexts cannot be treated as separate phenomena.

Though power certainly plays a role in school dynamics, Lave and Wenger's work on LPP also does not account for how CoPs in an educational context may take shape. LPP can be applied in the sense of new teachers entering the profession as legitimate peripheral participants within a CoP that includes full, veteran teacher participants. Theoretically, the new teachers will move along the trajectory towards full participation. However, within a school, it is entirely possible a CoP consists entirely of veteran participants where learning continues to be present (Hodkinson & Hodkinson, 2003). Consalvo et al. (2015) considered this and offered six principles that can serve as criteria to evaluate LPP and CoPs:

- Principle 1: There is an established and bounded practice that creates and supports a community of practice.
- Principle 2: Learners/apprentices have a legitimate role in the community and its practices.

- Principle 3: Newcomers show a high degree of interest and mental and physical commitment to the practice.
- Principle 4: The proportion of learners to experts is low, fewer, in general, than 5:1.
- Principle 5: Experts generally prefer to communicate with other experts but allow for some “showing” and some explaining to newcomers along the way.
- Principle 6: The learners handle the real product of the practice in some way.

When examining how the learning occurs through LPP and CoPs, these principles may be useful as an additional lens for exploring the dynamics of the interactions.

Summary

Schools roundly recognize the value of PD and attempt to influence the PL of teachers. Traditionally, PD has been offered to teachers in formalized sessions. These types of sessions (i.e. workshops, large-group presentations, conferences) rarely account for the situated context of teachers which significantly impacts teacher learning (Wilson & Demetriou, 2007; Hoekstra et al., 2009). While learning does occur through formal processes, less attention has been paid to the learning taking place through informal interactions. A recognition that PD should be more individualized has emerged (Guskey, 2003) but sometimes attempts at building collaborative cultures (i.e. PLCs) have translated into contrived collegiality based on the formalized nature of the process (Hargreaves & Dawe, 1990; Hoekstra et al., 2009). Further exploring how teachers learn through social interactions in situated contexts warrants additional study.

The conceptual and theoretical frameworks of CoP and LPP are used to study the phenomenon of teacher learning through social interactions in situated contexts. This study builds upon research that has occurred using the frameworks of CoP and LPP in a broader organizational context (Brown & Duguid, 1991; Lave & Wenger, 1991; Orr, 1996) as well as in

school contexts (Consalvo et al., 2015; Cwikla, 2007; Fuller, Hodkinson, Hodkinson, & Unwin, 2005; Hodkinson & Hodkinson, 2000; Korthagen, 2010; Lambson, 2010; Pyrko, 2017). In doing so, specific attention has been paid to how novice teachers learn on a path toward becoming masters of the craft. Additionally, the influence of external influences (e.g. school district policies, administrative directives) on the learning that takes place through a CoP was also explored. Ultimately, this research may have implications for how schools design and implement effective PD programs.

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

The purpose of this chapter is to outline the research design and methodology used for exploring how teachers learn in social and situated contexts. The theory of legitimate peripheral participation (LPP) and the concepts of communities of practice (CoP) were used to guide the research. The qualitative multiple-case study approach was chosen in an effort to answer the specific research questions. The participants helped illuminate how teachers learn through social interactions in situated contexts and how external influences affect that learning. Interviews were conducted over several rounds. Each set of interviews were recorded and transcribed. Field notes were also be used. Observations and document analysis took place as a part of the study. Following each set of interviews, the data was analyzed using coding to identify themes and to inform subsequent interview questions. Ultimately, the data show how teachers learn in social and situated contexts and aim to determine the degree, if any, to which external influences affect that learning.

Design

This qualitative multiple-case study was intended to explore the nature of teacher learning in situated social contexts in a secondary school setting through the theoretical lens of legitimate peripheral participation (LPP) and the concepts of communities of practice (CoP). This multi-case study employed a microethnographic approach in that studied small units of an organization (Bogdan & Biklen, 2016). A multiple-case study approach was used in an attempt to address the research questions and shed light on the phenomenon. First, I will demonstrate why, in general, case study served as the best design for this study. Next, I will explain how the development of theoretical propositions aided in making generalizations based on the results of the case study. Finally, I will justify why a multi-case method was utilized for this study.

Case Study Approach

Since learning through social and situated contexts represents a contemporary phenomenon that takes place in a real-world context, using a case study approach served as the best method towards answering the research questions. A case study approach most appropriately assists in connecting the research questions and theoretical propositions to eventually draw inferences and make conclusions regarding the phenomenon of professional learning through social interactions (Yin, 2014). Yin (2014) succinctly stated case study design provides “a logical plan for getting from here to there” (p. 28). Additionally, Yin (2014) suggested the case study design suits research where the boundaries between the phenomenon and context are not clear and can account for specific situations where numerous variables exist.

Importance of Theory in Case Studies

When attempting to add to the collective body of knowledge regarding a particular phenomenon, generalization of the results served as one goal of the researcher. In a traditional sense, case studies present a challenge with generalization in that the focus is on a particular case and not on a random sampling of a population (Stake, 2003; Yin, 2014). It is therefore necessary to stress generalization was not be made in a statistical sense but rather an analytical sense (Yin, 2014). To do so, the development of theoretical propositions serve a critical function to later making generalizations based on results. Analytic generalizations can reinforce or refute theoretical concepts or reveal new concepts that may add to the theoretical construct (Yin, 2014). However, Stake (2003) warned the researcher should refrain from overly committing to generalization as it may take away from the commitment to the individual case or cases of the study. Stake (2003) further argued readers will construct the knowledge for themselves from findings in both intended and unintended ways. In this way, Boblin et al. (2013) noted how

Stake and Yin diverge in the use of theory for case study research. Yin has placed emphasis on developing a more formal theoretical and conceptual framework to guide the research while Stake has argued for a more flexible conceptual framework (Boblin et al., 2013). For this study, I allowed for the framework to be flexible to how the research unfolds. Just as the phenomenon being studied is based in constructivist learning theory, it is appropriate I allow the readers to construct their own knowledge based on the results of this study (Stake, 2003).

Multiple-case Design

This study opted for a multiple-case study design in an effort to better explore the theoretical and conceptual frameworks offered. A single-case study approach is warranted when the case represents a common, unusual, or extreme representation of the phenomenon. A single-case study approach would also be appropriate for a longitudinal study (Yin, 2014). Since the phenomenon in this study does not contain clearly defined boundaries and is not intended to be longitudinal, choosing a single-case study approach would present myriad challenges. A multiple-case study approach provided for a better look at the concepts of the phenomenon. Each of the cases was approached as an individual case with the results being summarized both for the individual cases and collectively between cases (Yin, 2014).

Methodology

Selection of Cases

Whether selecting a single-case study or a multiple-case study approach, selection of the individual cases should be of paramount importance to the researcher to best understand the phenomenon (Stake, 2003; Yin, 2014). When using a multiple-case study approach, it is important to carefully select each individual case in a manner that allows for replication (Yin, 2014). Case-study designs do not allow for replication in a sense that they can be generalized to

a population but they do in a theoretical sense. Therefore, when selecting the cases, they should be chosen so to either predict similar results based on the theoretical propositions or predict contrasting results as anticipated by the conceptual framework (Yin, 2014).

Participant Selection

To employ the multiple-case study approach for this study, two high school teachers were selected to participate. By focusing on two primary participants, this study opted for a microethnographic approach by looking at a small subset (two teachers and the contexts of their environments) of an overall organization (the school or the school district). Participants were interviewed to determine how they learn from others in social and situated contexts. The concepts of CoPs and LPP were used to illuminate how this learning is occurring. Logically, it stood the research would reveal the teachers participate in a CoP as they move from the periphery of the profession towards mastery of the craft. In an effort to achieve replication, I interviewed principals to identify teachers with 5-10 years of experience who they perceive to be growth-minded in outlook and innovative in practices. The interviews asked principals to identify teachers who have demonstrated growth, based on the district's teacher evaluation instrument, in the areas of instructional planning, instructional delivery, and assessment. I adhered to Yin's (2014) approach to multiple-case study by positing that selecting participants with similar perceived mindsets might predict the application of the theoretical and conceptual frameworks. This was intended to produce similar results and better allow for future replication. This approach attended to Consalvo et al.'s (2015) third principle for evaluating LPP and CoPs where "newcomers show a high degree of interest and mental and physical commitment to practice" (p. 15). By choosing innovative and growth-minded teachers with 5-10 years of experience, I also attempted to control for several variables in an effort to hone in on the

prevalence of the concepts of LPP and CoPs. Based on the theory of LPP, these teachers should be on the continuum somewhere between the periphery of the profession and marginal participation. The logic would predict the teachers would identify veteran teachers from whom they learn in social and situated contexts. As the principal participants in the study identified additional staff members with whom they interact, I arranged to interview some of these individuals.

The researcher assured each participant of the confidentiality of the data collected (Bogdan & Biklen, 2016). To accomplish this, pseudonyms were assigned to the participants and the schools or school districts they represent. Each interview transcript and subsequent coding results were shared with the corresponding participant to ensure accuracy and determine any concerns (Stake, 2003). Interview transcripts and data analysis records will be maintained and destroyed in accordance with university records retention policies and regulations.

Site Selection

For this study, the participants were selected from a high school in a suburban school district. While conducting the research at the secondary level represented more researcher preference than anything else, there were also some potential benefits to doing so. Since secondary schools are larger than their elementary counterparts, they have more staff members at an individual site. This was intended to aid the possibility more opportunities for research into professional learning through social and situated contexts through social interaction exist at secondary schools. While the actual make-up of a particular CoP at the elementary level may be similar to those at a secondary level in terms of number of participants, the opportunity for boundary encounters may be greater at the secondary level (Wenger, 1998).

The secondary school in this study was selected among schools in a large, suburban school district that contains more than 10 secondary schools. The teachers selected for the study were assigned to separate departments within the school (i.e. math, English). This ultimately seemed to have no bearing on the outcomes of the study since situated contexts differed from teacher to teacher. However, by selecting teachers in different departments, I was able to glean how the individual teacher's situated context relates to the other's and to the context of the school. It remains possible for future studies the situated contexts the teachers inhabited could also reveal distinct differences and provide additional insight into how professional learning through those contexts occurs.

The school selected resided within a large, suburban school district in the southern part of the United States and has total enrollment of approximately 1700 students. The school consisted of a student population that is approximately one-third African-American and one-third Caucasian students. The percentage of economically disadvantaged students exceeded the districts' overall percentage. The school possessed a reputation for placing an emphasis on high quality instruction and have sought innovative strategies to support student learning.

Confidentiality

Throughout the research, the confidentiality of the participants was protected. Pseudonyms were assigned to participants and schools. Any reference to identifying information was removed from transcripts. Only the researcher and the participants had access to the data collected. Once allowed by research policies and regulations, all recordings, transcripts, and data analysis will be destroyed.

Data Collection

Data for this study was collected using semi-structured interviews, conducting field observations, and accessing relevant documents. The interviews were conducted on three separate occasions. Each interview was recorded and then transcribed using an online transcription resource. Since CoPs exist as informal groups, observing interactions between members remains challenging. Observations of PLC meetings were conducted twice for each primary participants of the study. Field notes were taken during each observation. Three additional veteran teachers who served as role models or assigned mentors for the primary participants were also interviewed. Finally, relevant documents were collected as a part of the study as they bolster the qualitative nature of the study (Bogdan & Biklen, 2016; Stake, Year; Yin, 2014).

Interviews

The first round of interviews broadly delved into the teachers' informal learning network. The first round also served the purpose of building a rapport with the participants which can better allow for the time in subsequent interviews to be more substantive (Bogdan & Bilken, 2016). The data analysis following each round of interviews drove the specificity of questions in the next round of interviews. While each round of interviews explored similar themes, the questions for each individual teacher in the second and third interviews differed based on the analysis from the previous interviews. Appendix B and Appendix C show the differences in guiding questions for those interviews.

Questions for the interviews were semi-structured and were based on the principles of CoPs and the framework of LPP (Lave & Wenger, 1991, Wenger, 1998). The concepts related to CoPs and LPP were not be specifically defined for the participants. The teachers were asked

about the other teachers they regularly interact with and the nature of those interactions. The questions focused on how each teacher's individual learning process progressed as a result of the interaction with other teachers. In attempting to stay true to the semi-structured approach, the researcher relied on a set of specific questions with additional sub-questions to guide the interview. However, the researcher also allowed for the free-flowing nature of the conversations to guide which question might be asked next and in which manner. Therefore, not all interviews followed the same prescribed question order nor were all questions asked in the same manner, though each interview touched on mostly all of the same areas. All interviews were recorded and transcribed using an online service. The researcher will assure each participant of the confidentiality of the data collected (Bogdan & Biklen, 2016).

Observations and Document Collection

In following best practices for qualitative and case study research, data from observations and documents were collected as a part of this study (Bogdan & Biklen, 2016; Yin, 2014). Ideally, each of the principal participants of this study would have been observed in settings where social interactions with other teachers in the school, potentially within their CoPs. However, as Eraut (2004) noted, the invisible, taken-for-granted nature of informal learning presents a challenge in studying it. The participants may not be aware of their participation in CoPs and, therefore, similarly unaware of the learning taking place as a result (Wenger, 1998; Eraut, 2004). To combat this challenge, opportunities for observation were gleaned from interviews with the participants. The analysis of the first round of interviews revealed observing the PLC meetings of the two participants to be the most likely setting to observe where PL is taking place in social and situated contexts. However, it should be noted I do not contend PLCs and CoPs as interchangeable entities and will clarify the distinction in Chapter 4 before the

findings are presented. Though I was unable to observe the informal nature of the learning in the field, the observations bolstered the analysis of data collected in interviews and through documents. Descriptive and reflective field notes were used to collect data from the observations (Bogdan & Bilken, 2016).

Documents were also be collected when applicable. These included documents from observed PLC meetings, standardized testing results, and a document outlining the school's goals. These documents provided additional insight into the analysis of the data.

Data Analysis

Open coding and axial coding were used to analyze the transcribed interviews. The open-coding approach through a line-by-line analysis fit the exploratory nature of this study as it is the most generative and the categories can form the basis for future research (Strauss & Corbin, 1990). Categories were condensed into larger concepts and themes that relate to CoPs and LPP. The interview transcripts produced a number of original categories that were then condensed into broader themes. Emergent themes from each round of interviews were used to inform the questions of subsequent interviews. An application of Strauss and Corbin's (1990) paradigm axial coding model allowed for the codes and themes to be constructed in a way to view complex relationships. This paradigm model seeks to "link subcategories to a category in a set of relationships denoting causal conditions, phenomenon, context, intervening conditions, action/interaction strategies, and consequences" (Strauss & Corbin, 1990, p. 99). This approach helped demonstrate the complex manner in which a CoP develops and how it operates in practice. Relationships between the paradigm and the conceptual framework of CoPs and LPP also emerged as a part of the data analysis.

Role of the Researcher

In fairness to the reader, it is important for me to clarify my role in conducting this research and how I came to this area of study in order to acknowledge possible biases that may exist. I am currently a school administrator at the secondary level. Though the participants in this study were assigned to a different school building to which I am assigned, they knew my role and, therefore, the administrator-teacher dynamic may have had an effect on the data collected for this study. Attempts were made to stay attuned to this possibility and recognize when and how I thought the dynamic should be taken into consideration in relation to the data collected.

While my professional role may have affected the data collection to some extent, it is through my position that I gained interest in the idea of pursuing the concepts in this study. My personal experiences with how I learn in practice and observing how teachers learn in theirs caused me to want to know more about the phenomenon. In that sense, being a daily practitioner in the school provided an advantage when collecting data through interviews. By possessing a firm understanding of the context a school building offers, I was able to recognize specific nuances that existed in the contexts of the participants. This manifested itself in the follow-up questions asked during interviews and in analyzing the data collected.

Finally, it is worth noting my own biases towards PL and PD in education. I have been both a participant and presenter in numerous PD sessions that took place in large-group settings and as one-time events. Though I have found value at times in these sessions, I have also found many to be a waste of time. I have also been skeptical about the translation to daily practice and believe I have personally learned more through the doing and the talking that occurs throughout a day. I have also never personally witnessed how this phenomenon is included as a part of how

educators professionally learn and develop or if there is much awareness of it by practicing administrators. This disconnect led me to the current study. The reader, though, is also encouraged to take my personal perspectives regarding PL and PD into account when considering the design and findings of the study.

