UNDERSTANDING THE EXPERIENCE OF TEACHERS IN A
PROFESSIONAL LEARNING COMMUNITY: A CASE STUDY OF AN
INTERDISCIPLINARY NINTH GRADE TEAM

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Abstract

Professional learning communities (PLCs) have the potential to improve pedagogy (Dufour, 2004), build community in schools, (Huffman, 2011), allow teachers to develop innovative ideas (Cornelius, 2011) and “create and sustain a culture of learning for all students” (Huffman, 2011, p. 321). Because of these advantages, schools throughout the United States have implemented PLCs. While there has been some success with these initiatives, schools have faced many challenges in realizing the potential benefits associated with PLCs. The purpose of this qualitative case study is to understand how teachers experience participation in a professional learning community. Research questions focused on understanding school contextual factors, how teachers describe their experiences as part of a PLC, and how teachers’ practices have been influenced by their participation on the PLC. Findings revealed that institutional and cultural factors positively impact the collaborative work of the professional learning community; participation in the ninth grade interdisciplinary PLC provides increased teacher support, a higher degree of teacher empowerment, and leads to increased teacher capacity and sense of self-efficacy; and participation on the ninth grade interdisciplinary PLC results in increased support for students and stronger teacher-student relationships. The study’s findings also suggest the importance of administrative support and guidance throughout the PLC process in order to maximize the potential benefits of PLCs.

Keywords: professional learning communities, collaborative cultures, sustaining a collaborative culture, high school interdisciplinary PLC, student support
Dedication

This paper is dedicated to my family; without their support, patience, and sacrifice, I would never have been able to complete this work. To my wife, Deanna, who took on so much to give me time to complete this work, who encouraged and believed in me. And to my daughters, Emma and Sophia, who were so supportive throughout this process. Our ski trips kept me sane over the last few years. I love you all so much.
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Understanding the Experience of Teachers in a Professional Learning Community: A Case Study of One Ninth Grade Interdisciplinary PLC

Chapter 1: Introduction

Education leaders have long realized that one of the most important ways to produce high performing schools is to develop high quality teachers (Wei, Andree, & Hammond, 2009). To that end, teachers have been offered a variety of professional development opportunities, often in the form of seminars, workshops, inspirational speakers, and conferences (Moore & Shaw, 2000). Unfortunately, these opportunities have not always yielded the intended results (Curry & Killion, 2009; Guskey & Sparks, 1991).

Traditional professional development opportunities in the United States have historically been single day events with little connection to the instructional goals of the school community (Cerbin & Kopp, 2006; Stewart, 2011). This professional development usually occurred outside the context of the school and involved outside experts (Curry & Killion, 2009; Moore & Shaw, 2000). These events occurred infrequently and provided “little opportunity for follow up in the context of the participants’ workplace (Moore & Shaw, 2000, p. 5); as a result, these efforts often failed to engage teachers (Weeks & Stepanek, 2001). School administrators assumed that teachers would take the theoretical and conceptual ideas they had been introduced to and apply them in their classrooms (Guskey, 1994; Knapp, 2003; Moore & Shaw, 2000). Surveys, however, on pedagogical practices and teacher attitudes showed that such professional development resulted in little if any positive changes in the classroom (Curry & Killion, 2009; Huffman, 2011).

In the early 1990’s, education researchers and practitioners began to consider collaborative approaches to professional development (Darling-Hammond & McLaughlin,
Research into professional development has shown that the most effective programs are sustained for long periods of time, focus on subject matter relevant to the teacher’s day to day work, and encourage active learning. Such programs lead to increased teacher knowledge of content and pedagogy and lead to positive changes in the classroom (DuFour, 2004; Garet, Porter, Desimone, Birman, & Yoon, 2001; Louis, Marks, & Kruse, 1996; Nelson, Slavit, Perkins, & Hathorn, 2008; Stoll, Bolam, McMahon, Wallace, & Thomas, 2006; Wells & Feun, 2007). For example, in researching peer coaching, Showers (1985) found that it was much more likely to yield lasting change in pedagogical practice as it provided “a structure for the follow-up training that is essential for acquiring new teaching skills and strategies” (p. 3). Further, providing the structure for collegial conversations around pedagogy led to “improvement in multiple areas” (p. 22). Garet et al., (2001) found that teachers engaged in collaborative professional development reported a positive change in their pedagogical approach in the classroom. Garet et al. (2001), Guskey (2003), and Moore and Shaw (2000) concluded that to be effective, professional development must increase pedagogy and content knowledge, must be sustained, must have clear goals, must be collaborative, must be active, and must be inquiry based. Garet et al. (2001) and Supovitz, Mayer, and Kahle (2000) found that teachers benefitted from sustained professional development that was active and contextually appropriate. It soon became clear that professional development must provide opportunity for self directed collaboration.

This need for collaborative learning in education has been most commonly addressed through the implementation of professional learning communities (PLCs) (Huffman, 2011; VandeWeghe & Varney, 2006). The purpose of PLCs is to provide continuous, structured time for groups of teachers to work together to share and improve their classroom practice.
Research supports that PLCs result in more effective pedagogy (DuFour, 2004), allow teachers to develop innovative ideas (Cornelius, 2011), and create a shared culture of learning for all participants (Huffman, 2011; VandeWeghe & Varney, 2006). Research has found that teachers need to work together to find the best ways to improve student learning (Stoll et al., 2006; Huffman, 2011; Puchner & Taylor, 2006). The collaborative culture that is developed through PLCs creates a shared culture of learning for all participants (VandeWeghe & Varney, 2006).

**Statement of the Problem**

Though the collaborative model of professional development has been widely adopted in high schools throughout the United States, “there are faculties throughout North America that refer to themselves as professional learning communities (PLCs) yet do none of the things that PLCs do” (Dufour, 2007, p. 4). While the potential for professional development through PLCs is substantial, few high schools have realized the full benefits of this collaborative work. McLaughlin and Talbert’s (2006) study (as cited in Lieberman and Miller, 2011) of 22 high schools engaged in collaborative work concluded, based on the participants’ responses, that just one of the 22 schools researched reported improved pedagogical practices and increased student learning after implementing the PLC model. While school restructuring to provide opportunities for teachers to collaborate is generally effective, the result of this collaboration often falls short of expectations, particularly in high schools.

Though there have been numerous studies conducted around the topic of professional learning communities, there is a large gap in the research between the theoretical benefits of PLCs and the actual benefits of this collaborative work. Further, there have been a limited number of qualitative studies conducted amongst high school teachers to understand how they
experience this collaboration. Of these studies, few focus on the experiences of high school teachers on interdisciplinary PLCs. Until researchers and educators fully understand how high school teachers experience the cultural change that collaboration represents, the benefits of professional learning communities will not be fully realized. More qualitative studies are needed to fully understand the myriad nuanced experiences of high school teachers participating in interdisciplinary professional learning communities.

The purpose of this study is to understand how a group of ninth grade teachers at a suburban regional high school of 750 students in northeastern Massachusetts describe their experiences as members of an interdisciplinary PLC. The knowledge gained from this research will help to inform educators as to the challenges and benefits of grade level interdisciplinary collaboration in high schools. This study will add to the body of research that exists, providing further depth and breadth of knowledge regarding how to foster collaborative learning through professional learning communities in high schools.

Researchers and educators engaged in professional learning communities will also benefit from this study. By understanding how high school teachers experience collaboration in PLCs, researchers and educators can better understand the factors and conditions that influence successful implementation, and as a result, offer specific steps to increase the effectiveness of collaboration among teachers. School administrators and teachers will gain further insight into factors hindering and facilitating effective collaboration through the PLC model in high schools, which could lead to increased success of PLCs in their schools.

**Significance of the Problem**

Like many high schools throughout the United States, school leaders at Yorktown High School (a pseudonym) have realized the potential for professional development through
collaboration and have implemented professional learning communities throughout the school. While PLCs have been shown to have great potential, many schools struggle to realize that potential (DuFour, 2004; Darling-Hammond & Richardson, 2009). Highlighting the difficulty of implementing PLCs, Fullan (2007) writes that “terms travel easily” but the understanding “of the underlying concepts does not” (p. 67). In order to ensure that PLCs lead to impactful teacher collaboration, it is important to understand the factors hindering their success. Understanding the context of the introduction of PLCs in this school may prove valuable.

In 2007, Yorktown High School instituted interdisciplinary teaching teams at the grade nine level. These teams, composed of English, social studies, science, health, and math teachers were provided common planning time, allowing them to meet daily during school hours. Teachers were assigned to this team for a variety of reasons: some were currently teaching in grade nine, expressed interest in teaching grade nine, and expressed interest in being part of a teaching team; some teachers were randomly placed on the team due to the school schedule. In 2009, the school district began a professional learning community (PLC) initiative. At that point, the ninth grade team was renamed the ninth grade PLC. Structurally, the organization of this interdisciplinary PLC has been successful. Teachers have daily common planning time and have all students in common. While the PLC has reported several successes as a result of teacher collaboration, there are several opportunities to increase the effectiveness of this collaboration.

The challenges of fully realizing the benefits associated with professional learning communities are not unique to Yorktown High School. In fact, many schools report that such initiatives are ineffectual (Dooner, Mandzuk, & Clifton, 2008; Dufour, 2004; Leonard & Leonard, 2003; Well & Feun, 2007). PLCs often lose their momentum and focus, some teachers splinter off to work in smaller groups, and many teachers become frustrated at what they
perceive as wasted opportunities for collaboration (Wells, 2008). Creating further difficulty to successful implementation, many high school teachers are accustomed to working in isolation (Dufour, 2004; Giles & Hargreaves, 2006; Louis et al., 1996; Wells & Feun, 2007) and often resist the opportunity to collaborate. Further, many teachers lack the skills to collaborate successfully (Little, 2002). As a result, high school level PLCs often do not result in a significantly stronger collaborative culture. In order to improve the effectiveness of PLCs, educators must better understand how high school teachers experience collaboration.

This study provides insight into understanding the experiences of teachers engaged in interdisciplinary PLCs. This understanding provides strategies to increase collaborative professional development through PLCs in high schools. To achieve this goal, it is essential to understand how teachers describe their experiences in this collaborative culture and discover strategies that will result in increased benefits from PLC work. This study provides other researchers with an understanding of teacher attitudes toward the structural and cultural changes that accompany professional learning community initiatives. While this research focuses on a single case involving teachers at Yorktown High School, the experiences of these teachers provides insight for other educators experiencing similar issues in their schools.

Positionality Statement

The researcher in this proposed research site, Yorktown High School, serves as the English Department Chair in grades seven through twelve. In this role, I am a part of a team based management system. My responsibilities include teaching three courses, developing the English curriculum in grades seven through twelve, planning teacher schedules and course assignments, overseeing teachers’ professional development growth plans, ensuring implementation of a scaffolded, sequential curriculum, revising and developing curriculum, and
ordering books and materials. Additionally, I teach three courses in grades eleven and twelve. Prior to the 2014-2015 school year, I was a member of the ninth grade interdisciplinary PLC, which is the focus of this study. To minimize researcher bias, I will clearly state my bias and take steps to recognize and minimize this bias throughout the research process. Throughout my teaching career, I have benefitted from collaboration. My first teaching position was as a member of a four teacher seventh grade team. We met daily during common planning time, planned interdisciplinary activities, shared pedagogical and classroom management strategies, and discussed strategies to help individual students. This collaborative team was instrumental in helping me develop and improve as a teacher. My next two teaching positions were in Colombia and Japan, respectively. In each position, I was part of a small community of foreign-born humanities teachers who regularly collaborated, helping each other to become more effective educators. Upon my return to the United States, I was fortunate to be placed in a classroom adjacent to another English teacher, who I collaborated with and planned all aspects of the freshmen English curriculum. These collaborative experiences were instrumental in my professional development, helping me evolve into the teacher I am.

Because of the importance of collaboration to my professional development, I have several biases related to this issue. Briscoe (2005) emphasizes the significance of these biases, explaining “how one’s identities, particularly those associated with one’s positionality in society, influence the ways in which one perceives and understands the world” (p. 24). I feel very strongly that engaging in a PLC will improve the quality of teaching and student learning in schools.

Another bias I have is that my initial reaction is to see teacher resistance to collaboration as a teacher’s lack of desire to grow professionally and as a sign of contentment with the status
I understand that this resistance may be a result of having to implement an initiative that has been mandated, one in which teachers had no input in the planning and implementation stages. Likewise, the fear of teachers opening up their “classroom doors” to the scrutiny of others can be intimidating. Nevertheless, I have difficulty understanding how teachers could pass up the opportunity to collaborate with colleagues, and more importantly, engage in work that will positively benefit students. In my professional experience, I have always been driven to improve as a teacher and have regularly sought the ideas and advice of other professionals, with the goal of becoming the most effective educator I can be. I view PLCs as an opportunity to explore new ideas and to discover strategies and activities that other teachers employ. I regularly collaborate with others to revise activities, develop new units, and to continually advance my knowledge of the craft of teaching. PLCs have afforded me the perfect opportunity to collaborate with colleagues; I have difficulty understanding why some colleagues are resistant to such an opportunity.

As I engage in this research, I must recognize that educators are resistant to collaboration for a variety of reasons. Teachers may lack confidence in their abilities and view collaboration as a means for others to discover their inadequacies. Others may be afraid of change, much more comfortable maintaining autonomous tried and true patterns in their rooms. Some may feel they have worked hard to develop their units and are hesitant to share their intellectual property. Finally, some teachers may have personality conflicts with others in the group, which creates tension and the desire to resist working with that person. I must view colleagues’ resistance as an opportunity to engage in meaningful dialogue about the issues surrounding their resistance and work to resolve these issues.
I believe that participating in productive professional learning communities will benefit both teachers and students, improving the quality of education in schools. Structurally, these communities are not difficult to implement; practically, there are many challenges to overcome in order to maximize the potential benefits of PLCs. It is this researcher’s intent to regularly consider my positionality and work to overcome my biases in order to fully understand the perspectives of participating teachers and to suggest actionable steps to fully realize the benefits of PLCs.

**Research Questions**

In order to accomplish the goals of this study, the researcher focused on the following empirical questions:

1. How do teachers interpret the influence of school contextual factors (cultural, historical, and institutional) on collaboration efforts of the professional learning community?
2. How do staff members of a ninth grade interdisciplinary PLC describe their experiences as members of this group?
3. How have teachers’ practices been influenced by their participation in the grade nine PLC?

**Theoretical Framework**

This qualitative case study is informed by two theories: Vygotsky’s Social Development Theory (1978) and Lave and Wenger’s Communities of Practice model (1991). These theories were essential in shaping the proposed research into understanding the experiences of teachers engaged in an interdisciplinary professional learning community. As professional learning communities are rooted in sociocultural theory (Gallucci, 2008), an understanding of Vygotsky’s Social Development Theory will prove useful to addressing the research questions.
**Social development theory.** Social Development Theory emerged from the work of Lev Vygotsky (1896-1934), a Russian psychologist. Vygotsky described learning as an active process that occurs through the distinct context of social interactions; through these interactions, individuals construct meaning by internalizing new knowledge and strategies (Gallucci, 2008; John-Steiner & Mahn, 1996; Lave & Wenger, 1991). During this process of interpersonal and intrapersonal communication, learners process the information and ideas they have been exposed to; this learning becomes internalized and ultimately becomes a part of the learner’s thinking and identity, and is applied to new actions (Vygotsky, 1978).

Three significant themes in social development theory of importance to this study are the Zone of Proximal Development (ZPD), the More Knowledgeable Other (MKO), and the influence of the societal and cultural environment on an individual’s learning. Vygotsky (1978) describes the Zone of Proximal Development as the distance between tasks individuals can accomplish on their own and tasks that they can accomplish with guidance from or collaboration with more knowledgeable others (MKO), often peers, mentors, teachers, and coaches who have greater mastery of a specific task than the learner (Vygotsky, 1978). Emphasizing the importance of the ZPD, Vygotsky writes, “the only good learning is that which is in advance of development” (1978, p. 89). Essential to the learning process is providing learners with socially Jim environments where they can collaborate with others (Vygotsky, 1978).

Vygotsky’s zone of proximal development and the concept of the more knowledgeable other are embedded in the collaborative environment of professional learning communities. In PLCs, teachers meet regularly to collaborate, sharing their expertise with colleagues, supporting members in their learning, and utilizing their collective strengths to develop more effective, innovative lessons (Darling-Hammond & Richardson, 2009; Louis et al., 1996). In successful
PLCs, teachers who are expert in a particular area regularly share this expertise with less able colleagues, guiding colleagues to become more successful, effective educators (DuFour, 2007; Heineke, 2013; Tweedell, 2000). The interconnected, collaborative culture developed in PLCs promotes complex, deeper learning (DuFour, 2004; Hipp, Huffman, Pankake, & Olivier, 2008; Morrissey, 2000; Stoll, 1998a).

Vygotsky explained that the learning that occurs in the ZPD is mediated by semiotic tools. These societal tools help learners and more knowledgeable others develop a shared understanding of learning activities and solve complex problems (Hansman, 2001; Lantolf, 1994). Lemke (2001) provides several examples of semiotic tools that cultures use to transmit learning such as the principle tool of language, value systems, beliefs, and particular practices. Semiotic mediation is evident in such activities as discussion, collaboration, scaffolding, and modeling (Goncu & Gauvain, 2012). The interactions between learners, the social context in which the learning occurs, and the tools learners use to mediate their learning all play a significant role in influencing the learning that occurs (Hansman, 2001); likewise, these elements are embedded in professional learning communities. Though Vygotsky’s learning theories were developed with a focus on children’s cognitive development, they have been shown to have great application in the learning of adults, who are the focus of this research. Lave and Wenger’s Communities of Practice model (1991) applies Vygotsky’s theory to adult learning.

Situated learning and communities of practice. Lave and Wenger’s (1991) Communities of Practice model, a situated learning theory grounded in sociocultural beliefs about one’s learning (Gallucci, 2008), will provide the lens to understand how teachers experience participation in professional learning communities. Communities of practice have been called a variety of terms: Instructional Coaching (Joyce & Showers 2002; Knight 2007),
Community of Inquiry, (Garrison, Anderson, & Archer, 1999), Teacher Learning Communities (McLaughlin & Talbert, 2001), Inquiry Communities (Cochran-Smith & Lytle, 1999), Professional Learning Communities (Hord, 1997), and Collegial Study Groups (Dana & Yendol-Silva, 2003). Regardless of the identifying name given, these groups share a similar description of a practical model for adult learning, based on the idea that learning is a social process and occurs when a group of people collaborate to construct knowledge for the purpose of solving real life, contextually meaningful problems (Gallucci, 2008; Goncu & Gauvain, 2012; Lave & Wenger, 1991; Matusov & Rogoff, 2002). As part of their situated learning theory, Lave and Wenger (1991) called these collaborative groups communities of practice, defining such work as “participation in an activity system about which participants share understandings concerning what they are doing and what that means for their lives and their communities” (p. 98). Brown and Duguid (1996) found that, to create lasting change, it was essential to provide workers opportunity to collaborate and reflect on their work; by collaborating on contextually meaningful activities, employees felt a stronger sense of purpose and created a sustained culture of learning. The result of this “grassroots” culture of learning was a group of participants who used their experience in the workplace to guide their learning (Brown & Duguid, 1996). Wenger (2006) further articulated the goal of communities of practice as “groups of people who share a concern or passion for something they do and learn how to do it better as they interact regularly” (para 2).

The Community of Practice model is implemented in schools throughout the country under the name of professional learning communities (DuFour, 2007). Following Lave and Wenger’s model, PLCs are composed of educators who collaborate, over an extended period of time, to increase their knowledge and skills in order to increase the effectiveness of classroom instruction (DuFour, 2004). Supporting Lave and Wenger’s situated learning theory, Garet et al.
(2001) found that engaging teachers in collaborative professional development was more effective than traditional professional development models. In defining effective characteristics of professional development, Garet et al. (2001), Guskey (2003), Moore and Shaw (2000), and Supovitz, Mayer, and Kahle (2000) concluded that, to be effective, professional development must be collaborative, must increase pedagogy and content knowledge, must be sustained, must have clear goals, and must be active and inquiry based.

In subsequent work, Wenger (1998) further defined communities of practice, explaining the three dimensions that constitute such groups: joint enterprise, mutual engagement, and shared repertoire (Wenger, 1998). Joint enterprise is formed by a “collective process of negotiations that reflects the full complexity of mutual engagement” (Wenger, 1998, p. 77) or the members’ common purpose or goal and the accountability members feel toward achieving the purpose. Because the group develops the common purpose, members are highly committed to contribute to the success of the group (Chalmers & Keown, 2006; Cuddapah & Clayton, 2011; Wenger, 1998, 2011). In schools, this joint enterprise is focused on providing high quality education to the student body. Professional learning communities provide opportunities for teachers to develop their skills and work to accomplish this joint enterprise.

Lave and Wenger’s Communities of Practice model is also developed through mutual engagement. Members collaborate on tasks, engage in discussion, support each other, and share knowledge to address common goals. This mutual engagement reflects Vygotsky’s MKO and ZPD. As group members collaborate on diverse tasks, those with expertise in a particular area share their knowledge with others in the group. As members collaborate, those with less expertise in a particular task or topic learn from their more capable peers, or more knowledgeable others. Concurrently, members collaborate on these common goals, working
within the zone of proximal development to support colleagues’ development. As these communities interact, the relationships between group members become more interdependent, group norms emerge, and members develop a strong culture of trust. This results in increased collaboration toward realizing group goals (Cassidy et al., 2008; Wenger, 1998, 2000). Social interaction is an essential part of this process; sociocultural learning theories are at the core of these communities of practice.

Wenger (1998) also espouses that communities of practice produce a shared repertoire of common resources, which Vygotsky identified as semiotic tools. These tools provide a common language for group members to use to communicate meaning. A shared repertoire of tools, also essential to professional learning communities, includes “routines, words, tools, ways of doing things, stories, gestures, symbols, genres, actions, or concepts that the community has produced or adopted in the course of its existence, and which have become part of its practice” (Wenger, 1998, p. 83). Through regular and sustained interaction, these three aspects of communities of practice and professional learning communities work in concert to create successful communities (Wenger, 1998).

Lave and Wenger’s communities of practice model, like professional learning communities, are implemented to increase members’ effectiveness in their job. Unfortunately, in education, PLCs often fail to achieve the intended results. This proposed research study seeks to understand how teachers describe their experiences working within the ninth grade interdisciplinary PLC. Lave and Wagner’s communities of practice model will provide the framework to view the process of learning and the contextual factors that influence PLCs.

The implications of this study are numerous. Despite the widespread adoption of professional learning communities in high schools, many PLCs struggle to realize the benefits of
this collaborative work. A main challenge of PLC work, particularly in high schools, is to create an environment where traditionally isolated teachers collaborate to improve their teaching and learning (DuFour, 2004). This approach to the construction of knowledge represents a significant cultural shift, which often proves challenging for teachers. Understanding how teachers describe their experiences in professional learning communities is essential to realizing an effective, sustainable PLC culture (Fullan, 2007).

**Summation**

Professional learning communities have been implemented in schools throughout America as a professional development model. Based upon sociocultural principles that learning is social, these communities provide continuous, structured time for teachers to collaborate to improve their classroom practice (Achinstein, 2002; Burbank & Kauchak, 2003; Datnow, 2011; Morrissey, 2000); unfortunately, many PLCs fail to realize the potential benefits of this collaborative work (DuFour, 2004; Dooner et al., 2008; Lieberman & Miller, 2011; Servage, 2008). Developing successful PLCs is particularly challenging in high schools, where a culture of collaboration is traditionally lacking. Many PLCs become mired in cultural norms of isolation rather than internalizing those norms necessary for collaboration (Huberman, 1983; Leonard & Leonard, 2003). The challenge of realizing the full benefits of PLCs is evident in the proposed study group, a ninth grade interdisciplinary team at Yorktown High School. It is important to gain insight into how these teachers describe their experiences as members of this PLC in order to understand how to maximize the potential benefits of this group.

The Communities of Practice model will be used as a guide in this research study as it will allow the researcher to better understand how the teachers in the proposed study group experience their participation in the grade nine interdisciplinary PLC. Understanding the
potential gaps between the expected and actual experiences of these teachers may provide insight into creating more effective PLCs.
Chapter 2: Literature Review

Because of the potential advantages of professional learning communities, schools throughout the United States have implemented them. Research showing the benefits of having successful professional learning communities (PLCs) in high schools is conclusive (Dufour, 2004; Dooner et al., 2008; Huffman, 2011; Lieberman & Miller, 2008; Servage, 2008; Wells, 2008). The expected results of this initiative include developing a culture of learning, where teachers collaborate with one another, share best practices, engage in collective inquiry, develop innovative practices, and commit to a culture of continuous improvement.

All too often, however, these learning communities fall short of realizing the benefits touted in the research. Though PLCs have been widely adopted in high schools throughout the United States, “there are faculties throughout North America that refer to themselves as professional learning communities (PLCs) yet do none of the things that PLCs do” (Dufour, 2007, p. 4; Huffman, 2011; Thompson, Gregg, & Niska, 2004).

PLCs have been implemented and written about by a variety of different people, many putting their own interpretation into the PLC model. This review will focus on the PLC model put forth by Hord (1997), recognized as one of the leading experts on PLCs. In her seminal work Professional Learning Communities: Communities of Continuous Inquiry and Improvement (1997), Hord identifies five essential components of successful PLCs: supportive and shared leadership, shared values and vision, collective learning and application of learning, supportive conditions, and shared personal practice.

This literature review is organized into five sections. The first section provides an overview of adult learning. As professional learning communities are touted as the core of teacher learning in schools, it is important to establish the necessary condition for adult learning.
This is followed by a discussion of the benefits associated with professional learning communities, essential components of successful PLCs, and challenges inherent in implementing PLCs with an emphasis on the high school setting. The fifth section discusses how change leaders can work to sustain PLC initiatives in their schools.

**Principles of Adult Learning**

As professional learning communities are organized with the assumption that adults will learn best in a collaborative environment with their peers, it is important to understand the concept of adult learning. Beginning with Dewey (1916), concepts of adult education have always incorporated experiential learning and collaboration with peers. As early as 1916, Dewey wrote that the social environment surrounding one’s learning influences the “degree in which an individual shares or participates in some conjoint activity” (p. 26). Since the 1920s, when adult education began to be researched as a distinct field, researchers have focused on how adults learn (Merriam, 2001). The initial focus of much of this research was to discover whether adults learn (Merriam, 2001). Through the 1950s, researchers did not differentiate between children and adults in the process of learning. Using standardized measures designed to test learning in children, much research concluded that adults had much difficulty recalling and processing information as well as challenges in problem solving (Merriam, 2001). It was not until the late 1960s that researchers began to consider adult education as a distinct area of education separate from the education of children (Merriam, 2001; Rachal, 2002).

The field of adult learning was furthered by the introduction of Malcolm Knowles’ andragogy learning theory, one of most well-known and widely accepted theories on adult learning. First published in 1968 (Merriam, Caffarella, & Baumgartner, 2012), andragogy is premised on the foundation that adults learn differently than children (Knowles, Holton, &
Swanson, 2005; Tweedell, 2000). This theory posits that as people mature, they become more independent in their learning (Huang, 2002). Knowles’ theory identifies six assumptions, or principles, about adult learning (Knowles et al., 2005):

1. Adult learners are autonomous and self-directed toward achieving their goals.
2. Adult learners bring much knowledge and life experience into the classroom which can be a valuable tool for learning.
3. Adult learners are goal-oriented.
4. Adult learners are relevancy-oriented.
5. Adult learners are problem-centered rather than subject-centered.
6. Adult learners are intrinsically motivated.

These assumptions are critical to developing adult learning activities. To facilitate adult learning, Knowles recommends creating a collaborative climate conducive to learning, instituting structures for mutual planning, developing a routine for learning experiences, managing the learning experiences, and evaluating the results of the learning (Knowles et al., 2005; Tweedell, 2000). Aligning with Vygotsky’s emphasis on the importance of social interaction in learning, Knowles et al. (2005) stresses the importance of a cooperative climate, where adults can collaborate on goals and learning objectives based on individual learner needs.

Knowles’ assumptions emphasized that adults must have choice as to how they will approach and actively participate in their learning (Lieb, 1991). They must also be encouraged to access their prior knowledge to explore new ideas. In this way, adult learners can better synthesize their learning and apply it to new situations (Drago-Severson, 2009; Knowles et al., 2005). As adult learners are goal oriented, they must understand how learning activities will help them reach their learning goals (Merriam, 2001) and be provided opportunities to develop tasks
around their interests (Huang, 2002). Learning activities should be immediately applicable to their careers or personal lives in order for adults to see their value and commit to learning (Cercone, 2008; Lieb, 1991; Merriam, 2001).

In practical terms, Knowles’ assumptions are illustrated in the early career experience of Catherine Hansman, professor of Adult Learning and Development at Cleveland State University. Hired to teach writing in a university developmental writing program, Hansman, with no prior experience as a writing teacher, was provided a one-week intensive workshop on the teaching of writing through the English department. While the university felt this lecture based training sufficient, Hansman’s development as a writing teacher “happened over time and was mediated by [her] experiences” (Hansman, 2001, p. 43) discussing assignments with other teachers, conducting classroom observations, and reflecting on classroom practices. Hansman explains she developed as a writing teacher through the “unplanned intersection of people, culture, tools, and context” (pp. 43-44). Hansman’s experience demonstrates both the failure of traditional methods of educating adult learners and the potential successes attained in applying andragogical principles to educate adults.

Hansman’s experience illustrates the dichotomy between traditional teacher professional development, where experts talk at teachers and effective professional development, where teachers collaborate to improve their teaching (Darling-Hammond & Richardson, 2009). Traditional professional development opportunities in the United States were often single day events with little connection to the instructional goals of the school community (Cerbin & Kopp, 2006; Goldenberg & Gallimore, 1991; Stewart, 2011). The traditional model, delivered by external experts who prescribed various “remedies” to classroom ailments, often failed to engage teachers (Weeks & Stepanek, 2001) and the lessons were soon forgotten as the day-to-day grind
of teaching pushed them aside. Effective professional development for teachers, guided by principles of andragogy, must be collaborative, must be guided by the needs of educators, must be immediately applicable in the classroom, and must have clearly identifiable benefits to participants (Garet et al., 2001; Hellner, 2008). Subsequent research has shown that the most effective professional development programs are sustained for long periods of time, focus on subject matter relevant to the teacher’s day-to-day work, and encourage active learning. Such programs lead to increased teacher knowledge of content and pedagogy and can be evidenced in improved classroom teaching (Garet et al., 2001).

Knowles’ assumptions about adult learning have been applied in education through professional learning communities (Huffman, 2011; VandeWeghe & Varney, 2006). Professional learning communities provide opportunities for educators to discuss issues they have in their classrooms, share their experiences with colleagues, and collaborate to acquire new knowledge, skills, and strategies to solve problems that directly relate to their professional practice (DuFour, 2007; Hord, 1997; Huffman, 2011). In PLCs, members collaborate to set the agenda and establish goals that directly relate to their professional needs. They rely on their expertise and the expertise of group members to improve their professional practice. In short, professional learning communities foster an environment well suited to the needs of adult learners.

The Potential Benefits of Professional Learning Communities

Implementing professional learning communities is widely considered the most effective professional development model for sustaining significant improvement in schools (Darling-Hammond, 1997; DuFour, DuFour, & Eaker, 2008; Garet et al., 2001; Little, 1990; Stoll et al., 2006; Strahan, 2003; Wenger, 1998). The PLC model provides regular opportunities for teachers
to discuss best practices and benefit from the advice of their colleagues (Hargreaves & Fink, 2008; Little, Gearhart, Curry, & Kafka, 2003; Supovitz & Christman, 2003; Vescio, Ross, & Adams, 2008). This focus on classroom practice leads to increased student achievement (DuFour, 2004; Lieberman & Miller, 2011; Servage, 2008; Thompson et al., 2004; Wells, 2008).

PLCs can positively influence teachers’ practice, students’ learning, and the school’s atmosphere and goals (Darling-Hammond & McLaughlin, 2005; Hellner, 2008; Louis & Marks, 1998; Wells & Feun, 2007). In highlighting the potential of PLCs, Stoll, Bolam, McMahon, Wallace, and Thomas (2006) state that PLCs can “promote and sustain the learning of all professionals in the school community, with the collective purpose of enhancing pupil learning” (p. 229). Reinforcing the emphasis on learning, Lieberman and Miller (2008) describe them as “ongoing groups … who meet regularly for the purposes of increasing their own learning and that of their students” (p. 2); Hipp and Huffman (2010) state that PLCs are composed of “professional educators working collectively and purposefully to create and sustain a culture of learning for all students and adults” (p. 12). Mitchell and Sackney add that such groups “promote the values and individual and collective learning for all members of the community, and people in the community are interested in improving the quality of learning and life for all” (2000, p. 133).

PLCs provide the framework to not only benefit teachers and students but to sustain these benefits over time. Huffman (2011) explains the PLC model provides “a clear focus to not only improve student learning, but to also redesign schools to be learning centers for all” (p. 321). As a professional development model, PLCs provide ongoing support to teachers that focuses not only on content knowledge but also has relevance in their daily lives (Darling-Hammond & Richardson, 2009). The immediate application of skills and issues discussed in PLCs benefit
curriculum and assessment and result in increased student learning (Louis et al., 1996; Yoon, Duncan, Lee, Scarloss, & Shapley, 2007).

One reason for the success of PLCs is that they provide opportunities for ongoing collaboration. This continuous, structured time for teachers to collaborate leads to teachers acquiring new pedagogical strategies (Achinstein, 2002; Burbank & Kauchak, 2003; Datnow, 2011; Morrissey, 2000). PLCs foster collaboration by promoting shared learning and providing moral support (Hargreaves, 2008; Hord, 1997). Hord (1997) found that the support in such groups resulted in more committed and effective teachers, higher teacher morale, a greater understanding of curricular goals, and an increased willingness to share with colleagues. Such an environment results in a shared commitment to the growth and development of individuals and the school community (Hord, 1997; Lieberman & Miller, 2011; Sergiovanni, 1994). This can result in improved solutions to increase student learning (Hord, 1997).

When teachers collaborate around shared goals and common experience, collective learning occurs (Andrews & Lewis, 2002). In a PLC, colleagues are more likely to share practices and experiment with new instructional methods. As a result, they experience more success in meeting the needs of all learners (Andree et al., 2009; Strahan, 2003). In a three-year study of three elementary schools engaged in PLCs, Strahan (2003) found that each school developed “supportive cultures that enabled participants to coordinate efforts to improve instruction” (p. 127). Participating teachers developed a shared vision and goals, which contributed to stronger instructional norms. In weekly grade-level meetings, teachers collaborated to implement the district literacy plan by discussing such instructional strategies as using close reading in science and incorporating comprehension strategies for math word problems. Expressing the value of shared goals, one teacher stated, “when I have opportunities
to see other teachers interacting with students, there is a hunger to do the right thing and use new ideas” (Strahan, 2003, pp. 133-134).

PLCs have also proven successful in the high school setting. Horn (2005) studied a PLC composed of math teachers at East High School to better understand their collaborative process. Teachers worked to make the math curriculum more challenging, working together to ensure students learned the new material. This group focused their goal on creating “group-worthy problems”, which they designated as the gold standard to measure math problems by. Keeping this goal as the focus of discussion, Horn found this group regularly reinforced what “group-worthy problems” meant, problems that illustrated important mathematical concepts, necessitated student collaboration to solve, and had several possible solutions. This guiding term revealed teachers’ philosophies and beliefs about “student participation and learning” (Horn, 2005, p. 219). Through these discussions, centered around specific aspects of curriculum, veteran teachers were able to refine and reinforce their understanding of what gold-worthy meant and newer teachers were able to better understand the group’s collective vision of math instruction. As a result of their involvement in the PLC, teachers reported a fundamental change in their instructional practices and in their beliefs about student learning.

Broadening the study of PLCs to a statewide level, Supovitz, Maher, and Kahle (2000) found that PLCs could lead to sustained, long lasting change. Focusing on results from Ohio’s statewide professional development initiative, funded by the National Science Foundation, Supovitz et al. (2000) reported that long-term, collaborative professional development, set in the context of teachers’ daily lives, was effective in increasing inquiry based instructional practices. Results of this study showed that teachers benefitted from involvement in PLCs as they sought out new techniques, tried them in their classrooms, and reflected on their experiences. Through
this collaboration, teachers shared their knowledge and learned from the expertise of colleagues. In gauging the long term effects of this collaborative work on teachers, the authors found that in the first year of this initiative, teachers’ attitudes toward teaching, preparation time, and use of inquiry based instructional practices had significantly improved. After three years, the positive changes were sustained (Supovitz et al., 2000). This positive change is also reflected in students’ scores on Ohio’s high stakes proficiency tests in math and science. The scores of students whose teachers participated in this collaborative initiative showed positive gains when compared to scores of other students. This evidence supports that collaborative professional development can translate into an increase in student learning.

Schools with strong professional communities produce students who achieve at higher levels (Supovitz & Christman, 2003; Louis & Marks, 1998; Stoll et al., 2006; Wiley, 2001). Student learning increases when the emphasis of PLCs is not on what to teach but on how to teach (Dufour, 2004; Lieberman & Miller, 2011; Supovitz & Christman, 2003). Successfully implemented PLCs often result in greater consistency in instruction; ensuring students are provided opportunities to learn necessary skills (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009). Louis and Marks (1998) concluded after researching 24 schools (eight elementary, eight middle, and eight high schools) that those with effective professional learning communities demonstrated high quality pedagogical techniques that fostered higher order thinking skills and depth of knowledge attainment and led to increased student achievement. In a previously mentioned study of three elementary schools, Strahan (2003) reported a 25% increase in students who scored proficient on state achievement tests in the three years after the schools introduced PLCs. Similar improvements have been noted throughout the United States. Citing Newman and Wehlage’s (1995) study of 1500 schools engaged in intensive school restructuring,
Darling-Hammond et al. (1999) found that in schools where teachers had formed PLCs, student absences and dropout rates decreased, and achievement in math, science, history, and reading noticeably increased.

The teachers at Boones Mill Elementary School in rural Virginia illustrate the possibilities for collaboration through PLCs. At Boones Mill, teachers engage in a protocol they call teaching-learning process to investigate whether students are learning what they need to learn and which students need additional support to learn (DuFour, 2004). Using the school curriculum guide to frame their units of study, teachers collaboratively plan units, agree on student outcomes, and create formative and summative assessments. After students take the assessments, grade level teachers discuss the results for all students, identify strengths and weaknesses in student learning, and discuss strategies to raise student achievement. This emphasis on student learning drives the success of teacher collaboration (DuFour, 2004).

The common meeting time inherent in professional learning communities also provides increased opportunities for teachers to address students’ social and emotional needs. This often leads to increased student success (McIntosh & White, 2006). One of the ingredients to students’ success is in supporting students’ needs (Klem & Connell, 2004; Marzano, 2011; McLaughlin & Talbert, 1993) To foster student success, teachers need to create a caring environment, one where students feel supported (Klem & Connell, 2004; Marzano, 2011). This support leads to student engagement, a key ingredient of student success (Harris, 2011; Klem & Connell, 2004).

One way to support students is helping them transition to high school. A successful transition is a key indicator of a student’s success through high school (Hertzog & Morgan, 1999; McIntosh & White, 2006). This support can take several forms. Many schools have
specific transitional summer programs, lasting a day to a full week, to acclimate students to high school (Cauley & Javanovich, 2006; McIntosh & White, 2006). Programs often include spending time with teachers, guidance and other support personnel, and student mentors (Cauley & Javanovich, 2006; McIntosh & White, 2006). These transitional programs lay the groundwork for student success (Cauley & Javanovich, 2006; Iver & Epstein, 1991; McIntosh & White, 2006). PLCs further support students’ high school transition by establishing coordinated structure for students. Teachers collaborate to develop uniform rules and procedures that are consistently and fairly applied to students (Klem & Connell, 2004; Rentfro, 2007). This consistent structure leads to increased student engagement, resulting in improved learning (Klem & Connell; Rentfro, 2007).

PLCs also provide opportunities for teachers to identify and support struggling students. In PLCs, teachers often have common meeting time; this provides them the opportunity to identify and monitor students who may be struggling academically or emotionally (Honawar, 2008; Many, 2009; Rentfro, 2007). Common time provides teachers opportunities to support students “who are in trouble academically, socially, or in other ways, and they try to work out ways help, before problems escalate” (Langer, 2000, p. 45). PLCs allow teachers to respond quickly to students’ needs (Iver, 1990; Iver & Epstein, 1991; Langer, 2000; Many, 2009).

The support that PLCs provide takes many forms. Teachers regularly meet to develop individual success plans for students (Honawar, 2008; Iver & Epstein, 1991; Many, 2009; Marzano, 2011). These success plans often include taking advantage of other resources available to teachers, such as guidance counselors and parents (Haberman, 2004; Langer, 2000). Teachers often coordinate meetings with these stakeholders to “review the student’s progress and plan interventions” (Iver, 1990, p. 460). Teachers also provide tutoring and establish peer tutoring
programs to assist struggling students (Haberman, 2004; Iver, 1990; Marzano, 2011). PLCs also facilitate recognition of student success (Haberman, 2004; McIntosh & White, 2006). Having the common time to meet to discuss students, make use of available resources to support students, and implement timely intervention strategies results in increased student learning (McLaughlin & Talbert, 1993; Rentfro, 2007).