CHAPTER 4: FINDINGS

The purpose of this chapter is to present findings from the data in relation to the research questions. The research questions are:

1. What factors (e.g. social, political, organizational) influence how novice teachers learn through a social and situated context?
2. To what extent do teachers learn through social interactions with more experienced peers?
3. How do external influences affect the learning that occurs in social and situated contexts?
4. What are the implications of learning within social and situated settings for developing novice teachers into more expert professionals?

The findings presented in this chapter were based on an analysis of data collected through interviews, observations, and documents. The findings from the data analysis will provide insights into the first three research questions. The fourth research question will be more fully explored in the next chapter.

The findings demonstrate how teachers in the first 5-10 years in the profession learn their practice through the situated contexts they inhabit. The context, representing what is known to the teacher, is shaped by many different factors including developing a concept of what constitutes a master teacher, forming mentor and peer relationships, and responding to external factors relating to school, district, or state policies. When taken together, these findings help explain how teachers' contexts are shaped and how they influence how teachers learn to perform their craft. In presenting the findings, I will first offer the stories of the two teachers who served as the primary participants in this study to provide context for the essential findings described later. Next, I will present how the data reveal how the concept of a master teacher remains fluid

and dependent on context. Then, I will show how peer and mentor relationships move a novice teacher towards the conceived ideal of what a master teacher is and how shared values and languages develop and effect that progression. Finally, I will demonstrate the direct and indirect influence external factors, including school-level administrator actions and district or state-level policies, have on the context in which individuals or a community of teachers exist.

Defining Communities

Before presenting the findings, it is important to understand how I will use the terms professional learning communities (PLC) and communities of practice (CoP), or communities of teachers. As delineated in Chapter 2, PLCs represent a formal grouping of teachers assigned by school administration, typically around a shared content or curriculum area. Conversely, CoP refers to the informal group through which participants learn as they negotiate a situated context. The three necessary components for a CoP to exist are mutual engagement, joint enterprise, and shared repertoire (Lave & Wenger, 1991; Wenger 1998). The informal nature of these CoPs also makes clearly defining them challenging, as proved to be the case in this study. When presenting the data, I will use the term CoP or community when evidence of the components of a CoP as defined by Lave and Wenger (1991) and Wenger (1998) existed.

It is additionally important to note the purpose of the research stood to determine how teachers engaged in professional learning (PL) through social interactions in situated contexts, of which CoPs can be used as conceptual framework for viewing that learning. In this chapter, reference to CoPs or communities are made solely for that purpose and they should not be construed as formal groups to which the members even knew they belonged. As the teachers in this study often existed in a PLC and in an apparent CoP simultaneously, it may appear as though the terms are used interchangeably. They are not. It should not be assumed all members of a

PLC are members of a community. However, since the experiences sometimes existed simultaneously, completely divorcing the two terms when presenting the findings proved impossible. Therefore, when the term PLC is used, it is meant to convey the teacher experiences that occurred with members present who may not also belong to the informal community. When the term CoP, or any reference to a community, is used, it is meant to share data analysis relating to members solely of that particular informal group.

Participants and Setting

This study focused primarily on two teachers at JHS in the Tacyhill School District located in the southern part of the United States. JHS represents a comprehensive high school with 1700 students in grades 9-12 within the Tacyhill School District that serves 66,000 students. The school is comprised of 37% Caucasian, 30% African American, 11% Multi-racial, 10% Asian, and 10% Hispanic students. The background and experiences, derived from my data analysis, of the two primary participants are presented in detail below.

Since this study consisted of only two primary participants, I collected data in a variety of ways and on multiple occasions. Both of the primary participants were interviewed on three separate occasions across two different school years. The span of time in interviewing participants resulted from scheduling than anything else and did not necessarily aid or detract from the findings. The first interviews took place at the end of one school year. Since I planned to observe a PLC meeting prior to the second interview, the observations and interview could not resume until the following school year began.

I observed the primary participants interacting with colleagues twice each in PLC meetings prior to the second and third rounds of interviews. As noted in Chapter 3, studying informal learning through social interactions in a CoP presents challenges, especially through

observing the learning (Wenger, 1998; Eraut, 2004). Therefore, observing the PLC meetings offered the best opportunity to see the teachers collaborate in person. I was also able to use the data analysis from the first interviews to look for specific interactions between the two primary participants and the colleagues they cited as influential to their learning.

As appropriate I also collected documents to aid in the analysis. Additionally, three teachers who served in a veteran or mentor roles for the two primary participants were also interviewed. The questions posed to the veteran teachers were developed after data analysis of the first two interviews with the primary participants and the PLC observations in an effort to ensure their participation added the appropriate depth and complexity to the study. The roles and relationships of each person cited in this study are represented in Table 1 below.

Table 1: *Roles of Persons Cited in Study*

Name	Title	Relation to Study
Olivia	English Teacher at JHS	Primary participant
Katherine	Math Teacher at JHS	Primary participant
Vicky	English Teacher at JHS	Role model for Olivia in the area of curriculum/participant in study
Lucy	Special Education Teacher at JHS	Olivia's Co-Teacher
Irene	Special Education Teacher at JHS	Role model for Olivia in the area of student relationships
Joan	Math Teacher at JHS	Role model for Katherine and current peer/participant in study
Patty	Former Math Teacher at JHS	Mentor teacher to Katherine/participant in study
Mr. Thomas	Former Principal of JHS	School Administrator
Mr. John	Former Principal of JHS	School Administrator

OLIVIA'S STORY

"I knew teaching is what I wanted to do for a very long time. It's pretty much the only thing I pursued." - Olivia

Olivia currently teaches English 3 at JHS. She has taught for eight years in two different school districts and at three different schools, with the last two in the Tacyhill School District. She has been in her current role at JHS for three years. The culmination of her experiences across three different schools and two different districts have shaped her view of teaching, which

continues to evolve. Olivia's highly reflective, growth-minded, and competitive nature has enabled her to make sense of things that happen as a matter of course in a classroom during a school day. As a teacher, her experiences and interactions with colleagues have led her to have a deep respect for curriculum and content knowledge though she has increasingly gained an appreciation for forming strong relationships with students. External factors and pressures have also influenced how she interacted with her practice and ultimately developed her outlook. This includes state level pressure for accreditation and formal and informal interactions with school administrators. Combined, these formative experiences have shaped the context she currently inhabits as a teacher and what she knows to be true about the practice of teaching.

Lessons Learned from Each Stop

Reliance on Colleagues

Olivia's first two years teaching English took place at KHS, a high school located in a district in the same region to the district where she now teaches. The experience at KHS proved challenging but formative. What she learned there remains evident in her practice today. Overall, she described the school district as a "free for all" though that sentiment more described the administrative approach from district and school levels. Olivia cited the structure and support offered by the Tacyhill School District as one of the main reasons she sought to leave KHS. Despite her first school lacking structure and support, Olivia learned to lean on her colleagues as a source for her own learning. As she described:

I leaned very heavily on my [professional learning] group, to be honest. They kind of carried me through...that's something that I really took away from my first school. They had a super tight knit English community. So, from ninth through 12th all the English teachers work together, there's a lot of vertical planning, which was very helpful. Because

going into it I had no idea what I was doing. So, they helped me out a lot. I'd say they brought me through my first two years.

Effect of External Pressures

The reliance on colleagues as the main source of her professional learning continues to ring true in her current role. When she left KHS, she transferred to TMS, a middle school in the Tacyhill School District. Olivia recognized early in her pursuit of teaching that she preferred to work with students at the high school level and, as such, found the experience of teaching students at the middle school level challenging. Despite this, the three years Olivia spent at TMS left an indelible mark on her outlook on teaching, and she credited them as the most formative of her career. This was especially evident with respect to her valuing content and curriculum knowledge as characteristics of a master teacher. TMS faced constant state accreditation issues and pressure from the state's department of education. This intensive scrutiny led to a heavy focus on alignment between the curriculum, the lesson plan, and the delivery of instruction in the classroom. When Olivia was asked how her experience at this school affected her view of a master teacher, she specifically cited alignment between teaching and the curriculum as the main focus of the school and how that influenced her own professional learning. In reflecting on the overall experience at TMS Olivia shared:

It was intense. I will say, though, I was only there for three years, but those were the most intense years of my teaching career. That's where I learned and grew the most by far. And it's because the expectations were so high. With our learning plans, they were so crazy. Our learning plans were like four pages long. That's what they expected. Second by second, what are you doing? What are the kids doing? And we had to turn in our lesson plans 48 hours in advance and they reviewed them. It was insane. We had to

post our lesson plans outside of our doors every day because we had so many people from the state coming through.

Due to the accreditation issues, the pressure on test performance was higher at TMS than it is at Oliva's current school, JHS. At the high school level, students take the state standardized test at the end of English 3, the content area she taught during the duration of this study, so the pressure on test performance did not completely evaporate for Olivia at JHS. The influence of the standardized test on the context Olivia and her colleagues operated within will be explored more thoroughly later in these findings.

Freedom to Explore

Admittedly, the lessened pressure to achieve minimum accreditation standards at JHS led Olivia to relax on some of the alignment and lesson planning expectations she faced at TMS. However, instead of this representing a regression in her practice, the environment at JHS has allowed her opportunities to pursue and refine her ability to form strong relationships with students. As Olivia stated of her time at TMS, "I spent a lot more time planning the perfect lesson than actually caring about anything else. So, for me, as long as I looked good on paper, I felt like I was successful." At the time, the pressure on performance at TMS represented what was known for Olivia. Since she has not had to spend that amount of time on planning lessons tightly aligned to the curriculum at JHS, Olivia has been able to devote more time to interacting with students and other teachers in a way that allows her to focus on forming relationships. Olivia herself felt as though she went backwards as a teacher when she first moved to JHS when the context of her new reality has allowed her to more fully explore additional aspects of becoming a master teacher.

Olivia's reflective nature and interactions with colleagues have influenced how she approaches forming stronger relationships with students. She also recognized her perceived shortcomings in this area and articulated which populations of students she knows best and which ones she needs to learn to better reach:

The [students] that gravitate more towards me, I gravitate more towards them. The kids that are able to joke around with you on the first day of school and then you have an instant inside joke with them. I tend to have a difficult time with the really quiet students, the ones that don't say a peep during class. I have a hard time going out of my way to try to get them to talk because I don't want to make them uncomfortable. I don't know what to talk to them about. So that's my biggest unreached population... I'll just sit there during class sometimes and I'll think, 'Oh my gosh, he hasn't spoken in 90 minutes.' I wonder what's... I have no idea what's going on in his head. If he's understanding anything, if he's hearing any, I have no idea. I do think about that often.

The self-reflection Olivia did throughout the day has allowed her to make sense of her surroundings and, therefore, shaped her current context. It has allowed her to identify her own strengths and the areas where she desires to show growth. Each destination along her teaching journey offered unique, broader contexts that she has used to create the individual context through which she interacts with peers and ultimately views teaching and learning

Reliance on Teaching Communities for Professional Learning

The reliance on colleagues as a source of her own professional learning has continued in Olivia's current role at JHS and it remains the primary way she has explored various aspects of teaching. As her experiences have caused her to highly value content and curricular knowledge as a necessary characteristic of a master teacher while also recognizing the need to form strong

relationships with students, Olivia's professional connections mirror those pursuits. To further her own learning in those areas, Olivia has sought out two separate communities of teachers, one centered around her content area and the other centered around who students are.

Content Community

One community, comprised of teachers in her school-assigned PLC, served as the source of her continued learning with content, curriculum, and assessment. This community was comprised of Olivia, two other English teachers, and Lucy, Olivia's co-teacher. Olivia noted she has relied most on this group for support with her teaching practices. The meetings with these teachers exist almost entirely in a formal setting and the relationships with these teachers do not often extend into informal, social settings. Still, it was clear through interviews and observations, the community bonded around common values, shared language, and expectations. However, within that context the teachers did not all interact as closely with one another. For example, Lucy, while active within the PLC meetings, served more as a bridge for Olivia and the other community that will be described in the next subsection. Additionally, one other English teacher in particular, Vicky, has been the "go-to" person for Olivia at JHS whereas, based on the data collected, Lucy and the other English teacher in the PLC played a more peripheral role in Olivia's content community. A mutual respect was evident in that both Vicky and Olivia valued content and curriculum knowledge along with a growth-minded approach towards continued learning. Specifically, Vicky cited content knowledge, instructional planning, willingness to improve, and ability to form relationships with students as Olivia's strengths. Olivia consistently noted she looked to Vicky as source of knowledge on content, curriculum, and assessment, sharing she "knows all the changes before we all do somehow. She's on top of it. I think she's married to curriculum and studies it and enjoys it. So, she notices the littlest thing that changes."

Relationship Community

For student relationships, Olivia has relied on a separate community of teachers that informally meet in social and professional settings. Olivia has worked with an assigned co-teacher, Lucy, while at JHS. Lucy served as the bridge to the community of teachers Olivia noted as impactful in her better understanding students. While her interactions with the community she leans on for content and curriculum took place in a formal setting, defined by norms and expectations, the interactions with this other community remain strictly informal and the topics of discussion drift between student relationships and personal, social interactions. Olivia relayed she frequently reflects on specific situations that occurred in the classroom with Lucy after class or in the hallways. As an example of a common daily interaction with her co-teacher, Olivia shared:

Because we're together so much and we even get to chat in between classes while we're out in the hallway, a lot of times it'll be like an immediate thing. Right after [the class] left this morning, which kids were noticeably struggling or finishing way slower than the other kids?

These types of interactions extended with other members of her relationship community. Just as with her content community, Olivia frequently cited one teacher, Irene, in her relationship community as a role model. Specifically, Olivia remarked:

[Irene] is so great with relationships. Every single student that knows her feels like they know her. She doesn't have surface level relationships with the any of the kids. And I think that's incredible...she knows their home lives. What they had for dinner last night. She's great at that. I've never seen her actually in a classroom teaching, so I don't know what the curriculum strength is... [it's] definitely humbling when she tells me things

about my own kids and I'm sure I spend more time with them because I have them 90 minutes every other day and she sees them once every two weeks and knows way more than I do.

Though she has more heavily relied on her content community, Olivia's interactions with the teachers in her relationship community have affected how she got to know students and managed classroom behaviors. Both groups have served as sources of professional learning for Olivia and shaped the context she works within. These influences will be further demonstrated later in this chapter.

External Influences on Practice and Learning

Olivia's practice has also been affected, intentionally and unintentionally, by the actions of, and interactions with, school administrators. However, the effect has been less significant than the effect resulting from interactions with colleagues. Scheduling stood as the most direct way administration influenced the context within which Olivia operated. Providing requested support was cited as a strength of the JHS school administration though the effect on practice remains inconclusive from the data collected in this study. Unintentionally, though perhaps sometimes intentional, interactions with school administrators affected Olivia's practice and context in terms of the general sense of motivation she had towards teaching at the school.

Olivia expressed she felt the administration at JHS to be very supportive of her efforts and those of her colleagues. This was especially evident in how the school deliberately provided common planning time for PLCs to meet during the school day which has guided the relationships she has been able to form with her content community. Unintentionally, but through scheduling, the school administration also provided Olivia with the bridge to her relationship community by assigning Lucy as her co-teacher. In other ways, the previous

principal and current principal have provided professional leave outside of the classroom for English teachers to collaborate with grade-level teachers and for vertical planning across grade levels. For example, Olivia shared:

One thing that's been really nice is [the current principal] has allowed us to do a lot of out of building professional days to where we are just collaborating with our inclusion teams, and we're hoping to do a vertical collaboration too, with [English 1, English 2, and English 3 co-teaching teams]. We actually just had a conversation with the [English 2] team this morning that approached us about that, which is really cool. That's one of my huge focuses this year, getting better at vertical alignment, because I feel like that's going to make a huge difference for us once the kids get to [English 3].