The shared commitment of teachers in PLCs also facilitates the development of strong teacher-student relationships. Because of the consistent discussion around students, teachers in PLCs often demonstrate strong investment in their shared students (Harris, 2011) and “often go the extra mile” to help students succeed (Langer, 2000, p. 45). Teachers in PLCs often have a better understanding of their students as teachers share knowledge about them with each other (DuFour & Eaker, 2008; Harris, 2011; Hord, 1997; Marzano, 2011; McLaughlin & Talbert, 2001). When students perceive their teachers care about their success, they are more likely to become engaged in their learning, resulting in improved learning (Harris, 2011; Klem & Connell; Marzano, 2011; Rentfro, 2007).

Given the well-documented success of professional learning communities, it is important to remember that simply providing time for teachers to talk does not ensure positive results (Little, 1990, 2003; Supovitz & Christman, 2003). Little warns of the potential for teachers to lose focus on the overarching goal of these communities: to improve student learning. Echoing Little’s concern, researchers emphasize that participants must regularly refocus their conversations on the shared goals driving the group: improving student learning (Horn & Little, 2009; Grossman, Wineburg, & Woolworth, 2001; Lieberman & Miller, 2011; Vescio et al., 2008). There have been many studies dedicated to understanding how PLCs are successful.
While each PLC is unique to the culture of the school and the experiences of its members, many successful PLCs share specific traits.

**Characteristics of Successful Professional Learning Communities**

In discussing the necessary traits for successful professional learning communities, Hord’s (1997) conceptual model of professional learning communities is used. In her seminal work, a literature review of professional learning, Hord identified five necessary elements for collaborative work. These are:

1. Supportive and Shared Leadership
2. Shared Values and Vision
3. Collective Learning and Application of Learning (originally called Collective Creativity)
4. Supportive Conditions
5. Shared Personal Practice (Hord, 1997).

DuFour (2007) stated that schools only become true professional learning communities when the participants align their actions and beliefs to PLC concepts. When in place, these elements establish conditions for successful PLCs (Hord, 1997; Huffman, 2011; Lieberman & Miller, 2008). These five common, intertwined characteristics of professional learning communities are further explained below.

**Supportive and shared leadership.** PLCs are characterized by the development of a supportive school culture and shared leadership (Hord, 1997; Wells & Feun, 2007), one where teachers feel respected and valued by their principal and other administrators. Such an environment spreads the traditional roles and responsibilities of leadership to others in the school in such areas as developing the school vision, curriculum and instruction, and professional development initiatives (Spillane, Halverson, and Diamond, 2004). One benefit of such a model
is that it allows teachers, who are normally isolated in their classrooms, to be part of the decision making process at the school (Hulpia and Devos, 2010). This increased role in school wide decisions positively affects teachers’ motivation to implement and work continuously for the success of the school goals (Wahlstrom & Louis, 2008). In this environment, leaders distribute “power, authority, and decision making” (Hellner, 2008, p. 50) while providing the support teachers need to sustain the initiative.

A positive relationship between a school principal and teachers is central to developing group consensus and commitment in the school community (Barnett & McCormick, 2003; Huffman, 2011). School leaders should work to foster relationships with each member of the school community, working to make them feel valued and respected (Huffman, 2011). To accomplish this, they should practice behaviors such as showing an interest in teachers’ work, being accessible, supportive, and fair and providing rewards and recognition (Schneider, Brief, & Guzzo, 1996). Such behaviors foster an atmosphere of trust, support, and cooperation by employees, which translates into greater teacher commitment and effectiveness (Hord, 1997).

In a case study involving four high schools, Thompson et al. (2004) found that every principal interviewed stated that building relationships and trust was essential to creating a productive learning community. In fact, results of this study showed that strong relationships among team members and the larger school community are essential to support team learning (Thompson et al., 2004). In a case study involving three elementary schools that made significant educational gains, Strahan (2003) found that all were characterized as having supportive cultures that fostered teachers’ ability to improve instruction through professional learning communities. School leaders, particularly those in high schools where mutually shared
goals among faculty is generally less common than in elementary and middle schools, must develop trust and respect among teachers (Louis et al., 1996).

Muijs and Harris (2007) found that schools that practiced this model of leadership felt decision-making was shared between administrators, middle managers (vice principals and department chairs), and teachers. In the schools they studied, teachers took up more initiatives, and worked harder to realize school goals. One teacher explained “if you’ve ever been in the process of getting there, rather than someone telling you, then that... it’s a far better way round it, everybody gets more behind it because everybody feels part of the decision making” (Muijs and Harris, 2007, p. 117). In this model, the relationships between educators play one of the most important roles in leadership (Scribner, Sawyer, Watson, & Myers, 2007). Wahlstrom and Louis (2008) found that when teachers are involved in making decisions that affect the school, not just the classroom, their organizational commitment increases.

**Shared values and vision.** Shared values and vision creates a sense of purpose in participating teachers (Hargreaves, 2000; Hord, 2004) and must be built on the fundamental belief that all students can learn (Louis & Kruse, 1995). In order for this vision to be realized, all teachers and building administrators must be involved in the development of this vision (Hord, 1997). To develop a consistent school vision, teachers must work with administrators to establish group values and norms, agree on expectations for students, and work to maintain a consistent vision (Barnett & McCormick, 2003; DuFour, 2004). In order to be successful, these shared values and vision must be embedded in participants and guide the actions of group members (Huffman, 2011). To gain consensus and support for a school wide vision, school leaders must involve all stakeholders in the process of developing the vision (Dooner et al., 2008; DuFour, 2004; Fullan, 1985; Louis et al., 1996; Schneider et al., 1996; Strahan, 2003;
Thompson et al., 2004). Only after this has been done can learning communities discuss ways to implement the vision (Stoll, 1998a). Dan Galloway, principal of Adlai Stevenson High School, a model school for successful PLCs (DuFour, 2004), in Lincolnshire, Illinois explained, “We have defined our mission and we know what kind of school we want to be. We have developed shared commitments that guide our behaviors to ensure that our daily work moves us toward realizing our vision... as principal, I am a steward of that vision and work to ensure that our daily activities are grounded in it” (Sergiovanni, 2004b, p. 51). In a study of three elementary schools that had successfully implemented PLCs, Thompson et al. (2004) found that all three principals emphasized the importance of regularly discussing and reinforcing the school’s shared vision with staff.

Establishing shared vision requires discussion around how best to increase student learning. DuFour (2004) suggests educators discuss practices that “have been most successful in helping all students achieve at high levels” (p. 1) and determining which of those practices could be adopted in their schools. Staff must also discuss ways to support one another to achieve their vision and ways to measure success (DuFour, 2004; Strahan, 2003). Following such a process could result in a sense of shared knowledge and common ground and would provide schools with the initial steps of an improvement plan. Such steps require staff to focus not on teaching but on student learning (Dooner et al., 2008; DuFour, 2004; Lieberman & Miller, 2011), which is a crucial shift in perspective necessary for a successful PLC. In such a school, each faculty member plays an interdependent role in realizing the school’s vision. This allows for both a collaborative culture and room for individual autonomy (Sergiovanni, 2004b).

**Collective learning and application of learning.** Hord (1997) originally termed this “collective creativity” but revised it to emphasize the importance of learning that occurs in PLCs.
Collaborative, continuous learning and the application of this learning is essential to a successful learning community (DuFour, 2004; Hord, 1997; Stoll, 1998b; VandeWeghe & Varney, 2006). This collaboration to promote deep learning comes in several forms such as regular dialogue and reflection about instructional practices, peer observations, exchanging student work, and collaborative planning, where teachers plan lessons, units, and curriculum together (Darling-Hammond & Richardson, 2009; DuFour, 2004; Hargreaves, 2000; Huffman, 2011; Sergiovanni, 2004b; Supovitz & Christman, 2003).

This model provides opportunities for teachers to discuss best practices and benefit from the advice and support of their colleagues (Lieberman & Miller, 2008; Little et al., 2003; Vescio et al., 2008). By collaborating, teachers modify and develop creative, relevant curriculum. In doing so, they strengthen group interdependence, reinforcing the values and vision laid out by PLC members (Darling-Hammond & Richardson, 2009). Teachers understand that their work influences their colleagues’ work and that their collective efforts help all students achieve at high levels (DuFour, 2007). Cynthia Sanchez, a sixth grade teacher in Paterson, New Jersey, explained that collaborative lesson planning taught her “there is more to teaching math than just opening a textbook and working on problems, or “spoon feeding” formulas just to get quick answers” (Wang-Iversen, 2002, p. 5). Working toward common goals motivates teachers to improve their teaching practices (Darling-Hammond & Richardson, 2009; Huffman, 2011; Louis et al., 1996). This further fosters collaboration as teachers share materials and work together to find solutions to problems (Hellner, 2008).

**Supportive conditions.** Supportive conditions ensure teachers a regular time and place to meet and ensure these meeting will be productive (Hord, 1997). Hord emphasizes the two aspects to ensure supportive conditions: the structural setup and the capacity of participants.
Structurally, teachers must be provided consistent time and resources to meet regularly. One of the most important factors hindering successful collaboration in schools is simply that it is just one more task and can be neglected for more urgent, immediate matters (Huberman, 1983; Kennedy, 2005). The time provided teachers must be free of distractions and must be focused on student learning and reflection (Horn & Little, 2009; Servage, 2008). Ideally, teachers should be in close proximity to one another as this encourages collaboration (Louis & Kruse, 1995).

Further, teachers must be provided additional professional development to sustain the PLC group work (Supovitz & Christman, 2003).

Building capacity in teachers is also essential to create a supportive environment. For successful collaboration to take root, administrators and teachers must have trusting relationships built on a foundation of respect (Darling-Hammond & Richardson, 2009; DuFour, 2001; Hargreaves, 2000; Huffman, 2011; Louis et al., 1996; Sergiovanni, 2004a; Stoll et al., 2006). Thoonen, Sleegers, Oort, Peetsma, & Geijsel (2011) reported a direct relationship between the level of trust and respect and the amount of teacher collaboration within a school. Only when a group’s relationships are built on trust can they be productive in helping students (Dooner et al., 2008). Mascall, Leithwood, Straus, & Sacks (2008) found that trust between teachers and administrators leads to increased student learning. In schools where there is much trust, teachers seek help and actively learn from coworkers (Wahlstrom and Louis, 2008). Such relationships ensure a safe environment where teachers feel comfortable asking questions and learning from one another (Snow-Geron, 2005).

Establishing relationships built on trust and respect creates conditions that result in more in depth inquiry on the part of teachers, leading to more substantive, productive dialogue, which results in positive educational change (Sergiovanni, 2004b; Snow-Geron, 2005; Thompson et
In a learning community with supportive conditions, teachers engage in reflective professional inquiry where they discuss their practices, observe one another, examine and discuss student work, discover new ways of delivering instruction effectively, and apply new strategies to meet students’ needs (Darling-Hammond & Richardson, 2009; Hord, 1997; Huffman, 2011; Snow-Gerono, 2005). Teachers share information with colleagues and discover ways to acquire new knowledge, skills, and strategies (Huffman, 2011). Further, teachers coach one another and provide feedback designed to improve pedagogical practice (Hargreaves, 2000; Huffman, 2011; Louis et al., 1996).

One method of achieving this goal is the use of a lesson tuning protocol. In a lesson tuning protocol, teachers collaborate and reflect on their own and colleagues’ lessons, units, and assessments. Developed by the National School Reform Faculty (NSRF), this protocol invites teachers to share samples of their lessons and materials they have created to support students in their work as well as the work students produced as a result of the lesson (Blythe, Allen, & Powell, 1999). In this protocol, a member of the group serves as facilitator and guides a group of teachers through a series of tasks designed to provide teachers the opportunity to reflect on their teaching (Blythe et al., 1999). After an initial presentation by the teacher, participants are given time to ask clarifying questions, examine student samples and/or lesson plans in more depth, and provide warm and cool feedback to the presenter. Teachers have reported that this model, which allows for the timely study of teacher work, is helpful in changing and improving their pedagogy (Dunne, Nave, & Lewis, 2000; Garet et al., 2001). Whether it is lesson tuning or another tool, it is important to remember that lasting school improvement is, ultimately, generated by the teaching professionals in the building.
**Shared personal practice.** Members of effective PLCs also share personal practice, the most important aspect of PLCs (Hord, 1997; Huffman, 2011). In such communities, teachers regularly share lesson plans with colleagues, implement these plans in their classroom, observe colleagues’ lessons, and then collaboratively reflect on what went well and what needs improvement. When such activities are not evaluative but are designed to improve classroom teaching, teachers find them extremely useful to improving their lessons (Bushman, 2006; Dunne et al., 2000; Strahan, 2003).

Due to the non-judgmental nature of such activities, teachers, many of whom are traditionally isolated, feel more comfortable opening their classroom doors to colleagues (Hulpia & Devos, 2010; Snow-Gerono, 2005). This “deprivatized practice” (Louis et al., 1996) was evidenced by Darling-Hammond and Richardson (2009) who found it attributed to the success of PLCs at Pine Hills Elementary School. In three years, Pine Hills Elementary markedly improved student reading levels after initiating PLCs. Given autonomy, teachers developed student goals around literacy. Working with two experts in reading instruction, teachers engaged in peer observations and reflective debriefing sessions. They also met weekly, collaborating to improve reading instruction. Throughout the year, teachers engaged in inquiry cycles focused on practical issues they brought from their classrooms. This collaborative work led to improved reading instruction and an increase in student learning (Darling-Hammond & Richardson, 2009).

Creating an environment where these traits are evident is essential to creating effective collaboration among educators; however, creating such an environment is fraught with difficulties. Such an environment represents a significant cultural shift for the teaching profession. The following section highlights several challenges to creating an effective environment.
Challenges to Implementing a Collaborative Culture

While research documenting the benefits of professional learning communities is abundant, the difficulties of successfully implementing them are also well documented (Darling-Hammond & Richardson, 2009; Dooner et al., 2008; Fullan, 1985; Fullan & Miles 1992; Hellner, 2008; Louis et al., 2006; Wells & Feun, 2007). To facilitate a culture of collaboration, school and district administrators should implement several structural changes. This includes reassigning some teachers, changing staff’s roles and responsibilities, changing the location of classrooms to facilitate collaboration, and changing the school schedule to facilitate common planning time (Louis et al., 1996; Wells & Feun, 2007). The scheduling of common planning time is essential to foster collaboration (Darling-Hammond et al., 2009) as it provides time for teachers to work in teams to discuss students’ needs and instruction. These changes in the basic structure of the school day help to create conditions for PLCs to take root and are necessary for successful implementation. However, simply introducing structural changes will not result in increased teacher collaboration; such actions fail to address the challenges and complexities of successfully changing an organization’s culture (Schneider et al., 1996). Though the challenges of changing the formal structure of a school may prove difficult, these challenges are relatively easy when compared to those faced in changing the school culture (Stoll, 1998a, Stoll, 1998b; Wells & Feun, 2007).

A change in school culture. Implementing professional learning communities in schools often represents a significant cultural shift. This process is often slow and presents many challenges (Darling-Hammond & Richardson, 2009). Stressing the importance of addressing cultural aspects of the change process, von Gutten (2007) stated “culture eats strategy for lunch” (p. 1002). Too often, leadership focuses on making strategic structural changes without
establishing a clear plan to realize the reculturalization necessary for successful PLC implementation. Focusing on changing an organization’s structure without adequately addressing the cultural changes that must occur often results in superficial changes with no meaningful or lasting impact (Stoll, 1998a; Supovitz & Christman, 2003).

To implement any cultural change, it is important to understand what culture is (Stoll, 1998b). Schein (1986) describes culture as “the deeper level of basic assumptions and beliefs that are shared by members of an organization, that operate unconsciously, and that define in a basic “take for granted” fashion an organization’s view of itself and its environment” (p. 6). Schneider, Brief, & Guzzo (1996) simplify this, expressing culture as ‘the way we do things around here’ (p. 6). However, this “way”, the beliefs and values of culture, are often subtle and not always evident (Schneider et al., 1996; Stoll, 1998b).

The importance of building capacity for change cannot be understated (Stoll et al., 2006). In order to change the culture of an organization, it is necessary for change leaders to fully understand the unique norms of that culture (Fullan, 1985; Hipp et al., 2008; Stoll, 1998a; Stoll, 1998b). To create lasting change, leaders must change the beliefs and values of group members and the larger organizational climate (Schneider et al., 1996). A positive school culture can facilitate the development of professional learning communities through the relationships of the members and the norms of the school (Hipp et al., 2008). To be successful, the school community must embrace this change, learn from one another, and collaborate to realize increased learning in students (Stoll et al., 2006). Traditionally autonomous and isolated teachers must work closely with colleagues to develop new values, beliefs, and norms (Fullan & Miles, 1992; Stoll, 1998b; Supovitz & Christman, 2003), which represents a “radical reculturing
of the school as an institution, and the basic redesign of the teaching profession” (Fullan, 1995, p. 230).

The cultural changes associated with participation in professional learning communities often have a dramatic impact on the relationships educators have with one another. Traditionally isolated, teachers are expected to “pull back the curtain” of their classroom practice and discuss topics related to student achievement and pedagogy (Darling-Hammond & Richardson, 2009; Wells & Feun, 2007). This forces many teachers out of their comfort zones. Further, as each school community is unique, there is no one blueprint for success (Fullan, 1985; Stoll, 1998b). This relative uncertainty causes many participants to feel uneasy with the process (Hellner, 2008). Accustomed to working in isolation, many educators lack the necessary skills to collaborate effectively (Dooner et al., 2008; McLaughlin & Talbert, 2001). Teachers are often unaware of the challenges inherent in collaboration and feel uncomfortable when inevitable tensions arise within the process; many withdraw and retreat to isolation (Dooner et al., 2008; Wells & Feun, 2007). School leaders must anticipate and address these potential challenges to facilitate successful implementation of PLCs.

Addressing these challenges does not ensure successful implementation of professional learning communities. One of the great challenges related to implementing PLCs is the degree of resistance that accompanies any change initiative in schools (Fullan & Miles, 1992). Many cultural changes implemented in schools assume teachers will immediately see the value of such changes and work to implement them (Stoll, 1998b). These empirical rational changes assume teachers will “adopt [the] proposed changes if it has been shown that it will benefit them” (Stoll, 1998b, p. 12). While seemingly straightforward, teacher resistance is more complex than it originally appears, as there are many factors at play. For one, educators have seen a variety of
initiatives come and go over the years (DuFour, 2004) and have become disenchanted with new initiatives. Furthermore, change is a threat to the status quo; with any change comes a disruption of routine, an increase in anxiety, complexity, and uncertainty, which is disconcerting to many people (Fullan & Miles, 1992; Waddell & Sohal, 1998). This is especially true regarding collaborative initiatives in high schools where the embedded structure and culture make it particularly challenging to instill a culture of collaboration. The following section discusses the most prevalent issues that hinder the development of effective collaboration in high schools.

**Increased resistance in high schools.** One of the great challenges related to implementing PLCs is the general resistance that accompanies any change initiative in schools (Fullan & Miles, 1992). While creating cultural conditions for PLCs is challenging at all levels, the engrained culture of many high schools poses unique challenges (Keefe & Moore, 2004; Little, 2002; Wells, 2008). High schools in particular, with their fragmented departmental structures and subject-focused content specialists, have difficulty embracing collaboration (Giles & Hargreaves, 2006; Louis et al., 1996; Wells & Feun, 2007). Whereas elementary school teachers often reach school wide consensus regarding education goals, high schools do not. While elementary teachers are part of grade level teams, high schools are often organized by academic subject, and teachers are more department oriented in their thinking. Also, high schools are larger, generally have more staff than elementary and middle schools, and are much more fragmented as students move from teacher to teacher (Fullan, 1985; Louis et al., 1996; Stoll, 1998b). The bell system in most high schools reinforces the compartmentalized mindset of high school (Brady, 2008) as it separates students into smaller segments, and these students move from one class to the next with little content overlap. The end result is that many high schools are composed of individuals with divergent goals (Rusch, 2005; Talbert, 1991).
Common problems with collaboration are exacerbated in high schools, and are often barriers that prevent collaborative cultures from taking root.