The personal interactions Olivia has had with school administrators had less of an influence on specific aspects of her teaching than they had in how she feels about teaching at JHS. When asked about the impact of administrators on her practice, Olivia shared she does constantly think what administrators would think if they walked into her classroom at a given moment. However, Olivia did not cite specific administrative feedback as having a significant effect on her practice and her interactions with administrators has varied. Instead of discussing the impact administrators directly had on her instructional practice she shared she looked to them more for support and motivation or how they affected the overall school climate. Conversely, Olivia expressed that when an administrator seems to catch everything she is not doing correctly, especially small or inconsequential actions rather than recognizing the positives, it can have a negative impact on her motivation.

One administrator stood out as having a significant overall effect on Olivia's career. Olivia stated the main reason she transferred to JHS was based on a desire to continue to work

for the same principal, Mr. Thomas, for whom she worked at TMS. On his influence, Olivia explained:

If there is one person that has taught me any of my go-to tools or strategies or anything, character, how you carry yourself, it's definitely him, like hands down. I can't think of another singular person that has taught me as much as he did.

She highlighted the specific feedback he provided as influential on her practice, though the broader impact he had in motivating staff members at the school remained what Olivia described most. She noted Mr. Thomas took time to personally know each teacher at the school and that has inspired her efforts to get to better form relationships with students so they know her the way she felt Mr. Thomas knew her. In explaining the approach Mr. Thomas took with the staff, Olivia said:

I always wanted to do well for him. Everyone did. He held us to such a high standard, but it was a different type of pressure. It wasn't like a negative, like working over your shoulder. It was a very like, 'I will encourage you and cheer for you until you get where you need to be and I will tell you specifically how you can get there.' In a really positive way. And again, a lot of people don't have that.

Mr. Thomas has since left the school and Olivia shared she has perceived the general environment at JHS to be different, though she consistently expressed how the current principal has also been supportive, especially in how quickly she responds to teacher needs.

Olivia's journey through her teaching career exposed her to differing situations and experiences that have cumulatively formed her view on teaching. While her continued professional learning remained largely influenced by the colleagues she directly interacted with in informal learning communities, she makes sense of the practice of teaching by reconciling the

sum of her experiences in relation to her current context. Though her personal story is not translatable to any other teacher, aspects from her path can shed light on how teachers develop and learn. Olivia's background and current outlook towards teaching are presented to provide context to the generalized findings offered later.

KATHERINE'S STORY

"I would say all students are capable of learning by supporting them with what they need, holding them to high expectations, and showing them that you care." – Katherine

Katherine also teaches at JHS and has spent her entire six-year teaching career at the school. A math teacher, Katherine is organized, motivated to achieve, and conscientious. Additionally, she is self-aware and confident in asking about things when she does not know the answer. Katherine has primarily taught Math 1 while at JHS though she also taught an advanced placement (AP) course this past school year. Like Olivia, Katherine has relied heavily on colleagues to learn about her practice. Unlike Olivia, Katherine had a more clearly defined and recognizable mentor-to-mentee relationships early in her career. She maintains those relationships today, especially with respect to one colleague where the relationship has evolved into a veteran-to-veteran bond and it continues to be a primary source of her professional learning. The main drivers behind forming relationships with the colleagues that have most influenced her learning center around the shared values of setting high expectations for students, possessing a strong work ethic, and bringing an organized, professional approach to teaching. Together, these factors have influenced the situated context she currently operates within.

Awareness of Others

Katherine possesses a keen awareness of others around her and uses that awareness to seek colleagues she believes share a similar commitment to teaching. She is quickly able to

identify what other teachers bring or do not bring to the shared conversation. Through this identification, Katherine described how other teachers have influenced her professional learning. Though the influence on years of experience in forming the concept of a master teacher will be presented later in the findings, Katherine's comments in this area illustrated her ability to categorize teachers on a trajectory towards mastery. She said, "What I think separates some of the master teachers is experience but also continued growth and improvement." By making this distinction and others like it, Katherine self-selected the peers with shared values who would most influence her professional learning.

Impact of Mentors and the Evolution of Katherine's Learning Communities

Katherine's current context can be traced to some early interactions she had with mentor and veteran teachers that led to the identification of at least two learning communities she has been involved with during her teaching career. Like Olivia, the learning communities Katherine has been a part of have formed largely around a shared curricular area. However, the data reveal not each of the teachers in her curricular area belong to her learning community, even if they do belong to the PLC. In this way, the data show holding the same values to be a common determining factor in how she formed bonds with an informal but important learning community. As these relationships are informal, it remains impossible to draw clear boundaries, identify all participants, and determine how the communities formed or disbanded. Still, two fairly distinct communities over the course of Katherine's career can be seen through an analysis of the data. I will present each of these communities, the formative community and current community separately. The shared values and languages the communities formed and used will be explored more later in the findings.

Formative Community

When Katherine first joined the teaching profession, other teachers in her curricular area served as her main source of professional learning; so much so that the data reveal evidence of a community. This early formative community consisted of Katherine, her assigned mentor, Patty, and another veteran teacher, Joan. The PLC included additional teachers, but the formative community of practice included these three. In this community, Katherine regarded Joan and Patty as veteran teachers with whom she shared common values and looked to for guidance. How this mentor-mentee dynamic specifically influenced the learning of a novice teacher will be explored more fully in the findings below. Katherine noted Patty taught her about the importance of forming strong relationships with students while Joan tended to be a little tougher in her approach. Both teachers, though, held high expectations for students. In referencing this, Katherine shared of Patty and Joan's influence:

I think it would be easy for me to baby students and be like, 'Oh, it's okay. You can't really do this. This is hard.' But they're like, 'No, you need to hold high expectations, and they'll meet them.' And then I realized, "Wow, I can expect high things in my students, and they will meet whatever I set." As long as you give them the help.

Current Community

Patty has since left JHS and, while the formative community of practice may still exist to some degree, it no longer directly applies to Katherine's daily professional learning. Currently, Katherine continues to seek Joan, who has 15 years of teaching experience, as a source of professional learning though the relationship has evolved from a mentor-mentee dynamic into one where both teachers respect one another as peers. Joan noted how Katherine took a "sit back and see how things go" approach early on and asked a lot of questions whereas she now is a

confident teacher contributing to the learning they do as a community. Additionally, Katherine influenced Joan's learning by encouraging her to sponsor a club in an effort to grow her understanding of students around the school. Katherine noted she also occasionally seeks out another teacher in the PLC who taught the same content. However, the data did not show strong connections with the other math teachers or the special education co-teachers belonging to the PLC. Katherine's current community consists primarily of her and Joan with perhaps a third teacher on the periphery of that group.

Like in Olivia's case, Katherine shares a bond with Joan around the content and curriculum. However, unlike how Olivia interacted with her content community solely in a professional setting, Katherine and Joan also share similar personal beliefs and values which leads to informal interactions outside of the classroom. According to Joan, these informal interactions occur four to five times a day and she rated them as equally valuable as the formal interactions that take place in the formal PLC setting. Indicative of the impact these informal interactions have on professional learning, Joan shared:

“There's always something that comes up related to teaching, or math, or whatever. So those are our informal interactions. Just more of, "Hey, I was looking at this and I didn't like this." Or sometimes she'll email me, and then I'll go down there and see her and then we'll talk about instead of responding in email.”

External Influences on Teaching

Katherine's current context, while primarily affected by the colleagues she interacts with, has also been shaped by external influences. As with the case of Olivia, Katherine looked to school administration mostly for support rather than a primary source of professional learning. The data reveal the most influential external influence on how Katherine interacts and learns

from peers to be the standardized test her students take at the end of the year. This influence will be further explored later in the findings.

Katherine noted the reputation of a supportive administration influenced her decision to interview and accept a position at JHS. Her experience at JHS has verified the reputation of support. Katherine expressed she feels supported on disciplinary issues as they are handled quickly by the school. Katherine also shared her immediate supervising administrator expresses confidence and trust in her and the other teachers on her PLC, especially given that students have out-performed other schools in the district on the standardized test.

While interviews did not suggest formal PD offered by the school, district, or through a college or university had a significant influence on her professional learning, Katherine did state they were of some value. She specifically cited PD days offered by the school, trainings for teaching her AP course, and a college course she took with Joan. Taking the course together also fostered the relationship between Joan and Katherine.

Olivia's context was shaped by her experience at several different schools but was absent a clearly identifiable mentor teacher. Conversely, Katherine has only taught at JHS during her career but has been significantly influenced by two veteran or mentor teachers. By both teaching at JHS, Olivia and Katherine share some similarities between the two distinct contexts they inhabit. However, despite teaching in close proximity to one another in the same school building, Olivia and Katherine do not seemingly regularly interact and have both forged separate communities of fellow teachers to learn their practice. These two stories were offered to provide context to the findings from the data analysis that will follow.

As stated earlier, the stories of the two primary participants are offered to provide context to illustrate how teachers develop an understanding of the concept of what a teacher should

become. In the next sections, I will demonstrate how the data show the process by which the primary participants and other participants interviewed in this multiple case study defined the concept of a master teacher. Next, I will present what the data analysis revealed as the process by which the participants engaged in professional learning by interacting with one another based on the concept of what they believed a master teacher to be. Lastly, I will explore how external influences, such as administrative interactions or policy initiatives, affected the learning.

THE CONCEPT OF A MASTER TEACHER

When novice teachers begin to learn the practice of teaching, it stands to reason they are seeking to achieve an ideal end or vision of whom they would like to become professionally. I used the term “master teacher” when inquiring about this ideal. Therefore, to learn more about how teachers progress from novice to masters required first determining, from the perspective of the participants, what the term master teacher meant. The intent was not to develop an agreed-upon definition of a master teacher as might be found in the literature as that likely remains elusive anyway. Rather, the analysis of the data demonstrated the concept of a master teacher differed depending on who was asked and the concept of what that means changed across time and space. What is known to the teacher, based on their own personal contexts and experiences, served as the driving force behind how a teacher conjured the idea of what constitutes a mastery of the practice. As a result, the teachers’ own pursuit of becoming a master teacher and the professional growth they needed to attain relied heavily on the individual contexts they inhabited. While external factors also played a role in shaping their views, teachers looked most to those with whom they interacted daily to learn.

Through interviews, teachers described characteristics they believed a master teacher possesses. However, the concept was not necessarily something teachers consciously thought

about, but rather something teachers just knew from their individual experiences and situated contexts. Since what is known changes over time for a teacher, the concept of a master teacher also remains fluid. While the concept of a master teacher will be personal to an individual teacher, several common themes from interviews with teachers in this study emerged, even as the teachers occupied separate contexts. These included an emphasis on possessing a firm understanding of course content and curriculum, attaining skills through years of experience, developing strong relationships with students, seeking to constantly improve, and understanding how to effectively deliver instruction. These themes represented explicitly mentioned aspects of a master teacher. Implicitly, teachers in this study also revealed additional aspects of a master teacher to include practicing self-reflection and an awareness of others around them. In this way, they navigated the known reality to them which ultimately translated into the daily practice in the classroom.

Stated Characteristics of a Master Teacher

When specifically asked to list characteristics of a master teacher, the data show a range of answers, though commonalities certainly existed. The themes offered below do not exist in isolation from one another and the interplay between them contributed to the perceived makeup of a master teacher. Though the different themes are presented individually, I will also share how the teachers emphasized certain characteristics in relation to others or how and why views shifted over time.

Emphasis on Content and Curriculum Knowledge

A teacher's strong understanding of the content and curriculum proved the most common characteristic of a master teacher cited in interviews, especially when asked to describe why another teacher is considered a master teacher or not. Later in the findings I will also describe

how a connection to the content and curriculum served as a binding influence and shared language for defining specific, smaller communities of teachers. While participants consistently mentioned content and curriculum together, this should not be construed to mean the teachers viewed them as the same. In fact, I will also show the degree to which content and curriculum separately influenced teachers' perceptions of a master teacher and how they formed learning communities. Though explored more later, I mention this here to illustrate the value placed on content and curriculum knowledge as a defining characteristic of a master teacher by study participants. This value was demonstrated by the frequency by which this characteristic was most consistently listed first when participants were asked what constitutes a master teacher.

While the study participants highly valued content knowledge, their assessment of their own abilities in this area varied across the different contexts they occupied. It was herein the data reveal the separation between content and curriculum and the effect each had on the concept of a master teacher. For example, when teachers in this study taught a different course in the same content area (i.e. math) for the first time, they specifically noted the challenges relating to not possessing a firm grasp of that course's curriculum and how that level of knowledge influenced whether they self-assessed their mastery as a teacher. As a first-year Math 1 teacher, Katherine explained that she feared not knowing an answer to a student's question. Later, in her first year teaching an AP course, she experienced similar feelings, though she no longer feared not knowing the answer, in part due to her accumulation of skills in other areas listed below. Still, the lack of content and curriculum knowledge in the new area proved real to Katherine and reminded her of her early days in teaching. She shared:

For example, I wouldn't say I have mastered [the AP math course] content. I teach [an AP math course]. I've not mastered it because I don't know it to such a deep level that I can

explain it in multiple ways from multiple directions or take where a student is, know where they're at and then get them to where I need them to be, whereas with math, because I majored in math, I can explain, especially in Math 1, any topic in any way, or understand where the student's going wrong.

Joan, a mentor to Katherine and a fellow Math 1 teacher, also cited her lack of a firm grasp of the curriculum of a new course she recently taught for the first time but noted her overall experience has helped her manage the curriculum knowledge gap. In this way, both teachers considered themselves masters of teaching the common Math 1 course they have taught for years but not of the courses new to them. The new courses represented a separate context for each of the teachers.

In terms of the separate communities to which Katherine and Olivia belonged, the emphasis on content and curriculum knowledge as a primary characteristic of a master teacher proved consistent. Though Olivia noted how much she valued developing strong relationships with students, when asked whether she relied more, for her practice, on her content community or her relationships community, she stated, "I rely more on the PLC group. I know that both pieces are really important, but I think I focus more on the curriculum." The discussions from observations of her PLC also contained a primary focus on content and curriculum, particularly with a focus towards preparing students for the standardized test.

Katherine's community, though not comprising of all of the teachers assigned to the PLC, valued content and curriculum knowledge and the system the teachers had developed over time. In fact, the specific community of teachers Katherine has aligned with has changed over time as teachers enter or leave the school. One of the primary binding influences, along with valuing hard work, for Katherine over time has been the content and curriculum knowledge of the other

teachers. Each of the teachers Katherine has looked to for learning consistently stressed the importance of content knowledge as an essential characteristic of a master teacher. When discussing the importance of this aspect of teaching, Katherine succinctly stated, “if you don't know the content, then it doesn't matter how good of a teacher you are, you're not going to get them to learn.”

Time Spent in the Field

As Katherine and Joan discussed their challenges with fully grasping the curriculum in the first year of teaching a new course, years of experience in teaching represented an oft-mentioned characteristic of a master teacher by the teachers in interviews. Even when not directly mentioned in response to being asked about characteristics of master teachers, the teachers consistently noted how long a teacher whom they considered a master had taught in general or in a specific content area. The analysis of the data suggested the number of years taught implied a master teacher had experienced a variety of situations a novice could not have and the experiences helped the teachers better understand the context they inhabited. Conversely, though, the data did not suggest years of experience alone led to a teacher mastering the craft.

The years of experience were valued as they indicated a teacher had probably seen and handled a variety of situations a first-year teacher would have only theoretically interacted with. As Joan illustrated:

I'll have a newer teacher stop by and say, "Hey, this happened at class. How would you handle it?" More than likely I've experienced in 15 years. So, I know how to handle it and how maybe not to handle it. Because I probably handled it wrong the first time.

In fact, when reflecting on their own experiences as novice teachers, these teachers frequently noted how little they knew then, especially in the area of effectively handling student behaviors through classroom management. As Katherine's mentor teacher, Patty recalled:

[Katherine] struggled with classroom management, she had some tough assignments...And Katherine is one of those people that she wants to be successful and she didn't feel it right away. And so that was challenging, that resilience and grit piece. But she had it, she had the skills to get through it. It was just about getting through it and then figuring out like, okay, what didn't work? What am I willing to change? And try.

When asked to describe why particular teachers are considered masters, participants casually offered the number of years of experience as a characteristic. In discussing why years of experience represent a characteristic of a master teacher, data show participants valued a certain level of experience as necessary while also recognizing experience alone cannot equate to mastery. The data analysis indicated teachers tied developing effective classroom management skills to the years of experience when describing a teacher considered to be a master.