**The departmental structure of high schools.** The departmental structure of the high school creates many challenges to developing a collaborative culture. This structure creates insular groups of content specialists, each with their own priorities and goals (Little, 2002; Siskin & Little, 1995; Talbert, 1991). High school teachers often excelled in their subject in high school, majored in their subject in college, and took content specific pedagogical courses in preparation for careers in education (Grossman & Stodolsky, 1995). This background creates a sense of unity and insularity in department members and creates barriers between other departments (Grossman & Stodolsky, 1995). Further, high school teachers often focus their professional development efforts on improving subject knowledge and improving the academic focus in their classrooms (Braddock & McPartland, 1993), which further reinforces the insular conditions in departments. As a result, departments often display powerful “bastions of curricular conservatism” (Little, 2002, p. 695), where members focus on subject content and the interests of the department over the needs of the student and school (Brady, 2008; Little, 2002; Siskin & Little, 1995; Talbert, 1991; Wineburg & Grossman, 1998). These circumstances often result in organizational commitment among departments (Siskin & Little, 1995) as teachers identify with their department rather than the larger school community (Brady, 2008; Grossman & Stodolsky, 1995). Moreover, the physical location of classrooms in high schools are often clustered by subject, which further promotes an insular, isolated environment (Talbert, 1991) and discourages school wide collaboration. Adding to this division, departments must regularly compete with each other over meager resources (Talbert, 1991). In this environment, department
goals often take precedence over and sometimes contradict school wide goals; this often results in barriers to successful collaboration.

**Teacher autonomy.** Teacher autonomy is the degree that teachers can make independent decisions regarding what and how to teach material in their classrooms. The departmental focus of high school teachers often results in increased teacher autonomy, a significant barrier to realizing a collaborative culture. Many teachers describe teaching as an individualized profession based on “style, personality, and preference” (Scribner, Hager, & Warne, 2002, p. 57). Many teachers consider themselves “craftsmen” (Huberman, 1983) and, like all craftsmen, take great pride in the unique work that they do. Additionally, teachers base their acceptance of new ideas regarding content and pedagogy on their past experience and whether these ideas intuitively makes sense to them (Huberman, 1983), not on the recommendation of their principals or others. Additionally, most teachers began their careers in isolation and credit their success to their hard work and individual attributes (Huberman, 1983). As a result, they are conditioned to solve problems and make pedagogical decisions independently rather than collaboratively (Leonard & Leonard, 2003).

Adding to the complexity of teacher autonomy is the fact that academic departments generally have different levels of autonomy. Little (2002) found that high school English departments generally have shared goals but a strong culture of autonomy. Grossman and Stodolsky (1995) found that English and social studies teachers have a strong sense of autonomy due to the broad curricular scope of their subjects; math teachers, however, did not demonstrate high levels of autonomy (Grossman & Stodolsky, 1995; Talbert, 1991). Further complicating the issue of autonomy, science teachers, who often focus on specific areas of science such as physics, biology, and chemistry, display varying degrees of autonomy (Siskin & Little, 1995).
The sense of autonomy teachers have can greatly influence their willingness to adopt collaborative practices; Pomson (2005) found that teachers are more apt to adopt a cooperative, pragmatic sharing of ideas to further their content specific goals rather than adopt a commitment to working together to achieve common school wide goals. When instilling a culture of collaboration, it is important to understand the nuances of autonomy in each department and among members of departments (Talbert, 2001).

Teacher isolation. Further hindering effective collaboration is the historical isolation of teachers. Since the mid 1850s, isolation has traditionally characterized the working conditions of teachers in America (Darling-Hammond et al., 2009). In 1929, Dewey stated that one of the tragedies of education is that “the successes of [excellent teachers] tend to be born and die with them” (p. 10). Eighty five years later, teachers continue to teach in isolation (DuFour, 2004). Studies consistently show that teachers do want to collaborate (Leithwood, Leonard, & Sharratt, 1998; Scribner et al., 2002; Wells, 2008), but many lack the necessary skills, time, or practice to collaborate effectively (Dooner et al., 2008; Leonard & Leonard, 2003). The organization of high schools, with departments and content specialists, reinforces this isolation (Giles & Hargreaves, 2006; Louis et al., 1996; Wells & Feun, 2007). As a result, teachers often feel uncomfortable and vulnerable when opening their classroom to others, as it may expose them to criticism (DuFour, 2004; Huberman, 1983; Little, 1990; Rusch, 2005). Breaking down the traditional privacy and autonomy embedded in school cultures creates a challenge to successfully implementing PLCs.

Due to the culture of isolation, teachers are often not prepared for the challenging discussions of pedagogical and other in depth topics necessary for successful collaboration (Achinstein, 2002; Showers, 1985). These topics, designed to promote considerable change in
teacher practice and school norms, challenge teacher autonomy, isolation, and established group
dynamics (Achinstein, 2002); such discussions often lead to conflict (Fullan, 2001). For positive
changes to occur in schools, teachers in PLCs must engage in important conversations where
they share opinions about topics that get to the heart of long held values and beliefs about
education (Achinstein, 2002). Teachers, many of whom are accustomed to seeking out like
minded individuals to work with, are often not used to the conflicts (Wineburg & Grossman,
1998) that often arise in PLC groups and feel uncomfortable with the process (Dooner et al.,
2008; Joyce, 2004; Morrissey, 2000). They often retreat to safer, less controversial topics
(Leonard & Leonard, 2003; Morrissey, 2000), such as the use of technology and discipline
concerns (DuFour, 2004). While important, these topics do not facilitate analysis of teaching
and learning, nor do they lead to significant change or an increase in student learning. In many
cases, teachers engage in groupthink, where they simply adopt the beliefs of others (Achinstein,
2002; Dooner et al., 2008). Teachers also tacitly agree to avoid certain topics (Barth, 2002,
Rusch, 2005) or withdraw and retreat to isolation (Dooner et al., 2008; Wells & Feun, 2007). In
many high schools, the end result of collaborative initiatives is teacher compliance rather than
the deep organizational commitment essential for successful collaboration. It is important to
understand the unique challenges associated with sustaining a collaborative culture in high
schools and work to successfully address them.

Sustaining a Collaborative Culture

Historically, efforts to change the culture in schools have not been sustained, nor have the
expected benefits been realized (Elmore, 2006). Too often, change leaders underestimate the
culture of the school, the disruptions change brings, and the importance of regularly addressing
teachers’ concerns (Angelides & Ainscow, 2000; Wells, 2008). Leaders must nurture the change
process to sustain it over time (Fullan, 2001; Schneider et al., 1996). All change initiatives require effort to sustain. This is especially true of professional learning communities which are complex and present many challenges to educators (Garvin, 1993; Wells & Feun, 2007). PLCs do not offer a shortcut to school improvement; change leaders must dedicate considerable time and emphasis to facilitate the success of this implementation (Connolly, James, & Beales, 2011; DuFour, 2007). Strong leadership is the most important factor in the continuous improvement of a school (Hipp et al., 2008; Lieberman & Miller, 2011; Wells, 2008). Without consistent effort on the part of leaders to support teachers in their collaborative efforts, educators may become disillusioned with the initiative and settle into an attitude of compliance rather than engagement, feeling that the initiative will soon give way to a new idea which promises again, to revolutionize the teaching profession and change the status quo (DuFour, 2004; Schneider et al., 1996; Stoll, 1998b). Little (1990) expressed the concern that without proper guidance, teachers may utilize their collaborative efforts to resist change and maintain the status quo. Implementing and sustaining a PLC initiative takes careful coordination and consistent support from all change leaders (Bezzina, 2006). This support begins with taking a positive approach to handling the inevitable resistance that accompanies any significant cultural change.

**Embracing resistance to change.** Resistance to change is inevitable in any change process. Many change initiatives implemented in schools have an underlying assumption that teachers will immediately see the value of such changes and work to implement them (Stoll, 1998b). Change leaders assume teachers will “adopt [the] proposed changes if it has been shown that it will benefit them” (Stoll, 1998b, p. 12). Adopting change, however, is more complex than it originally appears as there are many factors at play. For one, educators have seen a variety of initiatives come and go over the years (DuFour, 2004) and have become disenchanted with
“promised change”. Furthermore, change is often perceived as a threat to the status quo; with any change comes a disruption of routine, an increase in anxiety, complexity, and uncertainty, which is disconcerting to many people (Fullan & Miles, 1992; Waddell & Sohal, 1998). The more change leaders understand and anticipate resistance in their organizations, the better they will be able to navigate the resistance that arises (Fullan, 1985; Janas, 1998; Stoll, 1998a) and minimize its negative effects (Wells, 2008).

Though resistance is generally described negatively (Waddell & Sohal, 1998), it must be viewed as an opportunity. In interviews with principals undergoing change, the principals attributed resistant behavior to “intransigence, entrenchment, fearfulness, reluctance to buy in, complacency, unwillingness to alter behavior, and failure to recognize change” (Fullan & Miles, 1992, p. 748). While some resistance can certainly be attributed to negative attitudes on the part of employees, labeling resistant behavior as negative is unproductive. This labeling “immobilizes people and leads to “only if” thinking” (Fullan & Miles, 1992, p. 748). Instead, change leaders must view resistance as an opportunity for dialogue and an important part of any change process (Janas, 1998; Waddell & Sohal, 1998; Wells, 2008).

Resistance to change provides an opportunity for a critical look at the change process (Fullan & Miles, 1992). Resistors often illuminate issues overlooked by change agents, which may highlight aspects of the change that are “unnecessary, impractical, or counterproductive” (Ford, Ford, & D’Amelio, 2008, p. 363). In fact, resistance can be productive, provided change leaders acknowledge and discuss points of resistance, viewing such points as a “counteroffer that can update and refine the change to be more successful” (Ford et al., 2008, p. 373). Change is complex; change leaders may not see a potentially problematic issue of design that others may (Janas, 1998).
Because resistance is inevitable, change leaders must learn to embrace and utilize it as an opportunity to discuss the change and further build consensus. Change leaders can also take steps to minimize resistance. Anticipating and addressing barriers to successful implementation will help to develop the proper culture to facilitate such change (Connolly et al., 2011; Stoll & Bolam, 2005; Stoll, 2009). There are also several steps change leaders can take individually to ensure sustenance.

The administrator’s role. To ensure effectiveness, administrators must provide consistent support to PLCs, addressing the needs of the faculty and taking an active role in the work that PLCs do. It is important for administrators to regularly nurture and ensure an environment that allows for democratic group decision-making and collaborative goal setting (Fullan, 2006). Administrators must provide staff with professional development that addresses their needs through all stages of implementation (Bezzina, 2006; Chrisman, 2005) and provide them with regular meeting time during the school day to collaborate (Grossman et al., 2001; Leithwood et al., 1998; Supovitz & Chrisman, 2003). Administrators must work with the school principal to monitor the progress of PLCs, ensuring goals are being met and groups are working productively (Joyce, 2004; Marks & Louis, 1999). To maintain a consistent vision, it is essential to conduct follow up sessions for veteran teachers and new hires (Chrisman, 2005; Garvin, 1993; Leonard & Leonard, 2003).

The principal’s role. Principals play an essential role in sustaining collaborative cultures (Bezzina, 2006; Hipp et al., 2008; Leithwood et al., 1998; Cranston, 2009), and their taking an active role is a characteristic of effective PLC groups (Hipp et al., 2008; Leithwood et al., 1998). PLCs represent a transformational shift in school culture, and principals are the main change agents in such shifts (Cranston, 2009; Wells, 2008). Once the initial initiative has been
implemented, principals must monitor progress and provide follow-up support to help teachers overcome the challenges of participating in PLCs (Garvin, 1993; Leonard & Leonard, 2003; Schmoker, 2004; Wells, 2008). Principals must regularly attend PLC meetings and maintain a visible presence in classrooms and throughout the school building (Chrisman, 2005; Datnow, 2011; Hipp et al., 2008; Morrissey, 2000). They must publicly and consistently model the PLC vision with staff, students, and parents (Barnett & McCormick, 2003; Morrissey, 2000).

Principals must hold high expectations for their teachers as lifelong learners (Cranston, 2009; Leithwood et al., 1998; Morrissey, 2000; Scribner et al., 2002), must encourage teachers to experiment with new approaches, and must challenge teachers’ assumptions regarding teaching and learning (Leithwood et al., 1998). Wells (2008) found that teachers wanted leaders who actively challenge their thinking and grew frustrated when this did not occur. Principals must also keep the school vision in the forefront of discussion and challenge teachers to realize the vision (Morrissey, 2000; Newmann, King, & Youngs, 2000; Supovitz & Chrisman, 2003). Doing so will expand teachers’ knowledge of teaching and learning and prevent teachers from simply reinforcing what they know (Hipp et al., 2008; Wells, 2008).

Principals must also support PLC groups to overcome the inevitable challenges that occur with collaborative work (Dooner et al., 2008). Understanding that these challenges are part of the process of collaboration will make teachers further inclined to pursue inquiry into issues that will lead to professional growth. To further support the growth of teachers, principals must provide ongoing professional development that addresses the particular needs of teachers (Supovitz & Chrisman, 2003). Principals must also be attentive to group dynamics regarding leadership. Some teachers may feel resentment towards those teachers given leadership responsibilities (Chrisman, 2005). Principals must also be part of the PLC, subtly, or sometimes assertively,
guiding the group discussion and decision making process (Bezzina, 2006; Mitchell & Sackney, 2006). Principals should attend team and department meetings (Dooner et al., 2008; Thompson et al., 2004) to understand what teachers are experiencing. Finally, principals must hold groups and individuals accountable for their work (Cranston, 2009). The principal’s role is central to sustaining effective PLCs (Cranston, 2009). The school principal must create a culture that has the capacity to build on and sustain change (Huffman, 2011).

**The PLC leader’s role.** A PLC leader must be an instructional leader (Fullan, 1985; Wells, 2008) and work continuously to develop teachers’ capacity (Thompson et al., 2004). Leaders must distribute leadership, providing teachers with power and responsibility to realize the goals of the change (Hellner, 2008; Huffman, 2011; Lieberman & Miller, 2011; Louis et al., 1996).

PLC leaders must welcome change and provide the support necessary for staff to initiate and sustain change initiatives (Fullan, 1985; Hipp et al., 2008; Wells, 2008). Leaders must constantly demonstrate their commitment to the change process and monitor the change initiative to ensure momentum for the change remains consistent (Fullan, 1985; Fullan & Miles, 1992; Louis et al., 1996). They must also work to ensure the climate remains positive by ensuring the school vision and relationships among faculty are conducive to growth (Supovitz & Christman, 2003; Fullan, 1985) and that faculty continuously focuses on group goals and expectations throughout the change process (Supovitz & Christman, 2003). Leaders must also be aware of the complexities of the change process and help teachers understand that change is not always smooth or linear, but can create anxiety, frustration, and uncertainty in participants (Huffman, 2011).
Further, initial gains may be incremental; leaders must help teachers sustain the initiative until more substantive results are evident (Fullan, 1985). Leaders must celebrate successes and reward individual and group actions (Fullan, 1985; Louis et al., 1996). When teachers see positive results associated with a change initiative, their attitude toward the change will become more positive (Fullan, 1985; Hipp et al., 2008), and they will be more inclined to support the initiative.

**Leaders collaborating to sustain change.** Leaders must work together to provide regular training and materials to faculty regarding the change (Fullan & Miles, 1992). Ongoing professional development, particularly in the latter stages of the initial change, is essential (Fullan, 1985; Wells, 2008). Fullan (1985) states that, “people become committed as a result of involvement” (p. 406), not in anticipation of it. Training makes much more sense in the context of experiencing the change. Further, leaders can provide pertinent readings and suggest agendas for group meetings (Dooner et al., 2008) to keep the change initiative moving forward (Wells, 2008).

Along with training, leaders must provide the logistical support to allow teachers the resources they need to implement and sustain the change, particularly in the beginning of the change, when teacher commitment and capacity may be fragile. For example, leaders can arrange for and provide substitute teachers so that teachers can observe one another and team teach (Fullan, 1985; Fullan & Miles, 1992; Hipp et al., 2008).

Change leaders must provide teachers support in their efforts to collaborate. Teachers consistently express a desire to collaborate (Snow-Gerono, 2005). Teachers want time to discuss pedagogical strategies and curricular materials with their colleagues and find much value in doing so (Wells & Feun, 2007). However, most teachers are accustomed to teaching in isolation,
sharing their acquired wisdom with only a few chosen colleagues. Rarely do teachers have access to a “shared knowledge base” (Hiebert, Gallimore, & Stigler, 2002); instead, most discussion about pedagogy is discussed informally in hallways or during lunches. As a result, good classroom teaching is constantly being reinvented and refined by teachers behind closed doors, and this knowledge has “little effect on the improvement of practice in the average classroom” (Heibert et al., 2002, p. 3).

To facilitate collaboration, change leaders should introduce strategies to engage teachers collaboratively (Chokshi & Fernandez, 2004; Perry & Lewis, 2009). Teachers must be provided training on how to collaborate as well as structured time during the day to collaborate with their colleagues (Darling-Hammond & Richardson, 2009; Stoll, 1998a; Stoll et al., 2006). Expecting teachers to have the skills and the will to collaborate without proper training is unrealistic. Even in schools where the concept of collaboration is accepted, teachers often face difficulty opening their doors to colleagues (Darling-Hammond et al., 2009; DuFour, 2004; Snow-Gerono, 2005; Wells, 2008). In practice, many teachers equate collaboration with discussing procedural issues such as disciplinary procedures, rules, and technology integration. While these conversations may be productive, “none represent the kind of dialogue that can transform a school into a professional learning community” DuFour, 2004, p. 3). In depth conversations around pedagogy and student learning must be nurtured (Stoll, 1998b).

School leaders must also make teachers aware of the challenges they will encounter when collaborating (Dooner et al., 2008) and provide strategies to overcome these challenges. Collaborative discussions can lead to tensions as contrasting views and values emerge. Teachers are often inexperienced in such direct conflict with colleagues and feel uncomfortable with the inevitable tension that arises. If not trained to anticipate and work through such tensions, groups
work to just get along rather than work to engage in productive dialogue (Darling-Hammond & Richardson, 2009; Dooner et al., 2008). Teachers must be encouraged to engage in honest dialogue to resolve differences and be productive (Dooner et al., 2008). DuFour sums it up best, stating productive collaboration is challenging work (2004). With proper support, these challenges can be overcome and can lead to sustained cooperative learning.

Finally, leaders must develop and monitor accountability measures. These include feedback on instruction, as well as data and processes for interpreting the data as it relates to the change (Fullan, 1985; Hipp et al., 2008; Louis et al., 1996; Sergiovanni, 2004a; Strahan, 2003). This will allow all stakeholders the opportunity to monitor student performance and achievement.

**Summation**

Though the benefits of professional learning communities have been well established in research literature (Darling-Hammond, 1997; DuFour et al., 2008; Garet et al., 2001; Little, 1990; Stoll et al., 2006; Strahan, 2003; Wenger, 1998), successfully implementing this professional development model has proven challenging. PLCs provide a collaborative structure that sustains teachers’ professional growth over time (Huffman, 2011) and are well suited to adult learning. In order for schools to realize the full benefits associated with professional learning communities, change leaders must establish conditions conducive to collaboration.

Prior to implementation, school leaders must work to create an environment conducive to collaboration. Fullan (2007) wrote “any attempt at school improvement that does not pay attention to the social organization and contexts in which changes are introduced is doomed to tinkering because school culture influences readiness for change” (p. 22). School leaders must work with staff to nurture trusting relationships that are built on mutual respect and work to
foster a shared vision among all stakeholders (Hellner, 2008; Huffman, 2011). Finally, implementing PLCs in schools needs constant attention in order to sustain it through the inevitable difficulties that will arise (Giles & Hargreaves, 2006; Lieberman & Miller, 2011). The collaborative nature of PLCs represents a change in culture for many schools, particularly high schools, where teachers tend to be more isolated than in elementary schools. This change in culture can result in much resistance by teachers. Anticipating this resistance and taking steps to minimize it prior to implementing PLCs may increase the effectiveness of PLCs.

This review of current literature supports the study of a group of grade nine teachers experiencing challenges in realizing the benefits of collaboration in an interdisciplinary PLC in their high school. In the seven years this PLC has existed, there has been limited improvement in collaboration. While there is general agreement in the research literature that PLCs have the potential to improve teaching practices, the lack of success of these initiatives demonstrates the difficulties of successful implementation and sustainment. In order to improve the effectiveness of PLCs, it is essential to understand what is preventing their success. The proposed study has been developed in an effort to better understand how teachers experience the unique challenges of working in an interdisciplinary PLC model. The findings will contribute to the body of literature that exists, providing further depth and breadth of knowledge regarding implementing and sustaining PLCs in high schools.

It is the goal of this researcher to understand the experiences of members of the grade nine interdisciplinary PLC at Yorktown High School. In order to achieve this goal, it is essential to understand how these teachers are experiencing their involvement in this initiative and discover strategies to employ that may result in increased benefits from PLC work. Through this
study, other schools experiencing difficulty implementing and sustaining PLCs may gain insight that can help them to be more successful.
Chapter 3: Methodology

Successful professional learning communities create a culture of learning in schools, one where teachers collaborate with one another, share best practices, engage in collective inquiry, develop innovative practices, and commit to a culture of continuous improvement (DuFour, 2007; Hord, 2009; Huffman, 2011; Vescio et al., 2007). Creating this collaborative learning culture, however, often proves challenging as traditionally isolated, autonomous teachers are asked to work together to improve their teaching (Fullan, 2001; McLaughlin & Talbert, 2006).

The purpose of this qualitative case study was to understand how members of the ninth grade interdisciplinary professional learning community at Yorktown High School described their experiences as members of this PLC. Though numerous studies have been conducted on the topic of professional learning communities, there is a large gap in the research between the theoretical benefits of PLCs and actual benefits of this collaborative work. Further, there have been a limited number of qualitative studies conducted amongst high school teachers to understand how they experience this collaboration. Of these studies, few have focused on the experiences of high school teachers participating in interdisciplinary PLCs. This research may provide an in depth understanding of how contextual factors facilitate and hinder members’ work in realizing the benefits associated with PLCs, how teachers experience participation in the PLC, and how participation in this PLC has influenced participants’ classroom practices.

This research study was completed using a social constructivist paradigm. Discussing the constructivist paradigm, Ponterotto (2005) states “reality … is subjective and influenced by the context of the situation, namely the individual’s experience and perceptions, the social environment, and the interaction between the individual and the researcher” (p. 130). This
research gained insight into participants’ subjective views in order to understand the experiences of the teachers involved in this PLC.

The researcher’s role in a constructivist paradigm is to interact with research participants to co-construct findings (Guba & Lincoln, 1994; Ponterotto, 2005). As a former member of this PLC, this researcher was in a unique position to capture the full experiences of participants (Ponterotto, 2005). Creswell (2013) and Guba and Lincoln (1994) state that to understand individuals and their thinking, one must immerse oneself in their world, becoming an active participant rather than an outsider. Through this close, intense interaction between researcher and research participants, a deep understanding of participants’ experiences will be understood (Creswell, 2013). The following chapter presents the research questions that guided this study, details the research design and rationale, explains the research procedures, and discusses the process taken to ensure the study’s validity and protection of participants.

Research Questions

Three research questions informed the data collection and analysis for this study.

1. How do teachers interpret the influence of school contextual factors (cultural, historical, and institutional) on collaboration efforts of the professional learning community?

2. How do staff members of a ninth grade interdisciplinary professional learning community describe their experiences as members of this PLC?

3. How have teachers’ beliefs, attitudes, and practices been influenced by their participation in the grade nine PLC?

Research Design

This research study utilized a qualitative case study as the methodological research design. A case study design was appropriate for this proposed research project for several
reasons. Creswell (2013) describes case study research as a qualitative approach in which the researcher studies a current, real life case over an extended period of time “through detailed, in-depth data collection involving multiple sources of information” (p. 97). This information is used to present “an in depth understanding of the case” (Creswell, 2013, p. 98) through understanding participants’ perspectives and close observation. Yin (2009) posits that a case study is the best manner to answer “how” and “why” questions: the research questions sought to understand “how” teachers describe their experiences and how their teaching has been affected through participation in the PLC.

The validity of a case study is strengthened through the analysis of multiple sources of evidence (Creswell, 2013, Yin, 2009). The many forms of data collected allowed the researcher to present “rich and detailed information” (Rubin & Rubin, 2012, p. 29), essential to understanding the particulars of this case. The focus of this research was to understand multiple facets of teachers’ perceptions regarding PLCs and the extent to which their teaching has been influenced through their participation in this PLC. The focus on teachers’ internal perceptions and external actions necessitates the collection of multiple forms of data.

Creswell (2013) and Rubin and Rubin (2012) emphasize the importance of developing trusting relationships with participants so as to yield accurate responses in interviews. As a former participant in this PLC, the researcher has developed trusting, respectful relationships with the participants, which increased their willingness to honestly and openly respond to interview questions. Other methods of data collection employed were observation of collaborative lesson tuning sessions, a review of participant notes from such sessions, follow-up interviews with teachers regarding their perceptions of perceived benefits from such sessions, and regular observations of PLC meetings.
Participants

This instrumental case study researched a group of eight educators at a single site, Yorktown High School in Yorktown, Massachusetts. These educators are all members of a ninth grade interdisciplinary PLC that has daily common planning time. Yorktown High School is a regional school made up of students from three towns: York, Newbury, and Hampton. The school serves approximately 750 students of whom 95.6% are white. This site was selected for several reasons; one, the researcher was assured he would be provided regular and consistent access to participants. The school also represents a typical suburban school in Massachusetts in that students have historically performed well on state exams, and the majority of students pursue some form of higher education upon graduation.

In selecting participants for this study, purposeful sampling was used. According to Creswell (2008), “In purposeful sampling researchers intentionally select individuals and seek to learn or understand the central phenomenon” (p. 214). Participants for this study were all members of the ninth grade interdisciplinary PLC at Yorktown High School and had been members for at least one school year. Members with at least one year of experience have acquired the contextual understanding of the PLC that allowed them to provide the researcher with knowledgeable information. Members have diverse teaching backgrounds, pedagogical philosophies, and classroom experiences, which “present[ed] multiple perspectives of individuals to present the complexity” (Creswell, 2012, p. 207) inherent in PLCs. This PLC is composed of two science teachers, two English teachers, two math teachers, and two social studies teachers. Participants have teaching experience ranging from two to 23 years in various grade levels and school districts. While some members chose to be part of this PLC group, others were assigned to it. Reasons for assigning teachers ranged from teachers expressing interest in teaching grade
nine, teachers expressing interest in participating in a PLC, familiarity with grade nine curriculum, assigning new hires to fill vacant positions at the ninth grade level, and because teaching grade nine was the only place the teacher would “fit” in the complex school schedule.

**Recruitment and Access**

Participant recruitment began after the Northeastern Institutional Review Board’s (IRB) approval of the study’s Application for IRB approval (Appendix B). The researcher first sought the approval of the district superintendent and building principal (Appendix E). The approval of these gatekeepers greatly facilitated the research study, both in terms of providing access to the site and by encouraging participation in the research study (Creswell, 2012). The superintendent and building principal were given full disclosure as to the nature of the study such as the reason this site was chosen, the purpose of the research, the commitment of time and resources required of participants engaged in this study, the potential findings of the study, and the potential benefits realized by participating in this study. Both administrators had the opportunity to ask clarifying questions, discuss concerns and potential conflicts, and request modifications to the study design. No concerns were raised by either administrator.

Once the researcher was granted access to the research site, a “Call for Participants” (CfP) Appendix C) was delivered to all potential participants through the Yorktown High School’s interoffice mail system. The CfP discussed the purpose of the study and participant criteria. At the potential participants’ request, the researcher also arranged an on site information session, during PLC meeting time, where potential participants had the opportunity to ask questions regarding the nature of the study and their potential role in it.

Teacher participants were also given full disclosure to aspects of the research study. They were made aware that their participation in the study was voluntary and that they could
withdraw from the study at any time without negative consequences (Willis, Freitas, & Valenti, 2010; Creswell, 2012). This information was explicitly described in the Informed Consent form (Appendix D). Participants were also made aware of the various steps taken to ensure their anonymity and safety while participating in the research study.

**Data Collection**

In case study research, it is important that many forms of data are collected and analyzed (Creswell, 2013; Stake, 1995; Yin, 2009). In this case study, data was collected through one-on-one semi-structured in depth interviews using a responsive interviewing style, the observation of collaborative lesson tuning protocol sessions, the study of teacher notes taken during these sessions, follow-up interviews with teachers regarding their perceptions of such sessions, and regular observation of PLC meetings. These varied forms of data allowed for the collection of “rich and detailed information” (Rubin & Rubin, 2012, p. 29).

The use of semi-structured interview questions allowed participants to “best voice their experiences unconstrained” (Creswell, 2012, p. 218) while focusing in on a specific topic (Rubin & Rubin, 2012). Interview questions focused around the study’s research questions, asking participants to discuss the external factors that influence collaboration on this team, describe how they experience the professional learning community, and discuss the value participants see in collaborating with other teachers. Rubin and Rubin (2012) emphasize the importance of wording questions so as not to narrow or restrict interviewee’s responses. The researcher developed a series of specific questions (appendix A) designed to elicit insight into teachers’ personal experiences as members of this PLC. These questions were piloted with a teacher from a different school to determine if the questions were clear, easily understood and revealed useful information. The interview questions were then revised, as appropriate, upon completion of the
pilot interview. Probing questions were asked by the interviewer to elicit a more in depth response by the interviewee (Creswell, 2012; Rubin & Rubin, 2012). Using a responsive interviewing style allowed the researcher opportunity to revise and edit questions asked, change the order that questions were asked, and develop and ask follow-up questions to fully construct an understanding of participants’ experiences (Rubin & Rubin, 2012). Such flexibility allowed the interviewer the opportunity to obtain more in depth responses, provided a richer understanding of contextual factors associated with interviewee responses, and allowed for new insights to be gained into participants’ experiences with PLCs (Rubin & Rubin, 2012).

Interviews were conducted in the participants’ classrooms, researcher’s office, or a mutually chosen site to ensure participants’ comfort and openness in responses. Interviews were composed of sixteen initial questions and some follow-up questions, and each interview lasted approximately 40 minutes.

In addition to conducting interviews, the researcher observed collaborative lesson tuning protocol sessions, reviewed participants’ notes regarding such sessions, and conducted brief follow-up interviews (Appendix H) regarding the benefit of this activity. The Tuning Protocol (Appendix F), developed by Joseph McDonald and David Allen for the National School Reform Faculty, is used by the grade nine PLC in their collaborative lesson tuning sessions and facilitates the sharing of practical and pedagogical techniques among teachers. In this protocol, teachers share a sample lesson, unit, or some completed student work. Following an established protocol, PLC colleagues offer pedagogical and other strategies to improve the implementation of the lesson and/or the quality of work that students produce. Dunne et al. (2000) found that teachers feel this protocol has a positive impact on their pedagogy. In focusing on this data collection
tool, this researcher considered the extent to which engaging in this protocol influenced the classroom practices of teachers in the study group.

Reviewing archival records relating to the implementation and sustainment of the grade nine PLC provided some data that assisted the further understanding of contextual factors surrounding this PLC (Creswell, 2103; Yin, 2009).

The researcher also collected data through regular observations of PLC meetings and field notes on group members’ interactions focusing on the topics they discussed. This data provided insight into the daily focus of the PLC as well as the attitudes of members toward one another and the collaboration process in PLCs. Creswell (2013) states that observation is one of the most effective data collecting tools. Observing the interactions of group members “in the field setting” (Creswell, 2013, p. 166) provided insight to better understand the interrelationships among teachers and the extent that teachers’ practices are influenced by their participation in this group. Observing the topics discussed in PLC meetings provided information regarding the culture of the group, and the extent to which the common elements of successful PLCs are evidenced. These observations also provided corroborating evidence to participants’ interview responses. Further, these observations provided insight regarding the contextual factors affecting successful collaboration in this PLC. The researcher created a PLC Meeting Observation form (appendix I), which allowed for organized descriptive and reflective note taking (Creswell, 2013).

These methods of data collection provided the researcher with contextual information that complemented each other and allowed for triangulation of data, providing the researcher a richer understanding of teachers’ historical and current experiences in the PLC. These forms of
Data collection informed teachers’ perceptions regarding their experiences as members of the grade nine PLC.

**Data Storage**

Data was collected through the digital audio recording of interviews using an Mp3 recorder, Quickvoice Pro, a recording application on the researcher’s password protected iPhone, and through written interview notes. Recorded interviews were downloaded to interviewer’s password protected computer and stored on the researcher’s backup external hard drive. Interview notes were typed and stored with interview audio files. All storage devices were encrypted and password protected. Pseudonyms were used for each participant and the research site, further protecting the information and the research participants. As the purpose of this study was to describe, “the common meaning for several individuals of their lived experiences of a concept or a phenomenon” (Creswell, 2013, p. 76), responses were used to develop a composite understanding of the group rather than an individualized understanding.

All interviews were transcribed solely by the researcher. Only the researcher and the principal investigator had access to interview transcriptions. Transcripts were stored in the same manner as the audio recordings of interviews. All interview materials will be stored until the completion of the dissertation project. Upon completion, all materials will be destroyed except for one electronic copy of the audio recordings one transcript from each interview. These will be stored on the researcher’s password protected computer.

**Data Analysis**

Merriam (2009) stated that data analysis is the process of understanding the data by interpreting and consolidating participants’ responses. To effectively analyze data, Creswell (2012) recommends six steps: prepare and organize data collected, explore the data through
coding, use these codes to produce general descriptions and themes, represent and report the findings, interpret the findings, and validate the findings to ensure accuracy. While all qualitative research approaches share data analysis processes, case studies have several specific methods. The main emphasis of case study research is to provide a “detailed description of the particular case or cases” (Creswell, 2013, p. 186). Therefore, when analyzing the data in case study research, it is important to thoroughly describe the unique features of the case and its setting (Creswell, 2013; Merriam, 1998; Stake, 1995).

The first step to analyzing data involved organizing collected data and transcribing interviews and field notes. Transcriptions were printed with two-inch margins to provide space for notes as suggested by Creswell (2012). All words were transcribed exactly as stated and all actions, such as pauses and laughter, were noted. Such notations often proved useful throughout the analysis process (Creswell, 2012).

While data organization and all transcriptions were being completed, a precoding process was undertaken. Saldana (2012) recommends researchers begin coding as they collect data rather than waiting until all fieldwork has been completed. All data was read, and the researcher wrote preliminary fieldnotes in the margins of the data transcripts. These preliminary fieldnotes provided the opportunity to critically view the data and begin to frame the evident patterns. Saldana (2012) suggests these fieldnotes be complete words and phrases, a suggestion followed by the researcher.

Once these preliminary fieldnotes were completed and all interviews were transcribed, the researcher began the process of coding. There are several coding strategies that researchers should consider, depending on the study design, the focus of the research, and the analytical needs of the researcher (Saldana, 2012). Regardless of these variables, Saldana (2012) suggests
researchers engage in first and second cycle coding methods. First cycle coding methods are basic and direct (Saldaña, 2012); these help the researcher begin to organize the data collected. Saldaña (2012) stresses that, while there is no one correct coding method for a particular study, the researcher must carefully consider which coding methods will “yield a substantive analysis” (p. 65) and which are best suited to the research study (Creswell, 2013). As the research questions in this study are epistemological in that they “address theories of knowing and an understanding of the phenomenon of interest” (Saldaña, 2012, p. 61), in vivo and initial coding were employed as first cycle coding methods. In vivo coding allowed the researcher to consider salient responses in the participants’ own words. As initial coding allows the researcher to “reflect deeply on the contents and nuances” (Saldaña, 2012, p. 100) of the data, this was a logical second step in the analysis of data. The use of these two first cycle coding methods provided opportunity to interpret data while keeping close to the participants’ actual words. Initial categories and subcategories were observed through these first cycle coding methods.

Once first coding methods were completed, the researcher took steps to “better focus the direction” (Saldaña, 2012, p. 187) of the analysis. To that end, the researcher created Excel spreadsheets for each interview question and recorded initial codes on these spreadsheets. This provided the researcher the opportunity to view the collected data and begin to discern the various categories present within the data. Transcripts and observation notes were read and recoded several times. This allowed the researcher to condense and focus on the most salient features of the data. These categories were then regrouped, resulting in a decreased number of categories (Creswell, 2013). Next, the researcher organized the categories by research question. This provided insight into how the data aligned with the overarching research questions framing this study.
After an understanding of emerging patterns in the data developed, a second cycle coding method, focused coding, was employed. Saldaña (2012) explains that the goal of second cycle coding is to create an understanding of the categories, themes, and concepts derived from first cycle coding methods. Second cycle coding provided the opportunity to reorganize and condense the quantity of data into specific units or patterns, allowing the researcher to begin to “attribute meaning” (Saldaña, 2012, p. 209) to the previously coded material, discerning wider, thematic codes. Once focused coding was completed, the researcher conducted a preliminary analysis of the condensed categories, interpreted the categories, and developed the themes that emerged from the coding process.

**Trustworthiness**

Ensuring the validity of research is critical in assessing the quality of that research (Creswell, 2012). To that end, Creswell (2013) recommends several steps be taken to ensure the trustworthiness of the research findings. This study employed triangulation, prolonged engagement in the research site, clarifying researcher bias, member checking, and the use of thick, rich description. These methods are described below.

**Triangulation.** Triangulation is a validity tool through which researchers make use of a variety of sources to provide corroborating evidence for the researcher’s perspective or findings to ensure the reliability and transferability of the study (Creswell, 2013). In this research study, the use of interviews, observational field notes of PLC meetings, and meeting agendas were analyzed. Themes were developed after analysis and synthesis of the evidence was collected.

**Prolonged engagement.** The research site allowed for “prolonged engagement and persistent observation” (Creswell, 2013, p. 250). As a member of this PLC group from September 2008 through June 2014, the researcher had a working, professional relationship with
the participants, had developed trusting relationships with them, and had some familiarity with contextual and cultural factors in the school. Throughout the course of this research study, the researcher had daily interaction with participants, observed PLC meetings regularly, and was granted access to participants’ notes and meeting agendas.

**Clarifying researcher bias.** To clarify researcher bias, the researcher commented “on past experiences, biases, prejudices, and orientations that have likely shaped the interpretation and approach of the study” (Creswell, 2013, p. 251). Given the role of the researcher as a former participant and colleague in the PLC, it is important to clarify researcher bias from the outset of the research study. To that end, the researcher explicitly stated his positionality in regards to experience with collaboration and PLCs.

**Member checking.** Member checking was employed to ensure credibility of the research findings and interpretations (Miles, Huberman, & Saldaña, 2014). This involved sharing each participant’s interview transcript with them and providing each participant the opportunity to clarify and/or qualify the accuracy of his/her transcript. Participants were asked to consider whether the interpretations were representative of the PLC and whether the descriptions contained in the report were accurate (Creswell, 2012).

**Thick, rich description.** The use of thick, rich description was used to ensure trustworthiness of the findings. A rich description of the setting, participants, observed activities, and findings was employed (Creswell, 2013), allowing for a thorough, unbiased understanding of how teachers experience their role in PLCs. Through detailed notes, observations, and semi-structured interviews, readers were provided a thorough understanding of the study (Merriam, 2009). This ensured the transferability of the research.

**Threats to Internal Validity**
One potential threat to validity is participant bias in regard to their experiences working in PLCs. Participants may also misrepresent their role and/or contributions to the PLC. Steps taken to address these potential threats included the use of follow-up and probing questions during the interview process and the triangulation of data.

Another potential threat to validity is fear of retribution as a result of participating in this research study. Participants were assured that nothing they said or did in regards to their participation in this research study would effect their performance evaluations. Further, the researcher did not evaluate any of the members of the PLC during this research study. In my role as department chair, I split evaluative duties of English teachers with the school principal; the principal is the sole evaluator of the two English teachers participating in this study. My professional relationship with these two teachers is that of a mentor. By comparing interview transcripts, meeting agendas, and notes from PLC observations, the researcher identified and worked to minimize potential threats to validity.

Researcher bias is another threat to internal validity that is explicitly addressed. Due to the researcher’s relationship with the institution, there was a risk that bias would influence the interpretation of data. To minimize this threat, the researcher’s positionality regarding PLCs was made clear to all participants. To further minimize the threat to internal validity, triangulation of data and member checking were used to address these threats.

**Protection of Human Subjects**

In qualitative research there are many steps that must be taken to protect the participants in the study. Creswell (2012) explains that, because of the often sensitive, highly personal nature of information a researcher collects, it is imperative to protect the research participants and provide participant confidentiality. Ethical considerations must be considered through all stages
of the research process, prior to data collection, during the data collection process, and when publishing data. Throughout the research process, the researcher must adhere to the principles established by The Belmont Report and approved by the Institutional Review Board (IRB) to ensure that the potential physical, psychological, social, legal, or economic (Willis et al., 2010) risks to participants have been considered and that participants are protected from such risks.