Additionally, when pressed further to elaborate, the teachers often clarified the years of experience did not automatically indicate increased competency of a teacher. In fact, Katherine even suggested teachers may regress or become disgruntled after a certain number of years if they become complacent, another component of the concept of a master teacher which will be addressed later in this section.

Leveraging Relationships with Students

While not often mentioned first by the teachers interviewed, the data clearly show that they placed a high value on a master teacher's ability to connect with students. Teachers mentioned this most often in relation to classroom management as an essential characteristic of a

master teacher. Just as developing a deep knowledge of content and curriculum requires experience, learning how to develop relationships with students that will motivate them to reach their potential also took time for the participants. Whereas years of experience can occur somewhat passively for a teacher and not alone equate to a progression towards mastery, the teachers in this study consciously took steps to improve in building relationships with students and looked to colleagues who served as role models for guidance. In contrast to the learning teachers sought for content or curriculum knowledge often took place in formal settings (i.e. PLC meetings), discussions on how to appropriately manage student behaviors tended to occur through casual, informal interactions as Katherine shared, "I throw situations at Joan all the time, like "What would you do here?", "How would you have handled this?" And I usually think what she told me is usually right."

A connectedness existed between years of experience and learning how to leverage student relationships in mastering the art of teaching. In citing years of experience as an important characteristic of a master teacher, the participants indicated learning certain things about teaching only happened through experience and by interacting with fellow colleagues. Katherine specifically noted Patty and Joan's influence on her ability to show students she cares for them, even while citing a variance in approach:

Patty was very personable with the students and showed them how much she loved them and cared, and Joan just a little bit tougher on them, but also that's her way of showing that she cares for them. So, I like to think I've taken a little bit of each. But anyway, to summarize, they're very much who, the two that really shaped how I teach.

Both Katherine and Olivia shared they consistently discuss specific students and behaviors with colleagues. In doing so, they relied on the experience of other teachers while also growing their own experience.

Each of the teachers stressed student relationships as highly important to becoming an effective or master teacher. It was also demonstrated as a skill that required experience and effort to master. To do so, the teachers each took intentional steps to improve in this area, looked to colleagues and role models as a source of learning, and tended to learn in this area in informal and casual manners.

Intentional Steps to Improve

When learning how to effectively build student relationships, Katherine, Olivia, and the other teachers interviewed were each intentional in how they learned to improve. While they certainly relied on colleagues within the sphere of the individual communities they had come to belong, this represented an area they also looked outside of those boundaries. Involvement in extracurricular activities became a frequent connection among the participants as a vehicle to getting to better know students outside of their classroom in order to better connect with the students in their classrooms.

At some point, each of the teachers interviewed had served as a faculty sponsor of a student club or student government organization. Several were also encouraged to do so by their role models or mentors. Vicky intentionally has encouraged Olivia and other teachers new to JHS, or to teaching, to become involved in sponsoring extracurricular clubs or activities as a way to help them feel more included in the school community. As her mentor teacher, Patty also encouraged Katherine to get involved in a broader part of the school to the point it has shaped her concept of a master teachers. In reflecting on the concept, Katherine shared:

[Being] involved in their students' lives outside of the classroom. Like, they coach or do leadership workshop or sponsor a class. I think that would be part of being a master teacher, just, the well-roundedness of being involved with your student. I saw a huge difference in my relationships with my students when I became a [club] sponsor.

While influenced by Patty to be involved in extracurricular activities, Katherine also later implored Joan, a veteran teacher she looked to as a role model, to do the same. In this way, Katherine demonstrated she took what she learned from a previous mentor and then sought to push the boundaries of another role model's own learning. It also represents the shift in relationship Joan and Katherine have shared from an apprentice-mentor type to a veteran-to-veteran one.

Looking to Role Models

Another intentional step teachers took to enhance their learning centered around building relationships and managing student behaviors was in how they relied on mentors, role models, and colleagues for assistance. It proved common for the teachers to ask colleagues about particular students or situations in an effort to learn. As noted earlier, this also demonstrated how these teachers valued the experience level of veteran teachers when they sought to grow professionally. While sponsoring extracurricular activities caused the teachers to venture outside of the small communities they had developed, the reliance on colleagues seemed to occur almost exclusively within those boundaries.

As previously explained in this chapter, Olivia belonged to two different groups of teachers that can at least be loosely defined as communities from which she sought to learn professionally. Olivia cited the content community as the most influential on her practice yet she did not often seek the other teachers there for learning about how to leverage student

relationships. Instead, she looked to her relationship community, which included her co-teacher, Lucy, to grow in this area.

Olivia specifically discussed two teachers having an impact on her ability to form strong relationships with teachers. She most interacted with her co-teacher in reflecting on situations in class that both teachers witnessed and experienced. Another teacher, Irene, though, stood out to Olivia for her ability to connect with students, sharing, “she is so great with relationships. Every single student that knows her feels like they know her know her. She doesn't have surface level relationships with the any of the kids. And I think that's incredible.” It became evident Olivia learned from Irene through marveling at what she knows about students. She even intentionally sought knowledge of students from Irene and other teachers in that relationships community when heading into parent meetings in order to be more prepared. For example, Olivia shared:

I rely on them for intel. When I'm getting ready to meet a parent, they typically know everything about those situations already. Yeah, they give me a lot of information as far as what to expect from mom and even in the beginning of the year, they'll take a look at my rosters and say, "Oh, you really need to know this about this kid. It's really important." It's not negative things. It's more of things that will help me manage the kids better. I think they're pretty good at management, behaviors and all that stuff.

Additionally, as noted earlier in this chapter, Olivia looked to Mr. Roberts as a role model and desired to form relationships with her students the same way he did with the faculty.

Similarly, Katherine looked to her role models and assigned mentors within her content community for advice on how to handle situations in the classroom and to develop relationships with students. Katherine admired Patty for her ability to connect with students. Just as Olivia had done with Irene Katherine valued Patty's expertise in this area and sought her out to learn

more about specific situations. Katherine's relationship with Patty began more formally as an assigned mentor-mentee relationship while Olivia's relationship community formed more organically based on social interactions. Still, both teachers deliberately sought to learn from colleagues with their communities they believed more expert in this area as a source of professional learning.

The Learning Setting

Whereas developing a deeper understanding of content and curriculum occurred for the teachers in more formal settings such as PLC meetings, the learning regarding forming student relationships tended to take place more informally. Based on an analysis of the data from observations and interviews, the formal PLC meetings focused almost exclusively on analyzing student data, planning for instruction, or completing administrative tasks. Rarely did the discussions include personal information about a student or forming relationships with students in general. In interviews, teachers confirmed the PLC meetings tended to have a business-like approach.

Though discussing student relationships proved largely absent from formal PLC meetings, it has been noted the teachers took intentional steps to learn more about how to connect with students. Data from interviews reveal the setting where learning about how to better form relationships with students took place in informal, casual settings like the hallway or teacher work rooms. For instance, Olivia shared:

We even get to chat in between classes while we're out in the hallway, a lot of times it'll be like an immediate thing. Right after [the first class period] left this morning, which kids were noticeably struggling or finishing way slower than the other kids?

The teachers consistently sought other members of their learning communities when having these conversations about students.

Resisting Complacency

While the participants believed experience to be a crucial characteristic of a master teacher, they also elaborated that master teachers must also resist complacency as they gain years of experience in the profession. In other words, experience only helps if the teachers used the lessons learned from the process and remained focused on constant improvement. When discussing the characteristics of a master teacher, the data clearly show the participants believed that in order to resist complacency a master teacher should be growth-minded and open to new ideas. As mentioned in Katherine's story, this is where a distinction occurred between years of experience and characterizing someone as a "master teacher." Similarly, Olivia offered:

I think a master teacher changes with the times and the expectations. I feel like in education, so much changes from year to year and somebody who's able to be on top of it even with all the changing and moving parts and can still be really effective with how they deliver instruction even though things in curriculum have been tweaked every year...I think that's really important. Someone who could evolve with the times.

As the teachers in this study explained, the experience only mattered if the teacher resisted complacency and sought to continually learn. This also further demonstrates how the concept of a master teacher remains fluid. Teachers could be considered masters at one point in their careers but later not if they become complacent. Teachers in this study spoke of this both in general terms and when specifically describing others. Katherine noticed this early in her teacher preparatory experience:

They're supposed to be great teachers that I shadowed or student taught with, and yet they were just stuck in their ways doing the same thing they'd done for 10 years. And when something new came out, like Google Classroom for example, they would be negative about it and disgruntled.

Knowing How to Teach

Perhaps ironically, the data demonstrate references to pedagogy as secondary to the previously presented characteristics (i.e. content knowledge, building relationships with students) when discussing the concept of a master teacher. This should not be construed that knowing how to teach was not considered an essential aspect of a master teacher for the study participants. Moreover, the data demonstrate these teachers believed the art of teaching to be highly important but that it worked in conjunction with developing a deep understanding of the content and curriculum and building strong relationships with students. Patty illustrated this when discussing what she learned from Joan early in her career:

I think that Joan has a vast content knowledge. She knew the standards, she knew the pacing. So experienced with that. She also was an expert in small group and differentiating. Being able to look at a set of problems and say like, "This is how we should tier these problems for our students." In math especially we've got students of all levels, no matter what the math course is called, even though it's [Math 1] and you would assume that's a low level, you have kids all across the board. So, knowing how to differentiate that. But I would also say that there's some inherent personality social things that require you to connect with students and build relationships with them that make you a successful teacher. Some of that comes through just being concerned and caring, having a big heart for kids and also for your colleagues.

Teachers mentioned instructional strategies and how they gleaned new ideas from colleagues to the degree they clearly valued knowing how to teach as an important quality of a master teacher. Katherine illustrated the impact of Joan and Patty on her teaching:

They really took me under their wings. I was on their team and so that was part of it. But they taught me, gave me the whole system that they use and their philosophy of teaching. And I would say they certainly shaped me hugely in the way I teach now.

Katherine further shared how Patty and Joan specifically shaped her instructional practice away from simply trying to engage student in something “fun, new, or flashy” but also to look for evidence of learning, “It has to be research-based, data-driven, purposeful stuff...If you're not systematic in teaching steps, steps, steps, then they're not going to remember it, so you have to have structure.”

Olivia consistently cited how she looked to Vicky, and another teacher in the PLC, as a source of learning on curriculum and assessment. On that impact, Olivia explained:

Honestly, I think they've taught me the most about...the assessment piece of it. I think that teaches me what is the end goal for my kids? And that really helps me figure out my path, like how I'm going to get there. So, I'll see a quiz that I made for a short story versus a quiz that [Vicky] made and it's a lot more challenging.

Olivia's knowledge in the area of assessment has been so influenced by this relationship that she considers the common assessments created by the English 3 PLC to be better predictors of student success on the standardized tests than those created by specialists at the central office of the school district. Olivia recognized the importance of creating an assessment aligned to the standardized test as the data from the assessment would be used to drive what is taught in the

classroom. She also demonstrated the trust she has developed with her peers in developing the most accurate assessment.

The participants valued a strong understanding of pedagogy as a necessary characteristic of a master teacher. However, they also revealed that knowing how to teach cannot be isolated from other necessary characteristics (i.e. content knowledge) needed to be considered a master teacher. Katherine and Joan provided examples of this when considering themselves master teachers of the Math 1 course they had taught for year but not of the courses that were newer to them. In specifically referencing pedagogy and content knowledge, Katherine suggested a master teacher should be able to go into any content area and be successful. When asked whether she could do that, she expanded:

I think you have to know the content. I couldn't teach biology, or I'd be stressed out trying to figure it out. Well, I just mean I might struggle, I might go back and struggle if they threw me into teaching AP Calculus, because I'd have to refresh on a lot of things. It's beneficial to know where you're going, like to what you'll teach. So, the fact that I've been through the whole [Math 1] curriculum five times when I'm teaching solving equations, I know why they need to do it this way, because later on they are doing... They need to use it for this. So, I wouldn't feel like a master teacher if I was thrown into a new content area.

While a master teacher might ideally be able to teach any course simply based on a strong understanding of pedagogy, content knowledge cannot be treated separately. This is similar to how the ability to form strong relationships alone a master teacher does not make. However, the data demonstrate as teachers progress from novice to master teachers in a particular content area (i.e. chemistry) being able to adjust to a different content area would be made easier based on

their understanding of how to teach. In this way, pedagogy remained an essential component of a master teacher in the eyes of the study participants.

The Role of Personal Actions and Experiences on the Concept of a Master Teacher

Content vs. Curriculum

The data also demonstrate that participants tended to look within their sphere or CoP when describing teachers they believed to be masters. The data also show how the communities the teachers occupy are small in size and highly specialized. For instance, it might be assumed an English teacher would seek out any English teacher as a source of learning. While this may be true in certain instances, this study demonstrated the community to be a specialized subset of a content area. Though content and curriculum were often mentioned together in interview responses, it proved the specific curriculum area (i.e. English 3) to be a key ingredient in forming a CoP. In serving that role, the curriculum then influenced the situated context a teacher inhabited and, by extension, who a teacher sought as a role model or master of the craft.

In terms of the main participants in this study, both teachers looked to at least one other teacher in their specific curricular areas as role models. Not all fellow teachers in a curriculum area served this role and therefore not all were in the community of practice, even if they were in the PLC. For Olivia, this proved especially true as she consistently marveled at Vicky's high level of efficiency and knowledge as a guidepost for her own learning. Furthermore, she expressed a professional disconnect with teachers in other grade levels within her own subject area, sharing:

I would love to know what's going on in [the English 1] classes all year, what the kids are like, what their weaknesses are in [English 1], so we can anticipate that stuff for the next couple of years. And then [English 2] is very different from [English 1 and English 3].

They have a new inclusion team, so I would like to see the types of things that they expect from kids or methods that they use to reach some of those kids. Maybe they're doing things that we're not, or maybe we're doing things that we wish they would do so there's more consistency as they move up throughout the grades.

This disconnect also related to the influence of the pressure of the standardized test had in binding together teachers in her grade level. This binding influence will be explored further in the other findings.

It should be noted the data do not demonstrate teachers' curriculum areas to be the sole place they look for role models or to teachers they consider to be masters. In Olivia's case it has been established she participated in at least two CoP, one centered around the curriculum and one on student relationships. Still, the data show that, while not the only influence, the subject areas teachers teach influenced the colleagues with whom the teachers would most interact. The data show that this then impacts who a teacher will look to as an example and, therefore, implicitly shapes the concept of a master teacher.

Personal Reflection

The data reveal the teachers in the study consistently engaged in self-reflection on their instructional practices. Implicitly, this suggests the ability to self-reflect as a necessary component towards a teacher moving from novice to mastery within the profession. When asked directly to identify characteristics of a master teacher, and as noted earlier, responses consistently included a willingness to learn to continually grow. By consistently engaging in self-reflection, the teacher demonstrated one manner in which they seek to learn.

The teachers' practice of self-reflection often created questions they themselves could not directly answer and it led them to engage colleagues as a result. In doing so, they sought peers

or role models who operated within a similar context. Therefore, by demonstrating that they constantly reflect on their own practice, the teachers reinforced the characteristics (i.e. looking to role models, intentional steps to improve) they explicitly shared regarding a master teacher.

Awareness of Others

Even when not directly asked to describe characteristics of a master teacher, the teachers revealed additional characteristics when describing colleagues around them. Whereas asking about a master teacher in general did not attach context, describing a specific colleague represented more of what was known to the teacher and provided a richer description. Describing a specific teacher, especially one that was considered by the participant to be a master teacher, provided additional insights into what makes up a master teacher or reinforced responses to the general question.

The data demonstrate a teacher tended to be most influenced by those around them, it also showed how the concept of the master teacher remains in the eye of the beholder and is influenced by what is known by the teacher. By having an awareness of others, the master teacher also served as a guidepost by which a novice teacher learned the craft. The identified master may or may not have been considered a master teacher by others in the field as the contexts they inhabit may be vastly different. As such, the concept of a master teacher remains fluid and personal to an individual teacher. However, exploring the concept and identifying common themes related to stands as a valuable component in understanding how teachers learn to do what they do.