All participants were provided an Informed Consent Form to sign (appendix D). This form provided participants with full disclosure as to the nature and process of the research study and made them aware that their participation in the study was voluntary. Further, they were informed that they could withdraw from the study at any time without negative consequences (Willis et al., 2010; Creswell, 2012). Participants were also made aware of the various steps taken to ensure their anonymity and safety while participating in the research study and were assured that data was collected and stored to safeguard confidentiality (Willis et al., 2010; Creswell, 2012). Participants were assigned pseudonyms, and data was stored in a locked file cabinet and on a password protected computer. Only the student researcher and the principal investigator had access to the pseudonym list. As the purpose of this instrumental case study was to gain an “in depth understanding” (Creswell, 2012, p. 98) of the experiences of teachers in one PLC group at a single site, responses were used to develop a composite understanding of the group rather than an individualized understanding. This further ensured participant anonymity (Willis et al., 2010).

**Summation**

In the design of this qualitative case study, the researcher took steps to ensure the validity of this research. The proposed study group, eight teachers who are members of a grade nine interdisciplinary PLC at Yorktown High School, offers multiple forms of data available, which
allowed for the collection of “rich and detailed information” (Rubin & Rubin, 2012, p. 29). To ensure the trustworthiness of the findings, several steps were taken by the researcher; these include triangulation of data, prolonged engagement, and member checking. Additionally, several steps were taken to ensure the protection of study participants, such as safeguarding their anonymity and ensuring their participation in the study was voluntary and could have been withdrawn at any time. These steps ensured the validity of findings.
Chapter IV: Results of the Research Data

Chapter four presents the data collected for this qualitative case study. The purpose of this research study was to understand teachers’ experiences working in an interdisciplinary professional learning community (PLC) in one suburban Massachusetts high school. As part of this understanding, insight into the contextual factors in the school as well as the extent that the practices of participating teachers were influenced were also two areas of focus. The data collection process included a semi-structured interview with each participant of the ninth grade PLC, observations of PLC meetings, observations of lesson tuning sessions, and a follow-up interview with participating teachers after they had shared lessons in the lesson tuning sessions.

Throughout the data collection process, the researcher kept field notes and regularly reviewed PLC meeting observation notes, reflecting on the alignment of teachers’ responses during their interviews and the practical work of the PLC as evidenced in meetings. In doing so, the researcher was able to identify several points to further explore and which needed further clarification; this reflection and subsequent data collection that ensued through follow-up interviews provided a deeper understanding of teachers’ experiences as members of this group.

The following chapter will begin with a history of the development of professional learning communities at the study site, Yorktown High School. This is followed by an overview of the data collection process and a discussion of the findings from this study.

Research Questions

The following questions guided this qualitative case study:

1. How do teachers interpret the influence of school contextual factors (cultural, historical, and institutional) on collaboration efforts of the professional learning community?
2. How do staff members of a ninth grade interdisciplinary PLC describe their experiences as members of this group?

3. How have teachers’ practices been influenced by their participation in the grade nine PLC?

The Study Site and Participants

A precursor to professional learning communities, in the 2005-2006 school year, Yorktown Regional High School instituted teaching teams at the ninth and tenth grade level. Each grade level was broken into two teams, each composed of one English, social studies, health, science, and math teacher. Teams had one free period in common and met each day during this time. This meeting time served as a teacher’s duty period per contractual obligation. The following school year, 2006-2007, the two grade level teams were combined, resulting in one ninth grade and one tenth grade team, each with ten members.

In August, 2007, Yorktown Regional High School instituted professional learning communities as part of a district wide initiative. Throughout July and August of 2007, a number of workshops and training sessions focused on creating professional learning communities were provided to administrators, department chairpersons, and team leaders. These workshops and training sessions continued throughout the 2007-2008 school year and were held monthly. During this school year, monthly department meetings and professional development days were conducted as PLC meetings. For the 2008-2009 school year, the district calendar was adjusted to allow for 16 early release Wednesdays, where students were dismissed 90 minutes early to provide teachers regular professional development time to meet in department level PLC groups within the hours of the school day. These 16 early release Wednesdays were part of the district calendar through the 2012-2013 school year. In June of 2012, the superintendent who instituted
PLCs retired from the district. While there was the expectation that PLCs would continue throughout the district, little time and no resources have been provided to ensure their continuation.

Throughout the implementation and sustainment of professional learning communities throughout the district, the ninth and tenth grade teams continued to meet daily. In the first two years of their existence, these grade level teams received little administrative direction; with the implementation of PLCs across the district, these teams adopted the PLC model. The workshops and trainings offered to team leaders provided a strong framework for productive PLC meetings to address a variety of educational needs.

This research study focused on the ninth grade PLC at Yorktown High School. The members of this group have changed since the team became a professional learning community in 2007; five members of the PLC, however, did participate in the full implementation process. Furthermore, the two co-leaders of the ninth grade PLC were part of the original group of educators who participated in the initial PLC workshops and trainings during the 2007-2008 school year. These co-leaders have been members of the PLC throughout the implementation and sustainment of the initiative. The current ninth grade PLC, the focus of this research, is composed of two English, two math, two science, and two social studies teachers. Table One provides information on participants’ general background and experiences with collaboration:
Table 1: Demographics of Study Participants

<table>
<thead>
<tr>
<th>Participant</th>
<th>Gender</th>
<th>Age</th>
<th>Years Teaching</th>
<th>Collaborative Experience prior to joining ninth grade PLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Martha</td>
<td>Female</td>
<td>mid 40s</td>
<td>8</td>
<td>No prior experience</td>
</tr>
<tr>
<td>Susan</td>
<td>Female</td>
<td>mid 50s</td>
<td>18</td>
<td>Member of grade 10 PLC</td>
</tr>
<tr>
<td>Cheryl</td>
<td>Female</td>
<td>early 30s</td>
<td>11</td>
<td>Collaborated with department</td>
</tr>
<tr>
<td>Heather</td>
<td>Female</td>
<td>mid 50s</td>
<td>4</td>
<td>Aide on sixth grade team</td>
</tr>
<tr>
<td>Jim</td>
<td>Male</td>
<td>late 30s</td>
<td>16</td>
<td>Member of grade eight team</td>
</tr>
<tr>
<td>Mike</td>
<td>Male</td>
<td>late 30s</td>
<td>17</td>
<td>Member of grade seven team</td>
</tr>
<tr>
<td>Erica</td>
<td>Female</td>
<td>late 20s</td>
<td>6</td>
<td>Member of PLC in another district</td>
</tr>
<tr>
<td>Lisa</td>
<td>Female</td>
<td>mid 20s</td>
<td>2</td>
<td>Co-taught classroom for one year</td>
</tr>
</tbody>
</table>

The term professional learning community (PLC) has been used by schools to describe many different situations and contexts. For the purpose of this study, a professional learning community is defined as a group of teachers who are provided common planning time during the school day to meet with the purpose of collaborating to become more effective educators. A PLC is given the autonomy to organize and engage in dialogue/activities to achieve this goal.

Data Collection and Analysis

In order to develop a thorough understanding of teachers’ experiences as part of this PLC, several forms of data were collected and analyzed over a three-month period; semi-structured interviews, observations of PLC meetings, observations of lesson tuning sessions, and
follow-up interviews with participants. The researcher also kept field notes throughout the research process.

**Teacher interviews.** The researcher interviewed eight teachers individually using a semi-structured interview format. Interviews were conducted after school in the teacher’s classrooms, the school library, and the researcher’s office, per the request and convenience of individual teachers. Three teachers requested the interview be conducted during their planning period during the school day. The researcher drew from a total of 24 questions and interviews lasted approximately 45 minutes. Follow-up interviews were conducted with participants after lesson tuning sessions. These follow-up interviews lasted approximately 15 minutes.

**PLC meeting observations.** Whole group PLC meetings occurred two to three times per week; variation occurred based on scheduled parent meetings and individualized education plan (IEP) meetings. To observe meetings, the researcher used the PLC Meeting Observation Template, recording group members’ interactions, topics discussed, and time spent discussing the various topics. These observations provided the opportunity to observe the PLC members interacting with each other, discussing salient issues, and observing the interrelationships of its members.

**Lesson tuning observation.** During the research period, one teacher presented a lesson using a lesson tuning protocol, a tool the PLC has been using for the past two years. The Tuning Protocol (Appendix F), developed by Joseph McDonald and David Allen for the National School Reform Faculty, facilitates the sharing of practical and pedagogical techniques among teachers. In this protocol, teachers share a sample lesson, unit, or some completed student work. Following an established protocol, PLC colleagues offer pedagogical and other strategies to improve the implementation of the lesson and/or the quality of work that students produce. By
observing this lesson tuning session, the researcher observed the interactions and interrelationships of PLC members and their discussion of pedagogy and classroom strategies.

**Data analysis.** Once interviews had been recorded, the researcher transcribed the interviews and closely read all transcripts, becoming familiar with the data. When completed, member checking was employed. All participants were provided copies of their interview transcripts to ensure their words and sentiments were accurately transcribed. Once all participants had expressed satisfaction with the contents of their interview transcripts, the researcher began to code and analyze the data to identify themes within the data.

Data was analyzed using first and second cycle coding methods. First stage coding involved both in vivo and initial coding procedures. In Vivo coding, which captures the actual language of the research participant (Saldaña, 2013) was first used. To further interpret the data, initial coding, in which the researcher breaks down the data into categories (Saldaña, 2013), was employed.

Once this data was analyzed, the researcher created Excel spreadsheets for each interview question and recorded codes on these spreadsheets. This provided the researcher the opportunity to view the collected data and begin to discern the various categories present within the data. To cluster and categorize topics, the researcher created a handwritten list of categories. Interview transcripts and observation notes from PLC meetings were reread and recoded several times to condense the data and focus in on the most salient features of the data. These categories were then regrouped, resulting in a decreased number of categories (Creswell, 2013). Next, the researcher organized the categories by research question. This provided insight into how the data aligned with the overarching research questions framing this study.
To further organize the data into themes, focused coding was used for second stage coding (Saldaña, 2013). Saldaña (2013) describes second cycle coding as the reorganization and reanalysis of data for the purpose of developing a condensed list of categories and themes. Once focused coding was completed, the researcher conducted a preliminary analysis of the condensed categories, interpreted the categories, and developed the themes that emerged from the coding process.

**Findings From the Research Data**

To gain an understanding of teachers’ experiences as members of a grade nine interdisciplinary professional learning community, the researcher conducted semi-structured interviews with the eight members of the PLC. Additional sources of data were regular PLC meeting observations, observation of lesson tuning protocol sessions, follow-up interviews with the teachers who shared lessons in these sessions, and the researcher’s field notes.

**Significant themes.** Six significant themes emerged from the analysis of the data collected. Through research question one, *how do teachers interpret the influence of school contextual factors (cultural, historical, and institutional) on collaboration efforts of the PLC?*, the following themes emerged:

1. Institutional factors positively impact the collaborative work of the professional learning community
2. Cultural factors positively impact the collaborative work of the professional learning community

Through research question two, *how do staff members of a ninth grade interdisciplinary professional learning community describe their experiences as members of this group?*, the following themes emerged:
3. Participation in the ninth grade interdisciplinary PLC provides increased support and a higher degree of teacher empowerment.

4. Participation in the ninth grade interdisciplinary PLC leads to increased teacher capacity and sense of self-efficacy.

Through research question three, *how have teachers’ practices been influenced by their participation in the grade nine PLC?*, the following themes emerged:

5. Participation in the ninth grade interdisciplinary PLC results in increased support for students.

6. Participation in the ninth grade interdisciplinary PLC results in stronger teacher-student relationships.

The findings from the analysis of this data, organized thematically by research question, are presented in the following section.

**Research Question One**

Data from research question one, *how do teachers interpret the influence of school contextual factors (cultural, historical, and institutional) on collaboration efforts of the PLC?*, resulted in the development of two themes. Data from multiple sources, the subthemes and themes that emerged from the data, and the theoretical frameworks used as a lens for this study are illustrated in Table 2.
Table 2: Participant Data, Research Question One

<table>
<thead>
<tr>
<th>Quote</th>
<th>Sub-themes</th>
<th>Themes</th>
<th>Theoretical Framework</th>
</tr>
</thead>
<tbody>
<tr>
<td>“We’re doing things that reflect, that reflect what the district goals are… just recently, we planned time to work on our DDMs… people were in small groups. So we shared as a whole group what we were doing, and then we broke up into the groups.” (Martha 1/16/15)</td>
<td>District initiative</td>
<td>Institutional factors</td>
<td>Vygotsky (1978) describes the Zone of Proximal Development as the distance between tasks individuals can accomplish on their own and tasks that they can accomplish with guidance from or collaboration with more knowledgeable others (MKO), often peers, mentors, teachers, and coaches who have greater mastery of a specific task than the learner (Vygotsky, 1978). Teachers, with some district level guidance, all bring their unique levels of expertise to the various topics explored.</td>
</tr>
<tr>
<td>“The superintendent on down creating the PLCs… it was his idea, you know making collaborative groups, making a group where you can get together and have structure… a structured group where you can exchange ideas is fantastic - we never had anything like that at my previous school.” (Jim 3/05/15)</td>
<td>Common Meeting Time</td>
<td>Institutional factors</td>
<td>Situated Learning Theory (Lave &amp; Wenger, 1991) is based on the idea that learning is a social process that occurs when a group of people collaborate to construct knowledge for the purpose of solving real life, contextually meaningful problems (Gallucci, 2008; Goncu &amp; Gauvain, 2012; Lave &amp; Wenger, 1991; Matusov &amp; Rogoff, 2002).</td>
</tr>
<tr>
<td>We have an actual time when we meet, and that of course is a critical component. Without that time, we’d be very, very frustrated. (Susan 1/16/15)</td>
<td>Common meeting time</td>
<td>Institutional factors</td>
<td>Of utmost importance to sociocultural learning is the time needed to facilitate the learning process. Interpersonal communication is essential to learning.</td>
</tr>
<tr>
<td>“We have free range over what we’re going to discuss, whatever we need to do.” (Cheryl 2/25/15)</td>
<td>Group autonomy</td>
<td>Institutional Factors</td>
<td>Wenger (1998) identifies the importance of joint enterprise in communities of practice. Joint enterprise is defined as the common goal or purpose and the accountability members feel toward one another in achieving that purpose. Because the group develops the common purpose, members are highly committed to contribute to the</td>
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success of the group (Chalmers & Keown, 2006; Cuddapah & Clayton, 2011)

“I feel like my voice is just as heard as anyone else’s… I feel like when I express anything, whether it’s something about a lesson or something about a kid, it’s not undervalued because I’m new” (Erica 1/22/15)

Respect
Cultural Factors
Sociocultural learning theory is based on the interpersonal communication among members. Learners must be provided with socially Jim environments where they are comfortable with their peers.

“I think as a new teacher, its helpful to have some kind of confirmation; if I have a kid who is struggling it’s helpful to know it’s not me (laughs). Umm a student who really genuinely needs help I do feel like I can approach any of the teachers on the PLC with questions.” (Lisa 1/21/15)

Cultural Factors
Trust
In Vygotsky’s theory, the more knowledgeable other (MKO), a more experienced peer, helps the learner evolve in their understanding of knowledge and skills.

Wenger (2006) articulated the goal of communities of practice as “groups of people who share a concern or passion for something they do and learn how to do it better as they interact regularly” (para 2).

<table>
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<th>Theme One: Institutional Factors Positively Impact the Culture of the Professional Learning Community</th>
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Throughout the analysis of the interview transcripts, it was evident that institutional factors helped create conditions for successful collaborative work in the PLC. Teachers reported that district wide initiatives, put forth by the superintendent, guide the pedagogical work of the PLC. Further, the common planning time built into the school day by the principal has nurtured the work of the PLC, allowing these busy professionals to carry on their important work. Finally, the autonomy granted this PLC has been instrumental in the successful collaborative work they have engaged in. These institutional factors have created conditions that have positively affected the collaboration of the ninth grade professional learning community.
District initiatives guide the work of the PLC. Teachers have adopted the goals of the district strategic plan with no evident resistance, and these district initiatives define much of the pedagogical work of the PLC. The PLC members spoke of their work around district goals such as lesson sharing, District Determined Measures (DDMs), and engaging in more reflective practices. Teachers reported reflecting on their teaching much more than in the past, attributing this to a larger district initiative to get students to reflect more about their learning. Jim explains, “[The principal] has pushed that directive, having us reflect on what we’re doing, show how what we’re doing in terms of matching up with district goals.” Teachers also reported allowing students more choice in their learning, a significant district initiative developed by the superintendent. During one PLC meeting, when Mike was discussing the assignments he gives his students, he stated, “If there’s any unit I’m doing where they can choose a topic, maybe they’ll buy in more. I feel like the district directives are kind of really centered around that.”

By far, the teachers reported dedicating the most time on collaborating with their PLC colleagues in developing District-Determined Measures (DDMs). Teachers report that this collaboration helped them to overcome feelings of trepidation many associated with the DDMs. District-Determined Measures (DDMs) are an important part of the new Massachusetts Educator Evaluation System. As part of their summative evaluation, all teachers will need to complete two DDMs each school year. Using school-wide rubrics to measure student learning, teachers’ DDMs measure student growth and acquisition of knowledge; this data will help to inform teachers’ classroom instruction and will be an important component of teachers’ evaluations. Because the DDMs are so important to teachers’ evaluation, and information from the Massachusetts Department of Education has been vague, many teachers are nervous about how to implement them successfully.
During the initial roll out of District-Determined Measures (DDMs), many teachers were confused and overwhelmed with the jargon that went with this initiative and struggled to understand and implement them in their classrooms. Department chairs, who had been working to implement them throughout the district, explained the concept to teachers at various meetings and during individual conferences, but because the DDMs are such a new concept, many teachers struggled to grasp exactly what they were expected to do. Teachers reported that PLC time was where teachers really came to understand DDMs.

Teachers dedicated several meetings to “come together as a team and share” their understanding of DDMs and the work they had done, asking clarifying questions and using each other as resources as they developed their DDMs. The researcher observed two PLC meetings where DDMs were the sole focus. In one, Heather became increasingly frustrated as she tried to visualize what the final product would look like. Though it was a Friday and the end of a particularly hectic week for the teachers, the group worked to help Heather see the bigger picture. Cheryl explained the benefit of working through DDMs as a group: “We can bounce things off each other, especially when everyone is trying to figure out exactly what it is.” The PLC time provided the opportunity for teachers to share insights and come to a deeper understanding about the DDM initiative. Showing how this collaboration on initiatives is a pattern, Erica explained “We did the same thing last year to help each other understand the SMART (specific, measurable, attainable, relevant, and time-bound) goals”, another district initiative. Discussions focused on developing and implementing DDMs were regularly observed at PLC meetings.

Common meeting time supports a collaborative culture. The importance of providing teachers common meeting time during school hours cannot be understated. Every teacher
interviewed stressed the importance of administration providing this common time. Jim states, “The PLC idea, a structured group where you can exchange ideas is fantastic – we never had anything like that at my previous school.” Cheryl attributes all of her collaboration with her fellow math teacher to the common time provided during PLC. Susan adds that without the common time “We’d be very, very frustrated.”

Teachers felt that if this common time were taken away, they would still try to communicate with their colleagues, but it would be difficult. They stated this communication would occur in quick hallway conversations, through email, and during their prep periods. Three teachers said they would try to conduct after school meetings for this purpose. Martha explained, “If we did not have common meeting time with the freshman teachers, I don’t think we’d be sharing lessons with each other, but we would definitely touch base about at-risk students.” All of the teachers expressed how they would try to find the time to continue to collaborate. Erica felt, however, that any collaborative discussions would focus on far fewer students. Susan was particularly skeptical, stressing that the PLC meetings would “fall by the wayside – realistically, everybody goes in every direction. After school, kids come for extra help… even our lunches don’t line up.”

There is evidence to suggest that Susan is correct, that these PLC meetings would likely not occur if common time during school hours were eliminated. Erica recounted the story of one student who is repeating ninth grade English but is a sophomore in all of his other classes. She is frustrated because her concerns about this student are unheeded. “It’s not a student that the rest of the freshman team is concerned about” she explained, and because she does not have common meeting time with the 10th grade PLC, she never talks to them about her concerns. She has reached out to the 10th grade PLC a couple times but nothing really came of it. She continues to
work with the student individually, but without the support of her colleagues. From this experience, she surmised “Realistically, trying to find time for us to work together if it wasn’t provided for us would be extremely difficult.” There are also currently two math teachers who each teach a section of ninth grade students but do not have the common time built into their schedule. They have not attended any PLC meetings nor provided any concerns or feedback about their ninth grade students this school year.