This finding demonstrated how teachers develop a concept of what a master teacher is based on the sum of their experiences. These experiences shape their context and outlooks towards teaching ultimately influencing how the teachers will learn their practice. Whereas this

finding addresses what teachers are attempting to learn, the next finding explores how the teachers go about that work.

THE IMPACT OF A SHARED LANGUAGE ON PRACTICE AND PROFESSIONAL LEARNING

I first presented how the participants understood the concept of a master teacher as it provides the context by which the teachers grow professionally as they learn from each other. As they interacted and learned together around the practice of teaching, the context revolved significantly, if not almost exclusively around the state standards and the culminating standardized test. Both Olivia and Katherine, along with their respective peers, taught courses where students are required to pass the standardized test to earn credit towards graduation. The external pressure on the teachers to attain a desired level of student performance, whether explicit or implied, will be explored further in the next essential finding. However, it proved true for the participants in this study that the shared work of the teachers, the professed values they held, and the common language they used revolved around the standards and the standardized test. Additionally, teachers new to the practice or new to the school sought mentors or role models within their curriculum area who spoke the shared language and, along the way, earned trust and membership into the informal community of practice.

The analysis of data from interviews and observations demonstrated the explicit or implicit pressure posed by the standardized test heavily influenced the teachers' actions in the classroom and interactions with one another. I use the term "shared language" to encapsulate these actions and interactions. Both of the primary participants in this study, along with the veteran or mentor teachers interviewed, taught courses where students were required to pass the standardized test in order to earn a diploma. As such, whether the administration directly applied

pressure or not, the teachers believed their work would be evaluated by the student results on the standardized test. Therefore, as the teachers collaborated together and taught in classrooms, the language and actions revolved around teaching in a manner that will achieve high pass rates on the standardized test.

In this section, I illustrate how the standardized test served as a common language for teachers in CoPs and guided how they conducted and learned about their practice. In doing so, I will explore how the standardized test more strongly bound the communities together and also isolated them from other teachers whose students did not need to pass a standardized test. I will also show how the standardized test as a shared language dictated and limited instructional practices employed in the classroom. Finally, I will illustrate examples of how practice and discussions differ for the participants in this study when the pressure of the standardized test is absent.

Influence of the Standardized Test on Communities

The analysis of the data clearly demonstrate the standardized test drove daily conversations among teachers mutually engaged in the work. As previously noted, for the participants in this study, the math curriculum and the English grade level served as the primary, but not sole, source of how teachers found other teachers with whom they formed learning communities. Since a test, required for students to earn credits towards earning a diploma, existed for the teachers in these curricular areas, the standards and the test served as the main topic when teachers discussed instructional practice. In this way, the test played a role in binding the community together and with the teachers developing trust with one another. As the shared language cemented bonds between the teachers it also further isolated the community from teachers in other content or subject areas.

Topics of Discussion

Teachers remained cognizant their practice largely revolved around the standardized test. Teachers demonstrated conflicted stances on whether they believed the standardized test should play this role. In speaking of a positive aspect of the test providing structure for the group.

Olivia explained:

Something I don't mind is that it gives me structure throughout the year. I've never taught a grade level that didn't have [a standardized test]. I've always been either [middle school English] or [English 3]. I've done one year in [English 1] and one year and [English 4] but nothing consistent. So, I've noticed that in those years we have all the freedom of go crazy with curriculum. It's fun and all, but I kind of thrive on structure. So, knowing that I have from here to March 17th to prepare for this one thing, it's kind of helpful for planning purposes.

Conversely, the teachers understood the limiting aspect of the test which will be presented in more detail later in this finding when illustrating the effect the presence of the test had on practice.

The standards, whether teachers preferred them to be or not, and how students were progressing in relation served as the primary topic of discussion when in formal PLC meetings or within the more informal CoP, especially those that formed around teaching a common subject area. The language that developed as a result became one the teachers recognized instantly whereas an outside observer of the conversation may not. For example, during an observation of the English 3 PLC, the teachers seamlessly used abbreviations or terms that had developed over time to describe the practice in relation to the standards. Terms like “boot camps” and

“rotations” were used without explanation. Those terms were later understood to be strategies designed to provide intensive remediation to students prior to the standardized test.

The topics of discussion also often included looking at data from the previous year’s standardized test or current assessments designed to predict a student’s ability to pass the test. The teachers also expressed pride in a sense of accomplishment based on the data. In discussing the influence of the test, Patty stated:

[The standardized test] guided everything. We were laser focused on that...I will never forget, [the principal] coming in and telling us that we were at like a 98%. We had done like a 30 point jump. It was crazy. And so we were really motivated by that. We were like, "Yeah. We did that." And we wanted to keep growing and keep getting better. And we were, I think that we maintained the first top spot in the [school district] for [the standardized test] JHS. And that was something that we were driven by.

Binding Influence

The presence of the standardized test and the resulting pressure it brought, served to bind the teachers together within their communities as they did the work together. This was evident in the pride they expressed over the hard work they put into achieving the results. This also resulted in the teachers developing increased trust with each other and in isolating them from teachers who taught courses without a required standardized test.

Developing Trust

When the CoPs centered around a specific curricular area, the data show trust as a necessary component to those relationships. The standardized test represented the end goal for the teachers and trusting one another with specific tasks and responsibilities towards that end became the basis around how trust developed. Trust also stood as one factor where distinction

can be seen between membership in a PLC and a CoP. Trust in a teacher's ability to execute tasks or deliver instruction to students in a way that would achieve acceptable results had to exist for the teachers to informally accept each other into the informal community that existed outside of the formal nature of a PLC.

The data show this development of trust to be especially true in explaining how a new teacher or a teacher new to the school earned trust and, by extension, acceptance as a proficient teacher. The veteran teachers of a PLC or a CoP began by assigning small tasks to the new teacher which, as the new teacher proved capable, then turned into equally dividing tasks and responsibilities of the group. Patty explained how the community she shared with Joan and Katherine took shape:

[Sharing tasks and responsibilities] did change over time. And while we were together, we tried to create a new system where we grouped students and tiered tasks. We called it red, yellow, green. But it was just basically differentiating and doing small group instruction. So, each day we would plan day by day and we would say, "Okay, today, Patty's doing the warmup and Katherine's doing the classwork and Joan's doing this." And sometimes we did a lesson a piece, but we would all decide that together. And it varied. So, it wasn't just like one day I was doing all of the work and they weren't doing anything. We really tried to even that out. And what was impressive about Katherine is, and I hear this a lot that new teachers play the card of, well I'm new and so I don't know. Katherine would take on a task and tackle it and she would try it and she would take feedback. We would tell her, "Okay, this problem is probably not quite at a grade level, so let's just tweak this and change it." And we had that trust to be able to do that.

Patty and Katherine also had similar memories on Katherine's first year with the Math 1 PLC. Katherine reflected on the experience in saying, "I kind of stayed pretty quiet and to myself because I wanted to take in what the other more experienced teachers were talking about." While Patty similarly recalled Katherine's approach to the first year, when reflecting on Katherine's second year, Patty shared:

That second year is when she came in and she was empowered with some experience and knowledge about the same subject. She was teaching it again, which gave her a little bit of confidence and gave us confidence in her.

In Olivia's case, she was not new to teaching when she arrived at JHS. Still as she navigated new territory, the data suggest trust developed over time, though certainly more quickly than was the case with Katherine as a first-year teacher. On Olivia's entry into the English 3 PLC and willingness to take on tasks and responsibilities, Vicky said, "I think she was always willing to take on roles. I think she was hesitant to like offer it at first because she didn't want people to think that she was pushing herself on them."

Alternately, other teachers who had not fully gained that trust remained outside of or on the periphery of a CoP. For the English 3 PLC specifically, Vicky and Olivia cited intensive remediation efforts for the standardized test where teachers rotated into each other's classrooms stemmed from concern one teacher's students were not as prepared. In that particular instance, the teacher that had not gained the trust of her English 3 PLC had left JHS prior to the beginning of this study. The current level of trust between the remaining members led to a discussion of whether one method of intensive remediation where teacher rotated between each other's classes as necessary any longer. This indicated the current teachers had developed a level of trust to

each properly prepare their individual students for the standardized test in a way that would benefit the overall group's success. As Olivia explained:

We're pretty similar in the way that we teach things and we talked about maybe not rotating this year because it is a hassle. It's definitely a huge logistical task, figuring out like what blocks and giving up your planning and substituting it with another class. It's a burden but it's burden of love. This year we talked about not doing it.

Vicky separately concurred in stating, "I do not have a problem with either one of them [the other two English teachers on the PLC] coming in my room and teaching."

Isolation from Peers

The data reveal the standardized test not only bound teachers together, it also isolated curricular or grade-level communities from other teachers with the same content area (i.e. math, English). Since they faced the brunt of the pressure for the results, the teachers believed teachers in other areas who did not directly feel the same pressure could not properly understand the context of that environment. This was evident in the pride participants expressed in the results and through frustration they showed when teachers in other grade levels took more credit than it was deemed by the study participants than they should for test results. Despite occupying a similar physical space (i.e. workroom, classrooms on same hallway) and teaching the same content (English) a separate language existed solely based on the presence or absence of standardized test.

Olivia and Vicky's experience, along with the third teacher on the PLC, served as an example of the dynamic described above. As Olivia and Vicky taught English 3, they understood the English 1 and English 2 teachers played a significant role in helping students build the skills to be successful on the standardized test but that absent the direct pressure, their

approach was not as focused and structured as it was in English 3. To bridge this divide, the English 3 teachers sought to bring the previous grade level teachers into the fold. While sharing the vertical planning seemed a productive step, Olivia perceived the English 1 and English 2 teachers felt “kind of attacked” during the collaboration meeting which she interpreted as them not fully understanding the intensity of the pressure faced at her grade level and the level of intensity it produced for the English 3 teachers. This represented a stark contrast between various groups or communities of teachers where boundaries are shaped by the contexts they inhabit. Crossing between those boundaries, even when discussing similar content and students, proved difficult. Olivia wondered if teachers in other grade levels discussed similar things as the English 3 teachers. She expanded, “I know nothing about [English 1, English 2, and English 4] even though they're literally next door...I don't know what they do all day.” Olivia further explained the divide between the different grade levels and the push to share the pressure of preparing students for the standardized test in English at JHS:

Yeah, I think there's just a lot of miscommunication between the grade levels... [The English 3 teachers] feel by the time kids come to English 3, we are reteaching a lot of the [English 1] curriculum. Our standards start at a certain number and other things should be covered in [English 1 and English 2], and even in eighth grade. But there's just so many holes. What are the kids not receiving at certain grade levels that they need to know before they should even be able to get through that? So, we just wanted to meet to kind of talk about... I'll just give you a specific example. With figurative language, by [English 3] it's no longer identifying and interpreting. We need to actually analyze. It's critical thinking at this point. But we have so many kids that can't even identify a simile versus alliteration or imagery. So, it's where are our holes? How do you guys teach this

skill? And then how do we elevate that the next year? And then how does that build the next year? So, we just want to align.

A common characteristic between the teachers in a math community and an English community that isolated them from other teachers was that they valued hard work and sometimes felt the hard work it took to achieve student success on the standardized test went underappreciated by others. Katherine's community particularly valued the hard work and the pride that stemmed from knowing their students' test results were amongst the highest in the district. Further, Katherine expressed the administration trusted the PLC to be high functioning. As illustrated earlier by Patty's comments on achieving a significant increase in test results, this sentiment regarding the Math 1 PLC had been true since before Katherine joined her initial CoP with Patty and Joan.

Effect on Context and Instructional Practice

Beyond simply trusting one another, the presence of the standardized test also affected the instructional practices of the teachers operating within that context. The data reveal two main effects of the standardized test on instructional practice. One effect showed in how teachers sought over time to develop a system that worked to consistently achieve higher student scores on the test. Another effect the pressure of the test placed on practice, and perhaps also a side effect to developing a system, proved to be in limitations to practice. The structured and paced approach, resulting from the pressure, left little time to explore or experiment with different or unproven (from the perspective of the teachers) methods of teaching.

Developing a System

Beyond simply trusting one another, the presence of the standardized test, and the shared language that resulted from it, also affected the instructional practices of the teachers operating

within that context. One way it did so was in how it influenced the teachers to develop a system proven to achieve desired results. These systems were developed over time and became a part of the creation of a shared language between teachers. The system served to bind teachers in a PLC together and possibly towards forming a CoP. Conversely, resistance to the system also led to some teachers not gaining full acceptance of the group.

Developed Over Time

The analysis of the data consistently show references to the importance, from the perspective of the participants, to develop a system. It also revealed how these systems evolved over time. As Patty explained the origins of the system the Math 1 teachers at JHS adopted:

I would say Joan [chose to focus on the standardized test]. She came from the middle school environment. She worked at [a middle school under accreditation pressure] as well and I'm sure that it was a heavy emphasis there. And through that experience she just, I mean, it got transplanted over and we just kind of did what she did.

This example of how shared language developed over time, in an observation of the English PLC, the teachers spoke of rotations and other activities or lessons they planned to conduct in a seamless fashion an outsider or first-time visitor may have difficulty understanding. This demonstrated many of the topics had become tradition (e.g. rotations) or part of the common parlance of the PLC. This demonstrated that the system had become ingrained into the fabric of what the PLC discussed. Teachers also came to rely on these systems as proven methods for success It also highlighted how these systems developed over time and refined. Vicky explained how the rotations for English 3 teachers began:

...that's where [the rotations] all started. Because, my scores were really high. This is before Olivia came, my scores were really high, and the others weren't. And so, they were

like really worried about this other teacher who's no longer here, because all she did was [an online reading program]. And so that's where it started. But then it was so successful, we continue it.

This demonstrated how the system also remained flexible in relation to the shifting nature of the context with the CoP or PLC. When a teacher left the group and a new one entered, the teachers readjusted the system, or considered it, to address the new dynamic.

Binding and Excluding Nature of Systems

As the teachers developed these systems of teaching together, they formed stronger connections with each other. Trust and adherence to the system formed a seeming sense of pride for the teachers, especially when they witnessed gains in standardized testing results. Distrust of or lack of adherence to the system also served to push teachers away from a group. This was evident in both Katherine and Olivia's content communities and the broader PLC to which they belonged as evident in the comments Vicky relayed about how the rotations remediation system began due to a teacher in the PLC being perceived as substandard. Katherine shared a teacher new to JHS and the Math 1 PLC has expressed a desire to move away from the PLC's developed system in order to incorporate more remediation in daily instruction. In discussing this teacher's approach and in support of the developed system, Katherine shared:

She thinks [lack of daily remediation] that's why a lot of them failed [the first semester], but we actually, since we've been doing this method of teaching ... What I mean is, it's very structured, we differentiate every lesson, there's not a minute that they have free time during class, and it seems like maybe a lot of kids fail, but actually our failure rate from part one to part two significantly has decreased since what it was before we started this system... we've been trying to say is the data supports what we're doing.

These instances further established the importance the role of engaging around a shared language or, in this case a system for teaching, played in forming connections between teachers and ultimately drove their professional learning.

Limitations on Practice

The shared language, influenced by the pressures posed by the standardized test, shaped the context from which the teachers taught. In a way, this provided structure and accountability for the teachers in those courses. The teachers viewed time as a valuable commodity not to be wasted. However, this also placed limitations on their learning as the pressure exerted from the test did not allow to fully explore different teaching methods or strategies in a way other teachers in the building could. Olivia noted she would like to try some of the “fun” things she has seen other teachers do in their classrooms but worries about the impact on the test results if those methods did not achieve the desired end or affected the pacing of the course. For instance, Olivia shared she would like to conduct “book tastings” with her students or allow them to do more independent reading. However, when reflecting on the impact 15 minutes of independent reading may have, Olivia pondered, “we just don't have time to do that. I mean, I've done that before and they're like, ‘How is independent reading preparing them to answer this analysis question?’” More specifically, Olivia offered:

Because we're doing this new text this year, it's giving us a bunch of fresh ideas because it's not just a text we've read a million times. We wanted to do maybe a genealogy project type of thing where kids learn about their heritage and dive into their family history, but then we think about how would that contribute to prepping them for a test? I know we can teach things ... We can definitely teach writing through that project, but at the end of the day we always ask ourselves, do we have time to do this?

Additionally, the data suggest that once outside the confines of the standardized test pressure (i.e. teaching another course), the teachers found challenges in adapting to that new context in the way of exploring or experimenting with different ways of teaching. As presented in the previous finding, the teacher's situated context represents what is known and serves as the lens by which the teacher views teaching and learning. The strong influence of the standardized test on the context thereby influenced the professional learning of teachers and drove their instructional practice. When provided opportunities to approach teaching and learning from a different vantage point, teachers initially approached instruction similarly while recognizing the absence of pressure allowed for more experimentation and flexibility. In her first year teaching an upper-level math course that does not have an end-of-year test, Joan reflected:

I haven't moved away from [the same style of teaching]. But I do think next year I need to see if I can find some other things that I can do beyond just doing notes and classwork because there are probably some extensions I could do but I'm just so used to that, "Let's get to that end game."

In specifically discussing the difference between the Math 1 course and the upper-level course in relation to the effect the standardized test played, Joan further offered:

I would like to go into maybe some projects where in [Math 1] we couldn't really do problem-based assessments or any problem-based learning whatsoever because you have to give them that toolbox before. And we only have so much time to give them the toolbox.

When not provided opportunities to teach courses absent the pressure from the test, as was the case with Olivia, imagining how the teacher might shift practices or experiment with other methods resulted in somewhat abstract or vague responses (i.e. projects in a general sense).

The reliance on the structure that had been proven to support student success on the standardized test represented the known reality for the teachers. Any attempt to experiment presented inherent risks for how the teachers ultimately believed they would be evaluated.

Interactions and Shared Language Absent Standardized Pressure

The two main participants in this study also demonstrated the importance of shared language in helping teachers navigate their situated contexts and engage in professional learning. In Olivia's case, the relationship community she sought for learning more about building strong student relationships served as one example of how the shared language differed from that of the common understandings shared between teachers bound by the pressures of a standardized test. Conversely, Katherine's experience in being the only teacher to teach a particular AP course at JHS showed how a teacher will search for a community of teachers who live in a similar context and how that bond cannot be forced as was attempted by the administration at JHS. Though different, Olivia and Katherine's experiences highlighted the importance of sharing common languages in teacher's learning and growth.

Talking About Student Relationships

As previously explained, Olivia looked to teachers outside of her content community for how she could learn to better connect with students. This relationship community also consisted of teachers, with the exception of Olivia, who did not face the pressure of teaching courses attached to a standardized test. Olivia's description of the interactions with this community showed a more casual, social approach that stood in contrast to the business-like approach of her content community. The shared language, therefore, took on a different shape and existed solely in an informal sense. Olivia may have initially been drawn to this community based on building friendships but the influence on her professional practice also became evident. As presented

earlier, Olivia marveled at how teachers, especially one teacher in particular, knew so much about their students. Olivia recognized the value it possessed in promoting student success and it motivated her to try to connect on a deeper level with her own students.

The Need for Shared Language

Unlike Olivia, the data suggest Katherine only belonged to what could be defined as one CoP. She also recently began teaching an AP course separate from the Math 1 course. This experience served to demonstrate how she approached the course differently absent the pressure of the state standardized test and how she is seeking a community who share a similar language to learn. Additionally, her experience also represented the challenges when school administrators attempt to create a community that seemingly shares a similar language but, in practicality, does not.

Effect from the Absence of Standardized Pressure

Katherine's AP teaching assignment also included an end-of-course assessment in the AP exam that might have been assumed to exert a similar pressure on her that the standardized test did for her Math 1 course. However, the data suggest that not to be true. Instead, Katherine expressed that while the focus of school administration had once been on achieving higher scores on AP tests, the focus had now shifted to encouraging equitable access to college-level courses for all students. Therefore, Katherine's priority became exposing students who may otherwise never have enrolled in the course without proper encouragement to the rigorous nature of an AP course. How they ultimately performed on the culminating AP exam became of secondary importance. As Katherine explained:

It used to be one of our [school-wide goals], but how [the students] do on the AP test isn't so much a focus anymore. What's a focus is access, equitable access, so students who

historically haven't had access to higher level education, getting them in those classes... so I have a lot of former Math 1 students in my AP class.

An analysis of JHS' school goals document contained goals for both increasing access to AP classes and overall test performance. The external effect on teacher practice and learning will be more fully explored in the next finding. However, it also demonstrated how the context can shift for a teacher when the pressure associated with a standardized test is absent or is simply perceived to be absent. For Katherine, the absence of pressure from the state standardized test, allowed her to operate in a different context for her AP class than her Math 1 course.

Seeking a Shared Language and Failed Attempts to Form Communities of Practice

As the only teacher of her AP course at JHS, Katherine displayed a desire to collaborate with colleagues at other schools, and had begun doing that, as she could not find others within her own school who shared the same experience. The school administration at JHS coordinated meetings with all of the AP teachers with the idea these teachers shared similar experiences and to create a common philosophy to teaching AP courses at the school. Katherine recognized the theoretical idea of a PLC comprised of all AP teachers but she still craved interactions with other teachers familiar with the content of her specific course. Katherine shared her experiences with the other AP teachers, "It's not helpful. Except, they did show us some stuff on [The College Board] website, but it's all theoretical stuff, like, coming up with the AP philosophy. I couldn't even tell you what other meetings have been about."

Since sharing a philosophical approach to the teaching an AP course did not fulfill Katherine's need to find colleagues to explore learning with together, she instead sought teachers of the same AP course at other schools in the Tacyhill School District. While this group of teachers may not yet possess characteristics to be considered a CoP, for Katherine, searching to

find these connections on her own suggested the importance of interacting with other teachers around a shared language to her professional growth and learning. Similarly, it highlighted how the teacher's situated context was driven by the specialized subject area she taught and how the interactions with other teachers around the concept of teaching remained abstract and could not substitute the need to specifically talk about curriculum. Olivia also expressed this sentiment in sharing:

To be honest, I sometimes find it difficult to talk to people from other content areas about instruction because I just feel like English is so different than a lot of the other subject areas. Even hall duty, I'll have hall duty with a social studies teacher. Never once have we ever talked instruction.

This finding illustrated how the teachers in this study formed a shared language as they engaged in and learned about the practice of teaching. The shared language was influenced by the standardized test and affected what was learned and what was practiced in the classroom. This finding focused on the work teachers do together. The next finding will demonstrate how external influences impact that work.

SHAPING CONTEXT THROUGH EXTERNAL FACTORS

While the data suggest teachers do not rely on school administrators as a primary source of professional learning, data do support that external factors have a role in shaping context. In this respect, the contexts of the teacher participants were most influenced by school-level administration through scheduling and allocation of resources. On a district or state level, and as presented in the previous finding, the state's standardized testing program also directly influenced the context in that it served as the driving force behind their practice and the main topic of discussion in professional interactions. Conversely, school-level or district initiatives

and interactions with school administrators proved to have a lesser effect on the context and practice of the participants. Teachers in this study looked to administration to shape the overall school climate so that teachers felt supported and motivated to help students succeed. Though school administrators had some effect on the instructional practice of teachers, the participants more readily sought out peers as a source of learning and growth.

School Level Influences

Scheduling

School administration most directly influenced the context teachers inhabited, and with whom they were most likely to form professional relationships and learning communities, through scheduling. As established previously in this chapter, the teachers gravitated towards other teachers who taught the same curriculum for professional growth. The data also suggest that the intentional assignment of mentors to new teachers possibly affects novice teacher's learning and growth. Additionally, the school affected teachers' situated contexts in providing common planning time, built into the school day, for teachers to collaborate, thus fostering opportunities for teachers to form connections.

Teaching Assignment

The teacher's assignment heavily influenced who these teachers interacted with the most. As previously discussed in these findings, a teacher's assigned curriculum area represents one of the most significant factors in the cohort relationships a teacher will form and, in turn, the context they will work within. In this way, school administration directly influenced the teacher communities that would form in the building and the relationships a teacher developed. This can be seen through the teachers Olivia and Katherine interacted and learned from most. For Olivia, the two separate communities-- the content community and the relationship community-- both

took root through her specific teaching assignment. The assignment to English 3 fostered her relationship with Vicky and the assignment of Lucy as a co-teacher introduced Olivia to the teachers like Irene in her relationship community. For Katherine, her assignment as a Math 1 teacher directly led to forming a CoP with Patty and Joan. While it remains possible these relationships might have formed separately, the data indicate that the school administration's decision regarding teaching assignments to significantly influenced from whom the teachers learned.

Mentor-Mentee Placement. To a lesser extent, and not conclusively evident through the data, the school administration's assignment of mentors to new teachers may also play a role in who a teacher seeks out for professional learning. No one teacher played this role for Olivia during her career and the role model she most looks to at JHS, Vicky, was not specifically assigned to her as a mentor. However, in Katherine's case, having Patty assigned as her mentor significantly influenced her professional growth. Speaking to the process by which the school assigned mentors, Patty (who also served as the lead mentor at JHS) explained:

So, all of my mentees were in my same content area of math. It varied though, whether it was [Math 1] if it were, I had a few that were in geometry and I think it worked best when it was somebody within my PLC, and that was something that my principal at the time, Mr. John, he always asked for me to pair people strategically that way. People who have a common planning time, we don't have to carve out additional time to meet because it's convenient for us to do so. So, anytime I would match mentors and mentees, it would be about content area, it would be about common planning blocks. And if possible, I was sort of told I was mentoring Katherine. Before we even hired her, my principal came to me and said, "I have someone I want you to meet and she's going to be

wonderful and I want you to serve as her mentor." And it was a great combination...The selection of who the lead mentor is, who are the people that you're really putting in this person's path to be successful, it's just so important.

The intentionality of how Patty and her principal attempted to pair mentors with mentees within the same content area further demonstrated how school administration affected the professional relationships teachers develop.

Common Planning Time

Just as with determining teaching assignments, the administration at JHS made other intentional decisions over the years that shaped and fostered the interactions between teachers. One example of these efforts became evident in how the administration implemented common planning time for specific content areas so they could meet as PLCs. This decision allowed Katherine to enter into a community that formed, in part, due to the common planning time the Math 1 teachers had to regularly meet. While sharing a common curricular area drove teachers together, the administration at JHS fostered or accelerated the ability of the teachers to navigate the shared context together.

Allocation of Resources

Another intentional decision by the JHS administration that fostered opportunities for teachers to learn together was how they allocated resources, specifically in providing substitute teachers for specific groups of teachers to collaborate during a school day. The teachers consistently cited the value in having the time to collaborate and noted how readily the previous and current principals of JHS approved teacher requests for the time. Olivia noted the current principal at JHS, "has allowed us to do a lot of out of building professional days to where we are

just collaborating.” These sessions also sometimes took place at an alternate off-campus location which freed teachers from dealing with the busy nature of a typical school day.

School Climate

While the data reveal teachers did not significantly rely on school administration as a source for professional learning, they did look to administrators to create a school climate that motivated and supported teachers in promoting student success. Patty expressed this sentiment in sharing:

We were all extremely competitive people and it didn't take much for us to be motivated to be the best. That was just the type of teachers and the type of people that we were. I think anything could have happened around us and we wouldn't have changed or deviated from that. We wanted our kids to be the best and we were driven by that competitive spirit. And it wasn't because somebody said... I would say our [assistant principal] wasn't involved in our PLCs. I think our principal was more involved than she. And it wasn't because anybody said like, "You guys go be number one." At all. What they did for us was they assembled us as a team and then said, "Go." And it worked.

The teachers at JHS roundly expressed they felt supported by the school administration and believed the administration had confidence in what they were doing. The teachers noted they felt supported with student disciplinary issues and with requests for collaboration time or resources. They also found their school administrators to be approachable and indicated they knew their teachers personally and were visible within the school. Indirectly, administrators influenced teachers by simply providing motivation and instilling confidence in the teacher. In reflecting on Mr. Thomas' impact on the school climate, Olivia shared:

He held us to such a high standard, but it was a different type of pressure. It wasn't like a negative, like working over your shoulder. It was a very like, "I will encourage you and cheer for you until you get where you need to be and I will tell you specifically how you can get there." In a really positive way.

Small gestures or well-timed praise from school administrators helped teachers feel confident in approaching their practice. As a result, the context the teacher inhabits was positively affected in a manner that fosters a desire to improve. As Patty stated:

I was just generally influenced in a positive way by Mr. John, my principal, and that was because I was given a lot of wide open space to work and grow as an educator and I was sort of tapped on the shoulder like, "Hey, you have these traits and qualities, go spread it."

Though not directly influencing how the teachers learned specific aspects of their craft, these teachers demonstrated the influence a positive school climate has on teacher motivation.

Pressure of Standardized Testing

The effect of standardized testing on the situated contexts of teachers was presented in the previous finding; however, it is worth noting that it also served as an external influence on teacher practice. The standardized test represented a state-mandated requirement for students beyond the control of the Tacyhill School District central administration or the school administration at JHS. Therefore, while this section is focused on school-level influences, it should be noted much of the pressure emanated from a level above JHS. Still, the data show school administration influenced, whether intentionally or not, the degree to which the teachers felt evaluated by performance on the test.

District and State-Level Pressure

As state-mandated requirements for graduation, the primary source of pressure to achieve high pass rates on standardized tests ultimately lies with the state department of education. This was evident in Olivia's experience at TMS and the previously described experiences in teaching at a school facing state accreditation issues. As also noted in the case of Olivia, the experience relating to the pressure of achieving state accreditation at TMS influenced the development of her current outlook on teaching. JHS has not been in danger of losing state accreditation. While this has led to less emphasis being placed on standardized test results at JHS than what Olivia faced at TMS, pressure to achieve high scores remained. Olivia explained:

Because this has happened to me in the past, not necessarily in this building, but at my previous school. When we try to do fun, more off the pacing guide, things like that, I've been questioned a lot by [school administrators] about how does this one specific activity prepare the kids for the [standardized test]?

Olivia's experiences at TMS and JHS revealed how pressure to achieve certain results on state standardized tests exists whether the school is in danger of losing accreditation or not.

School-level Pressure

At JHS, the stated school-wide goals of the school referenced performance on the standardized test in relation to specific subgroups (i.e. students with disabilities) for the reading and writing tests for English 3 and on overall performance for Math 1. Though teachers indicated the results of the tests had been de-emphasized in recent years, the scores were highlighted at faculty meetings and other forums. JHS also consistently ranked among the top schools in the Tacyhill School District on standardized test results and teachers took pride in that accomplishment. This implicitly placed pressure on the teachers in those courses. Regarding

perceived test pressure, teachers seemed to recognize the source of that pressure originated beyond the school and its administration. As Joan remarked:

It's a pretty heavy [focus]. We've obviously followed the curriculum but we always know that that end is that [standardized] test. And even though I know now they're starting to pull away from them, the [standardized] tests a little bit, the [Math 1] is still important. You get kids to pass that test, they're done. And that's what they want. We get them done. They're done with their [standardized] tests. So, it's pretty heavy for us, I would say.

Vicky similarly shared, “[English 3] is the only subject that has two [standardized tests] that everyone takes no matter what, and it's high pressure.” Even though the school administration at JHS did not explicitly place importance on overall test results, these teachers continued to perceive the pressure to be there.

Less Influential External Influences

While indicating how school, district, and state-level decisions influence how teachers interact with each other and the practice of teaching, the data also reveal less effective efforts by district or school administration to intentionally cause teacher learning. JHS, like most schools, provided designed PD sessions for teachers. However, the participants' professional learning was not significantly influenced by the PD offerings. From a district-level, Tacyhill School District utilizes an online performance evaluation system which documents observation feedback and provides a format for teachers to set and track progress on individual goals. The data show this system to have negligible influence on the learning and growth of the participants in this study.

Professional Development Offerings

When specifically asked, the teachers in this study rarely cited the PD sessions offered by the school administration or the district as influential to their professional practice. Additionally, the teachers could not cite specific PD sessions offered by the school administration at JHS in almost any sense and struggled to explain all or some of the school's stated goals for the year. When asked about initiatives the school has, the school's implementation of a behavior intervention program stood out as the most significant and positively received. No other initiatives relating to instruction were offered. Though teachers did find some value in JHS' formal PD offerings, the influence on practice remained indeterminate. As Katherine noted, "on the full professional learning days, I don't usually take away a full day worth of material that I'm going to use. Maybe a little nugget of something." Similarly, Olivia cited of day-long PD sessions, she only finds a portion of the days valuable to her learning. Though teachers found some value in the formal PD offerings, the participants consistently cited collaboration with peers as their primary source of learning.