The challenge of collaborating without common time is also evident in the collaborative relationships that many of the PLC teachers have with their Special Education co-teachers. Beginning in the 2014-15 school year, five of the teachers on the PLC were assigned to co-teach a class with a Special Education teacher, part of a new inclusion model in the district. Though the teachers are working hard to ensure this model’s success, the lack of common planning time between the subject and SPED teachers has made collaborating a significant challenge. Lisa states, “when we plan together it is awesome because she brings a whole other set of skills to the table that I know nothing about, but we don’t have as much time as we want.” This sentiment was echoed by the other teachers with co-teaching responsibilities. While they all try to block off time after school to do this, conflicts inevitably arise, and many of their meetings end up getting postponed or cancelled. The common time provided by school administrators facilitates collaboration and is instrumental in the success of the PLC.

**Group autonomy supports collaborative culture.** All of the teachers in the PLC were pleased with the limited involvement by the principal in the day to day meetings of the group. Teachers reported that the principal has come to only two PLC meetings in the last two years. This lack of direct guidance has not always been the case and is perceived by veteran teachers as a deliberate strategy. Several members talked about how, in the beginning of the PLC in 2007,
the group used to meet in the principal’s office. They recalled that these meetings were often formal and uncomfortable. For the past four years, however, teachers have met in Martha’s classroom, where numerous observations showed them to be very comfortable. This change in meeting location reflects the changing role in leadership in the PLC. Jim explains, “[The principal] guided what he wanted us to do at first, and over time it been thrown back on the PLC leaders and now it’s kind of just run like a group.” In some cases, the principal does directly guide the work of the PLC. For example, to facilitate the transition from middle to high school, the principal asked teachers to meet with their subject teachers in eighth grade to discuss academic expectations. Cheryl states, “[The principal] sent us an email asking us to work that in, but he did not ask us to work it in every week or every month.” Rather, he trusts the PLC will implement his directive successfully and appropriately.

These principal directives are few and far between and are communicated to the group by the PLC leaders. “[The principal] is confident in what Cheryl (PLC co-leader) and I do,” says Martha “We’re doing things that reflect what the district goals are… as long as we’re doing what we’re supposed to be doing, everything is fine.” Cheryl adds, “We have free range over what we’re going to discuss, whatever we need to do.” Several teachers expressed that, while they assumed there was regular communication between administrators and PLC leaders, they saw no evidence of it. Some teachers, however, felt administrative input was nonexistent. They did not feel that administration was aware of the work the PLC was doing and expressed frustration about this. Erica stated, “I don’t think I’ve seen any of the three administrators be a part of the PLC. They have never come to a meeting.” Martha and Cheryl, the PLC leaders concurred, explaining that communication with the principal was irregular. Further, they explained that all communication occurs between the PLC leaders and the principal. Collectively, teachers did
report that if, as a group, they needed to be supported with larger concerns, they could pass them on to the PLC leaders who follow up with administration. They were pleased with this arrangement.

This semi-autonomous philosophy has resulted in increased group buy in and reduced resistance. Jim states, “At first it was top down, we were told what to do and some people were resistant because of that. But over the past few years, this has changed.” Cheryl feels that the group is very receptive to new ideas but “if it was coming right from [the principal] or [superintendent], it might be, automatically, there might be pushback.” Heather agrees, saying, “It’s not just one person calling all the shots” which makes her more receptive to trying new ideas. While the principal’s approach is described as generally effective, the PLC leaders both feel it is only partly by design, and partly because the principal has so many tasks to complete, he overlooks the follow through with the PLC.

These institutional factors have provided a consistent framework, one that has established conditions that facilitate a supportive environment, where teachers feel comfortable collaborating to implement a variety of district initiatives, and feel they have the autonomy to implement new ideas.

**Theme Two: Cultural Factors Positively Impact the Collaborative Work of the Professional Learning Community**

Through the analysis of semi structured interviews, PLC meeting observations, and lesson sharing sessions, it was clear that this professional learning community has established a strong culture of respect and trust, one where each member feels equal. This PLC has had the same members for the past two years; this continuity has fostered the interdependent nature of
the group and has created conditions where teachers feel safe and comfortable with one another. These conditions positively influence the collaborative work of the PLC.

**Respect.** In describing the culture of the PLC, teachers expressed that they respect their colleagues and feel they are treated with respect, which is essential to the supportive culture of the group. Cheryl states it succinctly, “Everybody respects and listens to each other… everybody is heard.” Susan echoes this sentiment, describing the culture as one of “overarching respect and professionalism.” Erica, in her second year at Yorktown High School, explains that the larger school culture feels like “the veterans versus the rookies.” She feels that in the larger school environment, what she has to say is undervalued, that other teachers convey the attitude that she has not earned the right to express an opinion. But she does not feel that way in the PLC: “I feel like my voice is heard just as much as everyone else’s. We always talk freely, we’re free to disagree with each other because we know it’s out of mutual respect.” This respect provides an environment where teachers are comfortable opening their practice to others, sharing their successes, their challenges, and their concerns; this results in productive professional dialogue.

Martha recounted how she used to be frustrated by the “negativity” of one of the teachers in the PLC; over the past two years, however, she has come to respect this individual and understand that her “venting” was driven by a deep desire to provide the best education she could for her students: “Our concerns are the same; she just expresses them in a slightly different way. I know she truly means well.” Lisa has also come to have tremendous respect for group members. She explained that working so closely with Mike and Cheryl has “shaped the way [she] wants to interact with students and parents.”
PLC participants regularly stressed that having the same members on the PLC for the past two years has facilitated the development of strong relationships built on respect. Martha stresses that having the same group members the past couple years has “helped in the relationship building” and resulted in more thoughtful conversations about student issues and classroom strategies. Susan explained that this consistency has given her “a comfortable feeling,” a thought echoed by many of the participants and observed at all of the PLC meetings.

Teachers also feel that, due to the level of respect they feel for one another, the PLC has functioned more efficiently over the past two years; the group has even stopped using discussion protocols as regularly as they once did because they feel they are no longer necessary to facilitate productive conversations. Jim stresses, “We have a good group that kind of understands each other.” After two years of sharing the same students and the same common planning time, the teachers in this PLC have come to have great respect for each other, and understand how they can support one another and their students effectively. As this mutual respect has grown among members, so too has their feelings of trust toward one another.

Trust. Teachers all reported that the relationships developed in the PLC are based on trust. Teachers feel comfortable sharing their concerns about and challenges with students. Without this feeling of trust they have in each other, many teachers would likely keep these issues to themselves, but in the PLC, they are comfortable sharing their struggles and ideas. “I would only voice my opinion in [the PLC],” said Martha. She went on to say that she had never spoken at a staff meeting in her eight years at Yorktown High School, but is a regular participator in PLC meetings.

Lisa, a second year teacher feels it is “helpful to have some kind of confirmation; if I have a kid who is struggling, it’s helpful to know it’s not me.” She laughs her comment off but it
is a real concern, one expressed by several of the teachers. In several PLC observations, the researcher observed teachers looking for this type of affirmation while seeking concrete advice to help the student. Teachers know that, if they are struggling with a particular student, they can rely on their PLC colleagues to provide another perspective and offer suggestions to address the issues. This PLC environment, where teachers feel validated in their classroom challenges and receive assistance from the group to address these challenges, builds confidence in the work they are doing and their ability to do it well.

All teachers attributed the value the group places on everyone’s ideas and background as essential to this feeling of trust. Susan explained that she feels like she “can approach any of the teachers on the PLC with questions.” Martha echoed this thought: “I know these [ninth grade] teachers better so I’m more apt to communicate with them about students.” Teachers feel comfortable coming to the PLC with concerns about both their students and their teaching and know their colleagues will not judge them and will work to help them resolve their concerns.

**Research Question Two**

Data from research question two, *how do staff members of a ninth grade interdisciplinary professional learning community describe their experiences as members of this group?*, resulted in the development of two themes. Data from multiple sources, the subthemes and themes that emerged from the data, and the theoretical frameworks used as a lens for this study are illustrated in Table 3.
### Table 3: Participant Data, Research Question Two

<table>
<thead>
<tr>
<th>Quote</th>
<th>Subthemes</th>
<th>Theme</th>
<th>Theoretical Frameworks</th>
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<tbody>
<tr>
<td>“We have some team members who are always able to give us some perspective which is always just helpful.” (Cheryl 2/25/15)</td>
<td>Fosters collegial relationships, Feel reenergized</td>
<td>Increased support and a higher degree of teacher empowerment</td>
<td>Communities of Practice provide opportunities for participants to “share understandings concerning what they are doing and what that means for their lives” (Cox, 2005, p. 98)</td>
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<tr>
<td>“When one of us is having a bad day, someone else will come and say no worries; I’ve been there, and here’s what I did and there’s a lot of value in that” (Susan 1/16/15)</td>
<td>Fosters collegial relationships, Feel energized, Strategies to address classroom management issues</td>
<td>Increased support and a higher degree of teacher empowerment</td>
<td>Participants in a community of practice develop strong relationships that enable them to learn from one another.</td>
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<td>“I think it’s motivated me to try to implement new stuff with the kids when I see it’s working for other people. Back to last year and the year before, I think back to before about sharing lessons. I just felt that every single one, I got something from, whether it was a math or an English lesson - some little thing that you probably learned in grad school and forgot-something that you’re not really doing anymore. And then having, having new teachers and some really veteran teaches there. I don’t know. That’s really helped.” (Jim 3/5/15)</td>
<td>Sharing of resources and ideas, Lesson sharing</td>
<td>Increased support and a higher degree of teacher empowerment</td>
<td>Vygotsky (1978) states that as learners engage in a variety of joint activities, they acquire new knowledge and strategies.</td>
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<td>Increased teacher capacity and sense of self-efficacy</td>
<td>Vygotsky stresses that learning, as a result of social interaction with peers, stimulates “a variety of internal development processes” (Vygotsky, 1978, p. 90)</td>
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<td>Having multiple zones of proximal development in a group fosters learning through dialogue and collaborative problem solving (Goncu &amp; Gauvain, 2012)</td>
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“It forces us to reflect on what we do... It’s helpful just to see how people do things practically. It doesn’t matter what lesson it is - I’ve taken ideas. You know, you take the strategies from what they’ve done.” (Jim 3/5/15)

| Sharing of resources and ideas | Increased teacher capacity and sense of self-efficacy | A Vygotskian perspective states that cognitive development occurs when one learns general concepts that can be applied to new tasks (Vygotsky, 1978)

Vygotsky emphasizes communication and active participation in learning, both of which are emphasized in PLCs (Goncu & Gauvain, 2012)

“I feel like my collaboration with the other 9th grade English teacher has completely impacted my teaching.” (Erica 1/22/15)

| Common Time to collaborate with subject teacher | Increased teacher capacity and sense of self-efficacy | During this process of interpersonal and intrapersonal communication, learners process the information and ideas they have been exposed to; this learning becomes internalized and ultimately becomes a part of the learner’s thinking and identity, and is applied to new actions (Vygotsky, 1978).

Table 3: Participant Data, Research Question Two

**Theme Three: Participation on the Ninth Grade PLC Provides Teachers Support and a Higher Degree of Professional Empowerment**

This theme emerged through analysis of semi-structured teacher interview transcripts, notes from PLC meeting observations, and lesson sharing sessions. Whole group PLC meetings occur two to three days a week during the last period of the school day. Teachers look forward to attending PLC meetings to connect with their colleagues and brainstorming solutions to common classroom issues. Teachers feel comfortable, trust their colleagues, and feel respected in the group. They report feeling refreshed and recharged after speaking with their colleagues during the PLC.
**Fosters collegial relationships.** Group members stressed the close relationships they feel toward the members of the PLC. As teachers arrived at the PLC meetings, they often spent the first few minutes speaking about general school related topics, be it the recent Girls basketball game, scheduling changes due to MCAS exams, or other happenings around the high school. During one meeting observation, after the superintendent had presented his plan for makeup snow days, which included three Saturdays, the group vented their frustrations for the first five minutes of the meeting. After this discussion, they moved on and discussed student issues. Cheryl stated afterwards that relieving this tension is helpful in dealing with the stresses of teaching “We have some team members who are always able to give us some perspective” and relieve some of the tension that comes with teaching. The ease of conversation and the collegiality evident in PLC meetings shows a tight group that trusts and is comfortable around each other, a group that can laugh, vent, and be productive.

Members also emphasized how much they appreciate the relationships they have cultivated with members of the PLC. The PLC helps teachers avoid the isolation that is often a part of teaching. PLC meetings provide teachers regular opportunities to leave their classroom and wing of the building, developing relationships with people they likely would not interact with if not for the PLC. Several teachers reported that they often tell their colleagues, those not on the PLC, about events and information from administration; people not on the PLC often feel out of the loop. Jim explained that “People who are on the PLC don’t feel like they’re on an island” whereas those not on PLCs often do. The PLC has provided teachers the opportunity to have professional relationships with people they likely would not come into contact with without the PLC. Mike, a teacher in his second year in the building, explained how the group provided him the opportunity to meet people outside of his department, saying that the group “fast tracked
my building relationships” with others. Erica expressed “It’s opened the door to engagement just
to have that professional relationship with a group of people that I wouldn’t have had had I not
been on the PLC.” Teachers appreciate the perspectives provided by members from other
academic disciplines and expressed that without the PLC, these relationships would not exist.
Lisa stated, “It’s nice to just have a community of kind people.” Jim sums up the relationship
well:

I know them better. I feel like they’re my friends. There are some people in the building
that I don’t know at all. I know them like “hey, how’s it going”, but that’s it. And I feel
like, I feel like we’re friends. I’m comfortable complaining or celebrating in front of
them or any of it. I think we have a good group that kind of understands each other.

The teachers reported that these collegial relationships have gotten stronger over the past
year, which they attributed to the continuity of the members and the strengthening of group
norms. Teachers feel they can discuss ideas and concerns freely; as a result, they are open to
sharing ideas and learning new ways to positively impact students. Lisa explains “There’s this
culture of sharing and growing that’s unique to the ninth grade PLC.”

**Strategies to address classroom management issues.** The members of the PLC all rely
on one another for support and advice regarding issues in the classroom. Mike explained,
“teaching is a really intense event” and once the day is finished, there really is no one to talk to,
to process the day and make changes to your lessons. “In meetings” Mike explains, “we reflect
upon what went well and what didn’t.” Erica echoed the importance of this support saying
“Teaching can be a lonely job and you can have interactions with students that are really
difficult… we talk about ways to support students.”
Teachers regularly seek feedback on students they are struggling with. They find it invaluable that, when they are having a particular issue or concern about a student, they can easily and quickly discuss this with the student’s other teachers. Gaining a different perspective on students and hearing how another teacher found a strategy to help them are huge benefits for PLC members. Teachers regularly bring their concerns about a student to the PLC with the hope of gaining some insight into the student. In one meeting, Erica came in visibly upset over a student’s seemingly uncaring attitude toward his failing grade. After expressing her concern, Jim shared that the student “has a lot going on right now” as his father was dealing with serious health issues. In a follow up interview, Erica said she did not speak to the student about his father, but she did work to support him further to try to “salvage his grade.” During one meeting, Susan reported that one student would not stop talking in her class. Mike responded jokingly, “I don’t even know what this kid’s voice sounds like” prompting a discussion regarding the student. In the ensuing discussion, Mike explained how he always tried to touch base with the student at the beginning of class; the teachers hypothesized that this gave the student the “attention” she craved from the teacher. Susan made a point to check in with the student before class started each day; Susan later reported that this strategy led to a marked improvement in the student’s behavior. Having the insight and support of these colleagues was invaluable to the teachers. Susan expressed the interdependence of the group:

We’re giving support and receiving support. It’s a two way street. So, when one of us is having a bad day, someone else will come and say no worries; I’ve been there, and here’s what I did and there’s a lot of value in that.

When struggling to reach a particular student, teachers often bring his/her name up in the PLC, to troubleshoot and try to find ways to improve the student’s performance. In fact, over a three
week period, various teachers brought up 19 different students during PLC meeting times, 13% of the ninth grade class. Erica explained, “Knowing you’re not the only one that’s having these issues and saying ‘this really worked for me or this isn’t really working for me, or have you tried this? I think that’s really helpful.’” Having this information from the PLC helps teachers adjust how they may present information to certain students and consider how they can further help those students. The collective experience of the PLC members and their willingness to share these experiences has great positive effect for the individual teachers.

Sometimes teachers will intervene in situations, using a strong relationship they have with a student to try to help resolve an issue another teacher is having. Jim provided one example when he confronted a student saying “I hear you’re giving Ms. Rogers a hard time?” After a brief conversation, the student agreed to be more respectful in Ms. Rogers’ class. Mike recalled incidents when he asked Martha to speak to female students, asking her to check in on them as he did not feel comfortable doing so. Several teachers recounted drawing on Martha’s knowledge of these students’ lives. As a resident of the school community, Martha tends to know what is happening in students’ private lives much better than the other teachers. Drawing on her insight is often helpful to framing the bigger picture when addressing students’ needs.

**Feel reenergized.** The teaching profession has an extremely high turnover rate. The trials of the job, the isolation of teachers, and the pressures to perform independently all take their toll on new and seasoned teachers. Teachers in the PLC work to support one another, and report feeling recharged after their meetings. While many teachers discussed how there is sometimes negativity in these meetings, as teachers vent their frustrations, they also stated this is usually channeled into something positive by the members of the PLC. Lisa specifically mentioned Mike, whose “really positive outlook on kids is refreshing” as one reason for this.
Cheryl echoed this, stating, “We have some members who are always able to give us some perspective, which is always helpful.”

The group also gets revitalized through sharing ideas and lessons. Jim recalls, “We had a really positive meeting last week, where Erica shared a lesson that she had started with her honors students that was energizing and rejuvenating.” Her Voicethread activity (an asynchronous learning technology tool) allowed students to comment on their classmates’ book reviews. The researcher observed that all the other teachers were engaged and demonstrated a positive attitude, openly brainstorming ways they could incorporate the activity in their classrooms. Erica took pride in being able to spark excitement in her colleagues: “I think they were really excited about what I was doing. I think they tried to think about how they would use it… the positivity was really helpful.”

This ability to recharge and charge others was observed again and again during PLC meetings. This was evident after teachers had worked together to address a particular issue one of them was having, when their concerns about school policy were validated, and especially when choosing students for the Knight Salutes, a monthly award given to five ninth grade students. Martha stated, “Those meetings when we decide the Knight Salutes are my favorites because we get to talk about all the kids doing great things.” As the teachers nominate and discuss the strengths of the various students, it becomes clear just how dedicated they are to working with their students. The collective energy in the room is impressive.

**Theme Four: Participation on the Ninth Grade PLC Leads to Increased Teacher Capacity and Sense of Self-Efficacy**

Extending from the camaraderie and general support teachers received from the PLC members, teachers expressed that the PLC worked to build pedagogical skills and greater
confidence to teach successfully. This confidence in turn helped to build capacity in the PLC members. The regular meetings provide opportunities for teachers to share strategies for success, strategies that can be immediately applied in the classroom. Teacher frustration turns to opportunities to grow, to learn from their colleagues, to understand how teachers use these strategies, and to gain the confidence to implement them in their classrooms. Too often, traditional professional development does not gain traction because teachers struggle to turn theory to practice. In the PLC, turning theory to practice is the norm and guides conversations. Teachers help one another develop strategies and help each other gain the confidence to implement those strategies immediately in their classrooms. The teachers find the benefit to the conversations with their colleagues as paramount to their development as classroom teachers.

One of the most important facets of the PLC is the sharing of pedagogical strategies that occur regularly. In every PLC meeting, the researcher observed the PLC talking about the work they are doing in the classroom, informally and formally sharing this work; this included general conversations about pedagogy, sharing lessons in a lesson sharing protocol, sharing classroom activities they are engaging their students in, and collaborating to develop personal growth goals.

**Sharing of resources and ideas.** Teachers reported that a significant benefit of the PLC was the opportunity to share and be exposed to new ideas. Throughout PLC meetings, the researcher observed teachers brainstorming ideas, bouncing ideas off each other, listening to the perspectives of their colleagues, and working to integrate those perspectives into their teaching. The collective energy generated from these discussions motivates teachers to incorporate new strategies and ideas in their classrooms. The constant exposure the teachers in this PLC get to new ideas, the brainstorming that occurs during meetings, and the time they have collaborating with their core content teacher results in an environment charged with inquiry and the desire to
improve. The environment pushes teachers to try new activities, to experiment with approaches, and to incorporate the suggestion of others’ ideas in their lessons. Jim explained that the PLC pushes him to think about new approaches he can incorporate in his classroom: “The longer you teach, the more you can get stale. I’m not in school right now. I’m not reading anything academic about pedagogy and stuff.” Cheryl finds the PLC provides her with the realization that she “has to change things up. I’ve got to try something new. The PLC kind of pushes you to do that.” All of the PLC members echoed this sentiment; Heather explains, “You’re forever evolving and trying new things.” Expressing the confidence she gains to implement new ideas, Susan explains “When you hear that others have tried something and it worked great, then you feel like you could try that.” Hearing about the successes their fellow teachers have had motivates teachers to grow, to change their approaches, and to have the confidence that they can be successful.