Evaluation Systems

Though they more directly influenced teacher learning through scheduling, providing resources, and instilling confidence administrators at JHS did possess some influence over teacher professional learning. However, the influence occurred more indirectly and not in the traditional sense of offering observation feedback or PD. The teachers indicated they generally did not rely on observation feedback as a source of growth. In the case of the Katherine, she noted her current administrator did not teach the same content, which was previously discussed in these findings as a foundational aspect of the teachers' context. She has, though, sought her

administrator for general advice with the AP course she is teaching as the assistant principal had once taught an AP course in a different content area.

To track and facilitate observation feedback, JHS utilized a software platform used by teachers to create and track goals and for administrators to offer observation feedback to teachers. In several of the PLC observations, the teachers dedicated time to working on tracking their goals and submitting regularly due reflections. However, when asked the impact the reflection had on their practice, the teachers did not value the program, viewing the process as simply a task to complete. Indicative of her intrinsic motivation, and that of those around her, Katherine expressed, “We're always implementing new strategies, so it's not like we need [the online performance evaluation system] to tell us to do new things.” However, this should not be construed to mean the teacher were not goal-oriented. Instead, it should be noted the teachers interviewed in this study all expressed an intrinsic motivation to achieve and stated they would approach their practice the same way with or without district-mandated requirements to set and track goals.

Summary

Teachers learn about their practice through social interactions within their situated contexts. This chapter presented how this type of learning occurred for the participants in the study. Specifically, these findings demonstrate 1) how teachers develop a concept of a master teacher and how that impacts their learning; 2) how a shared language develops among teachers and the impact that language has on practice; and 3) how external factors influence teacher learning in social and situated contexts.

The participants in this study revealed that while the concept of a master teacher remains unique to the individual teacher, common themes and characteristics emerged. A firm

understanding of the content, gaining years of experiences, forming strong relationships with students, knowing how to teach, and resisting complacency represented these common characteristics. Additionally, the participants demonstrated a high level of self-awareness which led to personal reflection regarding their practice.

As these teachers engaged with and learned from each other, they developed a shared language. In the cases of the participants in this study, the state standardized test stood as the primary topic around which the work revolved. The test served as a binding influence for the teachers in forming CoPs while also isolating them from their other peers. The shared language of the standardized test ultimately led the teachers to develop systems of teaching and thereby drove much of what they did in practice.

As the teachers subconsciously sought the concept of a master teacher and formed communities with peers around a shared language, external factors also played a role in affecting their instructional practice. The external factors both directly and indirectly influenced how teachers interacted with each other and how they learned about teaching. From a school level, administrators more directly influenced the learning through purposeful scheduling and the allocation of resources. School administrators indirectly influenced these teachers' learning by fostering a positive school climate. Just as it became the primary source of the shared language these teachers developed, the state standardized test also served as an external pressure that shaped how teachers learned in social and situated contexts.

These findings will be discussed in the next chapter in relation to the theoretical and conceptual frameworks of legitimate peripheral participation (LPP) and communities of practice (CoP). Specifically, the concept of a master teacher and the role external factors play as a means

of understanding how teachers learn through social interactions will be more fully considered.

Lastly, implications for practice and future research will be offered.

CHAPTER 5: DISCUSSION AND IMPLICATIONS

This study intended to add to the existing body of research on how teachers learn their practice through social interactions in situated contexts. The purpose of this chapter is to discuss the findings of this study in relation to the theoretical and conceptual frameworks of legitimate peripheral participation (LPP) and communities of practice (CoP). I will also discuss how the findings add to the understanding of the phenomena of teachers learning through social and situated contexts in two meaningful ways 1) Through demonstrating how teachers come to perceive the concept of a master teacher and how that influences the learning they do together and; 2) By showing how external influences affect the work teachers do together. Finally, implications for future study and practice will also be offered.

Discussion

In reviewing the literature, LPP provides a theoretical framework to view the process by which newcomers to a profession become full participants in a community of practitioners (Lave & Wenger, 1991). Conceptually, CoPs represent informal groups that form through mutual engagement, joint enterprise, and shared repertoire and other additional markers for studying LPP in action (Wenger, 1998). Though Lave and Wenger (1991) explored how the theory of LPP and the concepts of CoPs applied to studying an apprentice-type relationship, Hodkinson and Hodkinson (2003) demonstrated how CoPs could consist entirely of veteran participants. This allowed for the theory and frameworks of LPP and CoPs to be more easily used in an educational setting where teachers may form CoPs without a mentor-apprentice relationship present.

The Use of Theoretical and Conceptual Frameworks

As demonstrated through the findings, the use of LPP as theory and the concepts of CoPs in this study highlighted the professional learning that occurred between teachers. The purpose of this study did not intend to demonstrate a direct application of either of the frameworks. Rather, in kept with the distinction Boblin et al. (2013) made between the difference in how Stake and Yin approached the use of theory wherein Stake's approach intends for frameworks to be applied in a flexible manner to research. In applying that approach, I utilized elements of the frameworks of LPP and CoP to elucidate what teachers were learning and how they went about the work. For instance, in the case of Katherine, a clear mentor-apprentice relationship existed as she entered the teaching profession. This relationship significantly guided her development in becoming the more expert teacher she is today in line with how Lave and Wenger (1991) suggested learning occurs through LPP. For Olivia, this was not as clear, though the way she looked to role models in areas where she desired to learn more about teaching (i.e. building relationships, curriculum knowledge) possessed elements of LPP in action. Each of the six principles Consalvo (2015) outlined were also evident in the data.

In the case of this study, the data reveal the two primary participants each belonged to CoPs, based on mutual engagement, joint enterprise, and shared repertoire which influenced their learning and practice as Wenger (1998) suggested. The teachers mutually engaged around the work of teaching and strived to promote student success. For both Katherine and Olivia, the presence and related pressure of the standardized test significantly influenced the joint enterprise and the shared repertoire of the communities that they leaned on most for learning together. The flexible use of LPP and CoPs, when taken together, led to furthering the understanding of how

teachers learn in social and situated contexts. This will be discussed next with the concept of the master teacher and the external influences on practice.

The Concept of a Master Teacher

The idea that a teacher reaches mastery of the practice with experience alone is misguided. As noted in Chapter 4, I do not make an attempt to fully define what a master teacher is, if that is even possible. Instead, it is the development of the concept of a master teacher that provides insight into the situated contexts teachers occupy, the interactions they have with colleagues, and ultimately what they will learn. In setting out to understand how teachers learn through social interactions with peers it seemed important to ask, “what do they learn and what are they striving to become?” As Lave and Wenger (1991) offered, the theory of LPP suggests novices move from the periphery to full participation through the interactions in situated contexts and data confirm evidence of that arc. This study explored what full participation looked like by assuming teachers attempt to move towards a perceived ideal of what qualities a master teacher must possess. The data demonstrate the answer to that question to be unique to the individual teacher. The concept was driven largely by the sum of their experiences and with whom they interacted and looked to as role models.

Developing the Concept

Though unique to the individual, common themes emerged to see how teachers tended to view the concept of a master teacher. As the teachers consciously or unconsciously considered what they strived to become, the data indicate seven characteristics can be used as a means of how teachers construct the concept of a master teacher. The teachers expressed possessing a high level of content and curriculum knowledge, building strong relationships with students, gaining years of experience, taking intentional steps to improve, and understanding pedagogy as

characteristics a teacher needed to master to become increasingly proficient or exemplary at the craft. Additionally, the participants in this study also demonstrated that possessing an awareness of others and engaging in self-reflection which determined how they learned to become more effective teachers in the stated areas of what a master teacher represents.

Before understanding how teachers develop the concept of a master teacher and how that ideal is dependent on the situated context the teachers inhabit, it is first important to note the relative nature of the concept of a novice teacher as well. For this study, I selected two teachers with between 5-10 years of experience under the assumption they began their teaching careers as novice teachers. However, from there, the situated contexts they operated within shaped the concept of what they should be learning to become, a master teacher. The social interactions between colleagues, especially those that occur in a CoP, served as the bridge between the teachers' situated contexts and their learning. When the teachers actually progressed from being novice teachers to master teachers remains open to interpretation. More notably, what matters for the understanding of how learning occurs through the lenses of CoPs and LPP is examining the situated context of the teachers and the social interactions in which they engage.

The teachers in this study demonstrated the concept of a master teacher remained fluid as it was unique to the individual and dependent on ever changing contexts. However, how individual teachers viewed the concept influenced what they talk about and what they do. The characteristics participants stated as necessary for a master teacher to possess, along with the presence of an awareness of others and self-reflection offers a potential roadmap for consideration in future research when applying the concepts and theories from CoPs and LPP to an educational setting.

Further exploring how teachers develop a concept of a master teacher can also assist in how novice teachers move towards proficiency and mastery. In doing so, this offers additional concepts when looking at teacher learning through the lenses of LPP and CoPs. Figure 1 provides a visual representation of how teachers move towards their idea of what mastery is. As novice teachers progress in learning to master each of the characteristics perceived to make up a master teacher they move from the periphery of the profession towards the center, which represents mastery of the craft. Along the way, the learning setting represents the situated contexts the teachers inhabit as they engage in learning through social interactions with peers or veteran teachers. All of this work sits within the external factors that influence what the teachers do.

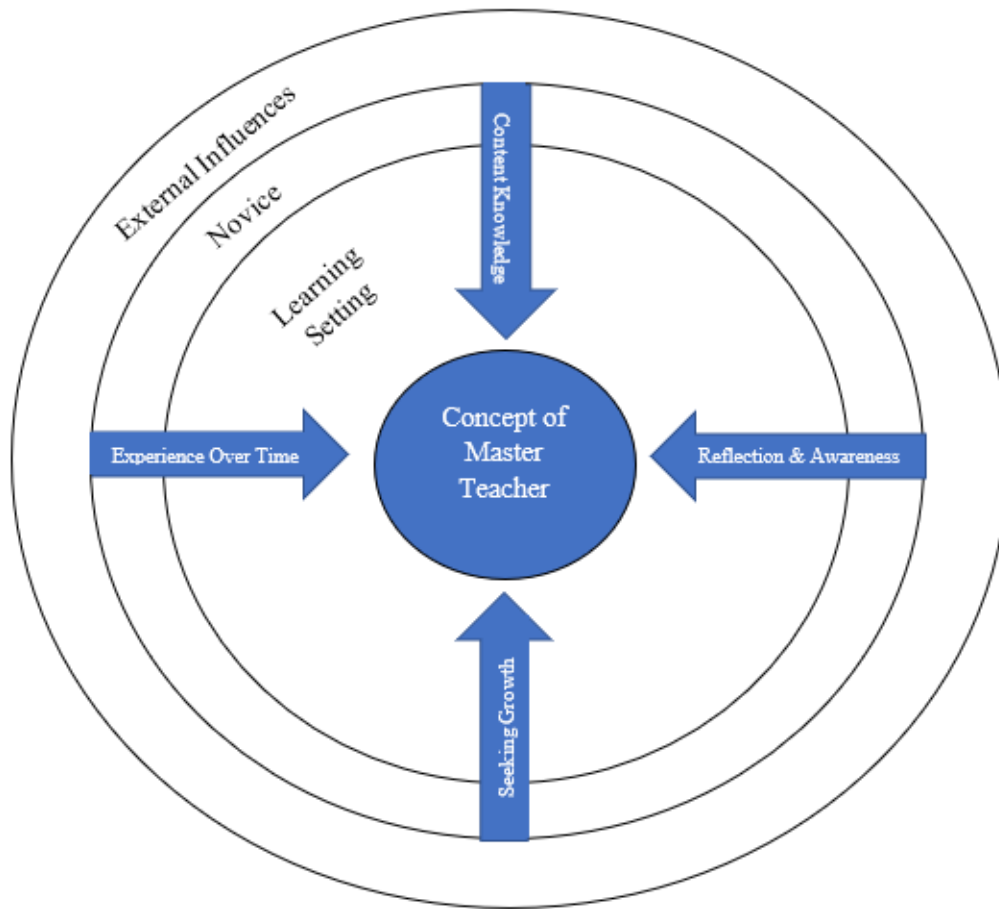
Effect of Context

While the concept of a master teacher represents an ideal, the concept also continuously shifts based on the situated context of the teacher. As Korthagen (2010) suggested teaching to be a “gestalt-driven” activity representative of the sum of one’s experiences, the pursuit of mastery as highlighted in this study remains dependent on the situational experiences of the teacher. A teacher may consider herself a master teacher of one course but not another. As an example, the data indicate this occurred for teachers when they taught a new course for the first time and can be understood by exploring the stated characteristics of a master teacher. When teaching a course for the first time, the teachers lacked the accumulated experience and deep curriculum knowledge they possessed in other courses. However, these teachers retained the accumulated experience and knowledge in the other areas needed to be considered a master teacher (e.g. building relationships) so they can more quickly learn in the areas where they lack the level of mastery for the new course.

The idea of a master teacher also remains context dependent as teachers look to other teachers as role models. As the participants in this study demonstrated, CoPs tended to represent small subsets within the school building, commonly formed around a specific curricular area or need (i.e. building relationships). Therefore, the teachers subconsciously developed the concept of a master teacher within these contexts. They looked to other teachers they knew. The concept of a master teacher could be entirely different for teachers in other subsets within the same school or for teachers in other school buildings.

This context-dependent view of the idea of a master teacher presents various implications for how teachers learn and of which school administrators should be aware. If teachers primarily look to those they know as role models to learn professionally, the understanding of what constitutes a master teacher could be entirely separate from a standards-based evaluation of what represents an exemplary teacher. Awareness of this divide could be useful to school administrators in attempting to shape what they intend teachers to learn about by influencing the situated context teachers will ultimately inhabit. For instance, assigning new teachers to the same curricular area (the small subset) with veteran teachers deemed to be exemplary by standards-based evaluation standards might increase the likelihood the new teachers engage in learning through CoPs in a way desired by the school's administration.

Figure 1: Learning to Become a Master Teacher



Impact of External Factors

A second way this study adds to the extant literature is by demonstrating how external factors influence what teachers talk about together and how that translates to what they do in the classroom. In this study, this was most evident in how the standardized test formed the language teachers used when interacting with each other and how that then transferred to practice in the classroom. The findings also demonstrated for what teachers look to school administrators for the purposes of professional learning, particularly in regard to support, motivation, and resources.

Standardized Language

When teachers are assigned to teach courses with a corresponding standardized test that students need to pass in order to fulfill requirements towards graduation, the test greatly impacts teacher behavior and interactions. This proved to have significant impact on the shared language teachers used when interacting with each other and ultimately how they applied that to their instructional practices. This is not to suggest whether this has a positive or negative effect but rather just to highlight the influence the test plays on teacher learning and action. Teachers feel the pressure to prepare students for the test based on implicit or explicit pressures applied from school, district, or state levels. I encourage future research to explore the role of external influences on teacher learning through social and situated contexts on teachers who teach courses absent pressure from a standardized test and to juxtapose those findings with those presented in this study.

Climate for Learning

The participants in this study did not look to school administration as a direct source of professional learning. Instead, they relied on peers to better learn their craft. Still, this is not meant to suggest school administrators do not influence teachers' professional learning. Rather, the overall school climate can provide support and motivation for teachers to go about their work. Whereas school administrators cannot directly influence how teachers may form CoPs to further their learning, they can indirectly impact this through intentionally using scheduling, both with how they make specific teaching assignment how they provide common planning time. These intentional steps can influence with whom and from a teacher is most likely to interact and learn. It remains important to note this study focused on teachers who were perceived to possess an intrinsic motivation to improve their practice. The selection of growth-minded teachers as

study participants was intentional so as to not contend with the variable of “do the teachers care to learn to be better?” Future research may seek to include teachers who may represent that variable to determine how and if they are affected by school administration differently than the teachers in this study.

Conclusion

This study builds upon previous research in using the theory of LPP and the associated concepts of CoPs in understanding how teachers learn to teach through social interactions with veterans and peers in situated contexts. In doing so, this study explored the concept of what constitutes a master teacher and how teachers develop that concept. Determining what teachers intend to learn more about impacts what will be learned. Additionally, this study demonstrated the role of external factors, including the pressures relating to standardized tests and the effects of school administrators on a supportive climate, in influencing what teachers talked about and how they practiced their craft. By better understanding these factors and of the phenomena of how teachers learn informally through the situated contexts they inhabit, school leaders may utilize this knowledge to support teachers in promoting student success.

Implications for School Leaders

This study offers numerous implications for school leaders, especially for those who seek to explore how teachers learn. Administrators can leverage that knowledge to promote student success. First, school administrators should be aware professional learning is taking place through informal social interactions and the effects of each teacher’s situated context has on that learning. With that recognition, I will recommend school leaders consider the findings in this study to reimagine how PD is structured and conducted in their schools. Secondly, I will suggest school administrators carefully consider the teaching assignments of novice teachers recognizing

the potential impact that has on who the teacher is most likely to look to as a source of professional learning. As I present the implications, I caution school leaders away from attempting to intentionally create CoPs within their schools. As noted earlier, CoPs are, at their core, informal and they take shape organically and are therefore fundamentally different from the more formal PLCs. Instead of trying to create CoPs, I encourage school leaders to focus more on fostering the conditions by which these communities may form and what administrators can do to create a climate of support for teachers to feel empowered to learn more together.

Professional Learning and Professional Development

The review of the literature in Chapter 2 noted a consensus that improving schools required helping teachers develop their practice, however, a consensus did not exist on how to do that (Avalos, 2011; Coldwell, 2017; Little, 1993; Guskey, 2003; Evans, 2014). This study suggests teachers primarily learn through the situated contexts they inhabit and the social interactions they have with peers. This reinforces the suggestion that effective PD should be individualized, involve inquiry, and promote collegiality (Guskey, 2003; Evans, 2014). It also further demonstrated the previously established understanding that the situated aspect of learning remains essential to teachers' professional learning (Avalos, 2011; Sawyer, 2002; Korthagen, 2010).

Guskey (2003) suggested effective PD also take into account context as the variations of context will impact teacher learning. He discussed how PD designed to enhance teacher content and pedagogical knowledge would need to be different at a school with few well-qualified teachers versus a school filled with well-qualified teachers. I would further encourage school leaders to also account for the situated contexts of individual or groups of teachers within the school building when designing PD programs. For instance, this study demonstrated English

teachers in one grade level operated within a context apart from that of English teachers in other grade levels based on the pressure of the standardized test. Therefore, those teachers will engage in learning along different paths and school leaders should account for this differentiation.

I do not suggest the findings of this study prove formal PD efforts as useless or ineffective. However, based on the findings in this study and the review of the literature, I suggest school leaders consider approaching PD first with the understanding that teachers develop learning communities and seek each other as a primary source of learning. This happens whether administrators intend for it to or not. By beginning with this understanding, school leaders might attempt to attune to how teachers are learning and from whom they are learning. The resulting knowledge can be leveraged by a school administrator to know how to influence a teacher's professional learning. As presented in the findings and previously discussed in this chapter, this could include altering the conditions by which teachers will ultimately learn by scheduling teaching assignments intentionally and providing common planning time.

Cultivating Effective Teachers

In addition to trying to determine how teachers are learning, to a positive or negative effect on students, I recommend school leaders carefully consider the teaching assignment of teachers new to the profession or to the school. The findings of this study suggest this decision to directly impact who the novice teacher looks to as a role model or mentor and how the teacher will embark on learning the practice of teaching. Additionally, if a formal mentoring program exists at the school, administrators can similarly consider the findings of this study in more deliberately pairing mentors with mentees.

Beyond how school leaders can use the findings of this study to guide teaching assignments and mentor-mentee pairings, this study can also have implications for the teacher

preparation process. Korthagen (2010) argued theory, as taught to prospective teachers in preparation programs, only mattered once a person had a motivation to pursue it. The findings in this study suggested teachers' professional learning to be dependent on the situated context and social interactions with others. Therefore, teacher preparation programs may consider how to create conditions by which prospective teachers have opportunities to actively apply theory and learn in contexts where they can negotiate their learning experiences.

Focus on Climate

Lastly, school administrators should take intentional steps to foster the conditions that will motivate and support teachers in learning while continuing to set high expectations. These steps can include forming relationships with teachers and allocating resources. In forming relationships with teachers, administrators can accomplish this through personal interactions, recognition of efforts, and providing specific feedback. Additionally, these efforts may also provide the school administrator with a better understanding of the teachers' situated contexts and how they are learning. With a better understanding of individual contexts, allocating resources such as providing professional leave for teachers to collaborate can be done in a more strategic manner to foster professional learning.

Implications for Future Research

In this discussion, I presented what the findings represent in terms of adding to the extant literature on the professional learning that takes place between teachers through social interactions and the implications that presents for practicing administrators. With that, it is important to highlight some of the conditions present in this study, how those conditions potentially influenced the study, and the implications they have for future research. As previously discussed, the participants were selected based on being perceived as growth-minded

and intrinsically motivated. This was done intentionally to attempt to control for motivation as a variable. I posited if I wanted to learn how teachers learn to become master teachers, I needed to select teachers who were perceived as wanting to become just that. The data indicate the participants indeed possessed a desire to continuously improve their practices.

Since the participants demonstrated intrinsic motivation, it should also be considered how this potentially affected the findings. For instance, the participants in this study primarily looked to other teachers as a source of professional learning consistent with the theory of LPP and the concept of CoPs. The teachers did not look to school administrators as a source of learning but rather for motivation and support. The implications of this were discussed, however, the discussion should not be construed as discrediting a coaching model or the value of administrator feedback on teacher learning. Instead, I only intend to highlight how teacher learning occurs in a school building apart from those models to bring increased awareness to the phenomenon of how learning occurs through social interactions in a situated context, whether intended or not.

Future researchers may build upon this study in applying the frameworks of LPP and CoPs to an educational context to further explore how teachers develop the perceived ideal of what they are seeking to become. I used the term master teacher to represent this ideal. Regardless of what term a future researcher might use to represent the ideal, I encourage starting with questions of “what are teachers learning” and “what do they strive to become?” in conjunction with studying how teachers learn through social interactions. Future research may consider looking at that question through the stated and unstated characteristics of what comprises a perceived master teacher with different populations and samples. Additionally, future research may also consider how shared language between teachers in a CoP differs without the pressures of a standardized test present. Lastly, the effect of school administrators

on supporting intrinsically motivated teachers versus those lacking motivation deserves more consideration.

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APPENDICIES

APPENDIX A: INTERVIEW 1 PROTOCOL

Teacher Initial Interview Protocol

Thank you for taking the time to meet with you today. My plan is to interview for no longer than one hour in length. For data collection purposes, I will be audio-recording our conversation today. The audio and any other records collected during this interview will be kept confidential. Your name, along with other names mentioned, will be kept confidential and will only be accessed by me. A pseudonym will be assigned to you to protect your identity and maintain confidentiality. I will destroy audio recordings after the research is complete. Once these interviews have been transcribed, I will send the transcripts to you for your review and approval to ensure accuracy. I will also share any analysis of the data collected for you to review and submit feedback pertaining to accuracy.

I will now begin the interview and recording.

1. Tell me about your background, your teaching experience, and your current outlook towards teaching.
2. Tell me about the colleagues you interact with most often.
 - a. How did you get to know them?
 - b. What subject areas do they teach?
 - c. How many years of experience do they have?
 - d. How often and when do you most interact with them?
 - e. What type of setting do your interactions take place? (formal or informal)
 - f. What else do you have in common with them?
 - g. What is the nature of what you talk about most often?

- h. The other colleagues you mentioned, do they interact with just you or do they interact together as well? Do all of you ever interact together?
 - i. Do you participate in any formal groups with the colleagues you mentioned? If so, describe those groups and whether your interactions take place only within the context of the formal meetings or if it also extends beyond.
3. How have your interactions with the colleagues you mentioned influenced your instructional practice?
4. How have your interactions with the colleagues you mentioned influenced you in other ways?

APPENDIX B: SECOND INTERVIEW PROTOCOL

Teacher Second Interview Protocol: Teacher 1 (Olivia)

1. What motivates you to want to learn more about teaching?
2. How are you currently seeking to further your professional learning? Do you have a specific focus?
3. If anything is standing in the way of your professional development, what are those things?
4. In the last interview, you spoke about your PLC and the impact it has on you, especially with the curriculum. If you were not required to meet with those teachers, how much do you think you would seek to meet with them on your own? What barriers might exist to that? (role model mentioned last time)
5. Conversely, if you could select any teachers in the building to work with (kind of like a self-created PLC), who would you choose and why? Always the same content?
6. From the last interview, it also seemed as though you meet regularly with two different groups, your PLC group (more formal) and the teachers you hang out with (informal). Would it be fair to say that you rely on your PLC for content and that the [relationship] group has influenced how you interact with students? Do you want to expand on this? (this is a lead into next question)
7. Last time, you described what makes the members of your PLC master teachers. Can you tell me where on the spectrum from novice to master you would classify the teachers in your less formal group and why?
 - a. This could lead to follow-ups on content vs. pedagogy as a master teacher and impact of interacting with teachers on content and pedagogical knowledge

- b. Is there a “leader” of this group? If so, who and how did that happen?
 - c. How has your role in this group evolved over time?
 - d. You mentioned you interact quite a bit with your [club] co-sponsor. How much of that happens in this [relationship] group and how much outside? Do your interactions with her influence your practice in the classroom? If so, how?
8. Back to your PLC (this may come from observation)...who is the leader of that group and how did that come to be? How has your role in the PLC evolved over time?

Teacher Second Interview Protocol: Teacher 2 (Katherine)

1. What motivates you to want to learn more about teaching?
2. How are you currently seeking to further your professional learning? Do you have a specific focus?
3. If anything is standing in the way of your professional development, what are those things?
4. In the last interview, you spoke about your PLC and the impact it has on you. If you were not required to meet with those teachers, how much do you think you would seek to meet with them on your own? What barriers might exist to that?
5. Conversely, if you could select any teachers in the building to work with (kind of like a self-created PLC), who would you choose and why? Always the same content?
6. From the last interview, it seemed when you were determining how you rated a teacher from novice to master, you valued years of experience and content-knowledge. Is that accurate? What other characteristics do you value in determining a master teacher?

7. You also mentioned a couple of times that some teachers seem to get disgruntled over time and that they may peak in the 5-6 years range. Can you expand on what you meant by that?
8. (Interview questions that may stem from PLC observation)- these questions should include an expansion of the role of [relationship] teachers in the group
9. During the last interview, you also mentioned you interact informally with the teachers in the classrooms near yours and that those interactions influenced your use of Desmos. Are there other times these casual conversations influenced your practice? How?

APPENDIX C: THIRD INTERVIEW PROTOCOL

Teacher Third Interview Protocol: Teacher 1 (Olivia)

1. We've talked a lot about what makes a teacher a master at his or her craft. If you could list as many characteristics of what makes a master teacher, what would they be?
 - a. Previously mentioned characteristics include: content knowledge, curriculum knowledge, relationships with students, creating assessments, scores, years of experience
 - b. Follow-ups could include focus on relationship building with students and teachers, content and curriculum knowledge, pedagogy, etc.
 - c. Additional follow-ups could relate to how much the standardized test influences teacher definition of mastery.
 - d. What are the main ways these characteristics are evaluated? Or what are the main criteria or methods for determining whether someone is a master teacher or not?
2. How many of those characteristics do you possess and which ones are you seeking to improve upon? Who do you look to for help in improving? Why?
3. In thinking of these characteristics, how did your view of a master teacher change as you went from (list previous three schools)?
4. Let's talk more about your interactions with your "relationships" group of teachers. How has that gone this school year? Do you see any effect on your practice, positive or negative?
5. Can you provide some specific examples of ways you are currently seeking to improve your practice and how you are going about that?
 - a. Who are you seeking for support/help? (learning)

6. In what ways does the standardized test shape what you are doing and what you are not doing?
 - a. What are your feelings about that?
7. How much influence does school administration (assistant principal or principal) have on what you do in your classroom?
 - a. What are some of the specific initiatives at your school right now?
 - b. What are your interactions with school administration like and how do they specifically influence your practice, positively or negatively? (this question could be asked in relation to some of the characteristics of master teacher cited above)
8. How much do you reflect on your own practice or situation? How do you act on these reflections?
 - a. Follow-ups to this could include confidence level as a teacher and dive into some more of the characteristics cited above.

Teacher Third Interview Protocol: Teacher 2 (Katherine)

1. We've talked a lot about what makes a teacher a master at his or her craft. If you could list as many characteristics of what makes a master teacher, what would they be?
 - a. Previously mentioned characteristics include: years of experience, content knowledge, curriculum knowledge, scores, growth mindset, wanting to improve, avoiding complacency
 - b. Follow-ups could include focus on relationship building with students and teachers, content and curriculum knowledge, pedagogy, etc.
 - c. Additional follow-ups could relate to how much the standardized test or AP test influences teacher definition of mastery.

- d. What are the main ways these characteristics are evaluated? Or what are the main criteria or methods for determining whether someone is a master teacher or not?
2. How many of those characteristics do you possess and which ones are you seeking to improve upon? Who do you look to for help in improving? Why?
3. In thinking of these characteristics, how did your view of a master teacher change as you interacted with veteran teachers (specifically cite the two most mentioned teachers).
4. Can you provide some specific examples of ways you are currently seeking to improve your practice and how you are going about that?
 - a. Who are you seeking for support/help? (learning)
5. In what ways does the standardized test or AP test shape what you are doing and what you are not doing?
 - a. What are your feelings about that?
6. How much influence does school administration (AP or principal) have on what you do in your classroom?
 - a. Previously mentioned the admin trust the [Math 1] team; also mentioned the AP supported her based on her family needs (not able to attend PD in summer)- perhaps dive into that some more.
 - b. What are some of the specific initiatives at your school right now?
 - c. What are your interactions with school administration like and how do they specifically influence your practice, positively or negatively? (this question could be asked in relation to some of the characteristics of master teacher cited above)
7. How much do you reflect on your own practice or situation? How do you act on these reflections?

- a. Follow-ups to this could include confidence level as a teacher and dive into some more of the characteristics cited above.

APPENDIX D: MENTOR/VETERAN TEACHER INTERVIEW PROTOCOL

Mentor/Veteran Teacher Interview Protocol

Thank you for taking the time to meet with you today. My plan is to interview for no longer than one hour in length. For data collection purposes, I will be audio-recording our conversation today. The audio and any other records collected during this interview will be kept confidential. Your name, along with other names mentioned, will be kept confidential and will only be accessed by me. A pseudonym will be assigned to you to protect your identity and maintain confidentiality. I will destroy audio recordings after the research is complete. Once these interviews have been transcribed, I will send the transcripts to you for your review and approval to ensure accuracy. I will also share any analysis of the data collected for you to review and submit feedback pertaining to accuracy.

I will now begin the interview and recording.

1. Can you briefly share your teaching background?
2. Can you describe, in general, how you help a teacher new to the school or to the profession?
 - a. Do you approach the two types differently? How?
3. If you had to describe the characteristics of a master teacher, what would they be?
4. What do you find to be the most common characteristics of a novice teacher?
 - a. Where do you see yourself on that continuum from novice to master?
 - b. Where do you see (study participant)?
 - c. Can you describe the main ways you have seen (study participant) grow as a teacher? (Strengths/Weaknesses/Habits)

- d. Where and how often do you typically interact with (study participant)? Have you ever seen her teach?
 - e. What roles does she and other teachers play in your PLC? When did you feel comfortable giving her a specific role or responsibility? Examples?
 - f. What other interactions with her have been important or impactful?
5. I'd like to talk about some external influences on your practice and how you help other teachers...
- a. How much does the standardized test guide what you do and talk about?
 - b. How much does administration and school-level initiative or policies influence your practice and how you interact with newer teachers?
 - c. In regards to how you mentor a teacher new to the school or profession, what advice would you have for administration?

VITA

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