After discussing some of the projects PLC teachers were doing with their students, the math teachers, Heather and Cheryl, attempted several “hands on” assessments. One assessment, a kite project using quadrilaterals in geometry, never really got off the ground. “None of the kite’s flew” explains Cheryl, “we had this great idea for students to use their phones to figure out the height of the kite based on the string angle, and the kites didn’t fly.” What is significant in this example is that they tried. Throughout the research process, the math teachers expressed frustration with implementing “hands on” assessments, feeling they were held hostage to their curriculum timeline, that as Heather stated “They have to have so much math to get into any project – it’s just impossible.” Cheryl echoed “some subject areas are just better suited for projects.” This attitude has permeated the Math department at the school; as a department, they have struggled with DDMs and “real world” tasks. The influence of the PLC, however,
encouraged these math teachers to experiment with new ideas. “I’m always a bit jealous” says Cheryl, that projects do not always seem to fit with the math curriculum. After she and Heather brought this issue to the PLC, teachers brainstormed some possibilities, resulting in the implementation of the kite project.

Another benefit of the collaboration on the PLC is the regular reminder of good, foundational teaching. It’s natural for teachers to become complacent when presenting the same material year in and year out. Exposure to so many styles and approaches provides teachers a reminder of what good teaching is all about. Jim stated that he learned something from every lesson share “whether it was a math or an English lesson, some little thing that you probably learned in grad school and forgot, something you’re not really doing anymore”. Martha, a science teacher, spoke of how she had reintroduced peer editing into her class after participating in a discussion about it during PLC time. Mike also reintroduced peer editing in his classroom, explaining that, after hearing the English teachers talk about how they use it in class, “I kind of understood how valuable it was again.” Jim explained how, after hearing teachers discuss the benefit of student feedback and reflection, he now often “weighs in with them” and stops his lessons to check in with his students’ understanding:

I used to never take feedback from students, you know. Never. And that’s something that came from the PLC. After you do a big unit, you have them self assess and you take a look through and tweak. That’s something I never, to be honest, I used to never do that. I used to be like ‘I don’t care what you think’. You know what I mean. I cared, but I’m never going to through this (self assessment) info… and I feel like it helps your teaching. It does. You know that’s your audience, and certainly not in terms of homework, but in
terms of what they feel like they learned best and why. And to do that after big units with them, it’s helpful.

Other topics that teachers reported implementing, as a result of discussions in PLC, include various class discussion activities, the use of reflective journals, and reading comprehension strategies. During one meeting, Erica shared a new website she had found that condensed text to the essential meaning of the work. “You just paste any text in and push a button,” she explained. The two social studies teachers showed particular interest in this tool for their struggling students. Having the opportunity to meet regularly with their colleagues prompts these discussions and demonstrates the value of this collaborative time. These unscripted days were accompanied with several structured activities around collaboration.

**Lesson sharing.** Another beneficial avenue to sharing ideas, lesson sharing was the activity teachers reported finding the most value in. In lesson shares, a teacher will present a lesson he/she is developing or has already implemented for the purposes of having teachers collaborate to help the presenting teacher improve the lesson. Another teacher guides the activity using a lesson tuning protocol. Once the teacher has presented the lesson, teachers ask clarifying and probing questions and, at the end of the activity, provide warm and cool feedback to the presenter. Teachers report that this collaborative activity has tremendous value for the presenter and the other teachers.

Teachers who have presented lessons talk about the benefits they have received from the feedback. Erica, a younger teacher spoke of the great insight her VoiceThread lesson share provided her. When asked if anything was of practical use, she said “I’ve already incorporated some of the feedback. I talked to my classes today” about the structure for providing feedback to their peers and how she could make it equitable. “With the group’s help, I was able to rectify
[this concern] with kids.” Erica also found positives in her frustration. As this was the first time she had done this activity with her students, she took a “loose” approach regarding the structure of the project. Several teachers provided suggestions as to how she could tighten things up. Hearing their suggestions further reinforced her original reasoning regarding taking a loose approach. She explained that sometimes when things are a little more open “you can better see what worked and what didn’t. Some kids who went above and beyond maybe wouldn’t have if I had been really specific.”

In discussing another lesson share Susan stated “I just feel you benefit the most by getting feedback.” In sharing her lesson with the group, Susan wanted the perspectives of a variety of different disciplines, explaining how they would view her lesson through a different lens than her own:

Some things that I would focus on a little more, they saw at different angles, and I thought that was pretty cool because then it broadens my horizons too as far as how to do things… The PLC sat down with the whole thing as the first run through with somebody else looking at the lesson. And they were very good - they made some great suggestions, they really did.

The benefits of lesson shares extend beyond the presenters to the other participating teachers. Teachers find it instructive to see how their colleagues deliver their lessons. Mike reflected “When I’ve had a lesson looked at or looked at someone else’s lesson, I’ve been able to see more clearly holes in my lesson.” Jim explained, “It’s helpful just to see how people do things practically.” He adds that it “forces us to reflect on what we do…it doesn’t matter what the lesson is - I’ve taken ideas. You know, I take the strategies from what they’ve done.” All teachers spoke of the benefit of this activity and the self-reflection it prompts. As a result of
participating in these lesson shares, teachers reflect on their teaching and are motivated to improve their pedagogical practices. They are motivated to implement new activities when they have seen how successful they are for their PLC colleagues. As valuable as teachers felt this whole group time was, all expressed that they felt they received the most significant pedagogical benefits from the time collaborating with their grade level department colleague.

**Common time for collaborating with subject teacher.** Members of the ninth grade PLC share a common prep period with the other grade level teacher from their department. It was clear that this is where teachers focused their acquisition of content specific strategies. Martha expressed, “I love being able to meet with the other subject teacher.” Teachers reported spending time coordinating lessons, units, and assessments, charting their progress in the curriculum, looking at student work, and analyzing data from student performance for the purpose of improving instruction.

Teachers perceived that one of the most significant benefits of this work was to collaborate to ensure continuity in the curriculum. Teachers spent, on average, one period each week discussing where they were in the curriculum, creating and revising tests and quizzes, discussing strategies to best prepare their students for those assessments, and collaborating on lessons. The math, science, and social studies teachers reported 80-90% of their quizzes and tests were the same due to the common time they had together. The English teachers expressed that all of their assessments were the same.

Teachers reported that they spend the majority of this common time focusing on improving student proficiency. The two social studies teachers reported that, as a result of their pedagogical conversations, they have really pushed each other to set the bar higher for their students, focusing on “journaling, big picture things, essential questions for the classes.” Though
they have the same basic philosophy, they approach their classes differently, which has allowed them to play devil’s advocate to each other when discussing various approaches. Math teachers share all unit outlines, tests, and quizzes. They spend their collaborative time “tweaking” the lessons and assessments they have used in the past. Science teachers focus on planning projects, individual lessons and units, and, recently, open response questions for the midterm and final exams. They have spent the last two months on this area, working to shore up identified weaknesses in their students’ assessment results. They use the results from major assessments to drive their instruction, printing out score sheets and going through the answers, looking for data that will help them to improve instruction.

The two English teachers use their PLC time as well as other time, spending roughly eight hours a week collaborating. These teachers were both hired at the same time and have navigated through their first two years together, collaborating on all aspects of the curriculum. This collaboration occurs during the PLC time, after school, and often on the weekends. Erica explains, “Sometimes we’ll sit and grade together, plan together - we both use PowerPoint, so we’ll prepare those. We also text and call each other all the time.” They reported spending a considerable portion of this time looking at student work, grading papers together to have consistent grading, and “reflecting on the year before, reflecting on different assignments” they have developed. With the full group and individually, teachers clearly find it beneficial to discuss ideas, as Lisa expressed “figuring out what works and what doesn’t.”

While the department-focused common time has been extremely valuable to teachers, it also represents a missed opportunity for interdisciplinary collaboration. Blurring or erasing the lines between subject content can be very beneficial to students, allowing them to connect subjects, transfer skills across subjects, and better understand the purpose of their learning.
Interviews with teachers revealed several factors have hindered this interdisciplinary collaboration. First, in the past, there was much teacher turnover on the PLC, with three to four new members each year. This hindered the establishment of trusting relationships and the development of group norms. Second, three of the teachers on the PLC have only been teaching in the building for two years; two of these teachers had limited classroom experience, so their focus has been to get the established curriculum down rather than explore interdisciplinary possibilities. Third, the focus of the larger high school culture has historically been on shoring up department continuity, so there has been little focus on cross-curricular connections. Fourth, many teachers feel pressure to conform to a rigid curriculum and do not feel they have the authority to veer from the established timeline. As these teachers have begun to feel more comfortable with their position in the building and in their relationships with each other, they have begun to explore more interdisciplinary possibilities.

For the past two years, the members of the PLC have been consistent. As a result, teachers are more comfortable with the relationships they have with others on the PLC. This factor, along with more familiarity with each other’s curriculum, has resulted in several cross-curricular conversations. Discussing these collaborative opportunities, Lisa stated that, “lately we’ve been having more enlightening and productive conversations with the history department.” These conversations have focused on ways the English and social studies teachers can connect the content of their classes. One idea that has been discussed is an interdisciplinary assignment revolving around propaganda, as this subject is discussed during a unit on the American Revolution as well as in the teaching of George Orwell’s *Animal Farm*. These discussions, Lisa feels, have “opened the door for more” conversations about ways to connect the two disciplines.
Teachers have also begun to utilize one another’s specific content expertise and the general resources each provides. In a mock trial Susan was conducting in her science class, she requested the history teachers come observe her lesson so she could get feedback through their lens. She found their understanding on senate hearings and general insight into how government works helpful in framing follow-up activities with her students. She also asked the English teachers for assistance in finding suitable articles to accompany the trial and asked for reading comprehension strategies for helping those students pinpoint the essential aspects of the articles. Susan’s request led to a larger discussion in the PLC about teachers’ concerns regarding students’ reading and writing ability.

The discussion on reading skills, in turn, led to discussions about student expectations and ways that the teachers can make these expectations uniform throughout the ninth grade. “In many ways, [all the teachers] experience the same struggles we do,” stated Lisa. Teachers have also discussed content complexity, working to improve their expectations for what students can and cannot do. Mike explains:

Knowing how the two English teachers grade and talking with them about what certain students have for skills, communication skills, writing skills. I think that’s influenced what I can expect from kids… I know what’s being asked next door, and I can say ‘You know what? I know you can do this.’

While there is opportunity for further growth, teachers are beginning to view their work more holistically.

**Research Question Three**

Data from research question three, *how have teachers’ practices been influenced by their participation in the grade nine PLC?*, resulted in the development of two themes. Data from
multiple sources, the subthemes and themes that emerged from the data, and the theoretical frameworks used as a lens for this study are illustrated in Table 4.
Table 4: Participant Data, Research Question Three

<table>
<thead>
<tr>
<th>Quote</th>
<th>Subthemes</th>
<th>Themes</th>
<th>Theoretical frameworks</th>
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<td>“It’s so kids on the 9th grade PLC maybe kind of don’t slip through the cracks. That we can all… “Is this kid not doing well for you, he is not doing well for me. Is he just having a problem in math but he’s doing well over here. To me I think it’s for the students’ benefits. That’s how I always viewed it. It’s for the students, so we can try to transition them along so that they don't get lost.” (Heather 2/26/15)</td>
<td>Facilitates intervention for struggling students</td>
<td>Increased support for students</td>
<td>Lave and Wenger (1991) explain how membership in a community of practice implies a commitment to the goals of the community; in the PLC in question, a main goal is providing students with resources to overcome emotional challenges associated with high school.</td>
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<td>“We’ve had a lot of parent meetings that have been proactive in their nature to get kids on the right track before they fail.” (Lisa 1/21/15)</td>
<td>Facilitates intervention for struggling students</td>
<td>Increased support for students</td>
<td>The “shared repertoire of communal resources” (Wenger, 1998) are developed by group members to realize their goals. Vygotsky also references the various agreed upon tools of the group.</td>
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<td>“It helps me with ideas on how to approach them and how not to approach them. You know, I hear about good things they’re doing in other classes and I can kinda use that in my class so, I think it helps me build better relationships.” (Cheryl 2/25/15)</td>
<td>Builds relationships</td>
<td>Stronger teacher-student relationships</td>
<td>Situated learning is evidenced in many of the interactions of PLC members. In PLC, different members act as the more knowledgeable other depending on the contextual situation and the members’ expertise.</td>
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<td>“It’s not just academic. That’s only one little hat. It’s a big hat for colleges but 50% of the pie is what else you do with your time while you're here. So, helping students transition is the key piece.” (Susan 1/21/15)</td>
<td>Transition to high school</td>
<td>Increased support for students</td>
<td>PLC groups must evolve through opportunities to realize the community’s goals; this evolution is socially constructed (Handley, Sturdy, Fincham, &amp; Clark, 2006). The PLC in this research has done just</td>
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that, identifying opportunities to help meet their students’ needs.

“I think that the students benefit. I think that, ultimately, it does improve student achievement because we nip things early and, and sometimes it could be a student is quiet or they’re needing, they need extra support at this time, and we could just push their confidence because we could all support them during that time period. And that’s not only students who are experiencing negative things at home, but it could also be a quiet student who is a really good kid and just needs a little encouragement and “poof”, they’re gonna blossom. We see this with the Salutes too.” (Susan 1/16/15)

Facilitates intervention for struggling students
Transition to high school
Builds relationships with students
Knight Salutes

Increased support for students
Stronger teacher-student relationships

Wenger (1998) discusses the importance of autonomy in communities of practice, stressing that such communities create “structure and meaning to what they do” (p. 645).

Furthering this importance, Wenger and Lave (1991) stress that “understanding and experience are in constant interaction” (p. 51).

Table 4: Participant Data, Research Question Three

**Theme Five: The Ninth Grade PLC Provides Increased Support for Students**

The daily common time this PLC shares has resulted in a greater support system for the students they serve. This support has made a marked difference in the educational experience of many students as well as resulted in a stronger community of students. Teachers reported that the PLC time facilitates timely student interventions and parental contact, allowing teachers to address potential issues before they really take root in students. This support system is put in place prior to the start of the school year.
Transition to high school. The transition from middle school to high school has always proven difficult for students at Yorktown High School and has been a major concern of parents and teachers. Prior to the development of the ninth grade PLC, this subject was discussed in passing; while individual teachers did what they felt was in the best interests of their students, there was no concerted, school wide effort to support students during this transition. This has changed in recent years due to the efforts of the ninth grade PLC. Recognizing the challenges that students faced acclimating to a new building: being in the hallways and classes with much older students; adjusting to the intense workload; understanding the broad spectrum of activities they can become involved in; and just general navigating around the overcrowded hallways, the PLC had conversations with the principal about steps that they could take to support students in this transition.

From these conversations, Freshman Day was born. With the goal of making ninth grade students’ first day of high school positive and stress-free, the ninth grade PLC has run freshman day, held the day before upperclassmen arrive at school, for the past three years. During the day, the freshmen, the only students in the building other than the upperclassmen volunteers, engage in a variety of activities designed to acclimate them to the high school. These include meeting with their homeroom teacher and peer advisor, walking through their schedule, and meeting their teachers. The ninth grade PLC continually evaluates the day, making changes to increase the positive impact for students. For example, over the past two years, the PLC has developed activities to get the full faculty involved, making the day a school wide event. Additionally, they have invited the student council, peer mentors, and captains from the fall sports teams to run activities and support the freshmen. Last year, 177 upperclassmen, roughly 33% of the student body, volunteered their last day of summer to come to the school and help run activities.
In talking to the freshmen throughout the school year, Erica has found that this day “does put them at ease… it’s really beneficial for freshmen to come here, get into their lockers, and just relieve stress”. Cheryl echoes this, saying “They really like coming in before everybody else… once school begins the hallways are crazy crowded,” so to bring them in for a day is very valuable. Susan feels “They can find their way and joke with their friends. They’re starting to bond right from the beginning.” Heather is perhaps the biggest proponent of Freshman Day:

I think it builds a sense of this is our school. I think they all go through it together, there’s no older kids here that first day for intimidation. I think it’s bonding for them. They can come explore the school with no pressure from kids, no bells ringing, I think it’s fun, it’s relaxing, so they have a positive first day, so they have positive memories the first day.

In addition to starting the students off well with freshman day, PLC teachers have put other steps into place to support these students. One of these measures is the use of School Loop, a web-based online communications utility, to post homework and coordinate test days and due dates for significant assessments. One of the biggest issues for freshman is juggling the expectations that teachers place on them in their seven classes. To help to spread this work out for students, the PLC has a list of major assessments and their due dates on School Loop. Discussing the significance of this, Jim states “Before I was in the PLC, I just had no idea what the kids were doing outside my classroom.” Now, before teachers assign a due date to any significant assessment, they will check School Loop to see what other work students have due. Teachers all spoke of how they adjust their class schedules to ensure students have no more than two significant assessments a day. Jim recounted a recent conversation with a student about this very topic. Exasperated at having three quizzes in one day, the student asked Jim whether or not
the PLC still met. While this was a breakdown in the system, due to multiple snow days in one week, the fact that this student noticed is a testimonial to how effective this system has been in easing stress in students’ lives. All teachers mentioned this coordination as a major benefit to their students.

Continuity of policies was another oft-cited advantage of the PLC group. Several teachers spoke of the support they received from their colleagues in basic routines, like a common cell phone policy and using students’ agenda books as passes. In the latter, the teachers figured out that several students were using the bathroom in every one of their classes, using their time out of class to roam the hallways. To eliminate this, the teachers agreed that students would use the last pages of their school issued agenda books to write any passes to leave the classroom. With this coordinated effort, teachers were able to ensure the targeted students were not missing significant time on learning. Settling in, leaving, and settling in again resulted, for many of these students, in significant gaps in their understanding of curriculum. Teachers reported that these students were more engaged in class once they were not able to leave at will.

Teachers all reported they had learned small, structural and management tips from other teachers. Susan reported she had learned of a new way to keep track of students who came for after school help. This record was helpful when speaking with parents and often served as a reality check for students who remembered incorrectly. Routines such as taking attendance, keeping track of class participation, and keeping track of in class work have been shared and adopted by many members of the PLC. This continuity benefits the teachers as well as the students.

In addition to establishing consistency for students, the PLC has collaborated to reinforce useful skills for students. After discussing the rude manner in which students often wrote emails
to teachers, the PLC discussed ways to address this. Lisa and Erica developed a lesson to teach students how to write a polite email. All teachers on the PLC agreed to reinforce this skill, rejecting rudely worded emails from students, asking them to reframe their communication. This has been really successful as all teachers stressed they have only received one or two “rude” emails since the lesson, which was administered in September. “It sounds dumb,” said Erica, “but had the PLC not supported us, it wouldn’t have worked.” Cheryl was particularly pleased with this collaboration as receiving a rude email from students “really impacted my impression of them and who I thought they were as a person.” Additionally, to create uniformity in collecting digital submissions, the PLC chose to adopt Google Docs. Prior to this, students had to learn a different digital submission process for each of their teachers.

Students are aware of these concerted efforts to help and provide them consistency. Speaking about students’ perceptions regarding these efforts, Jim states students are pleased that “there are people that meet and talk about them. They feel that there’s some sort of nurturing going on there because they recognize that we meet.” Supporting students in this way helps to provide the foundation for their high school success.

**Facilitates identification of and intervention for struggling students.** The PLC’s regular meetings allow time for teachers to discuss ways they can help their students. Teachers come to the PLC with concerns they may have, no matter how trivial or monumental, from a student who is performing poorly on tests to a student who seems depressed. Mike explained the importance of “talking about kids: talking about which kids are doing what, how to help them, trade notes, and I think that’s the best way to take care of the kids, to have professionals discussing them regularly.” By speaking frequently, teachers are able to quickly address potential concerns and use their various perspectives to identify students who may be in need of
assistance. “So many of our discussions revolve around talking about specific students that we feel are struggling in our classes in order to gauge their participation in other classes and see if there is a problem across the board” states Lisa. Jim explains, “We’ve had a few kids in the past couple weeks where we’ve been like ‘wow, what’s happening?’ and the PLC time just makes it easier to have these conversations.” For teachers, hearing of the struggles a student is having in other classes changes the conversation from suggestions for motivating the student academically to the bigger picture of the student’s well being. This insight has led to the development of concerted success plans for many students. Heather explains, “[The PLC] is so kids on the ninth grade PLC… don’t slip through the cracks.” The teachers ask each other “is this kid not doing well for you, he is not doing well for me? Is he just having a problem in math but he’s doing well over here?” working to understand the scope of the student’s struggles; is it a localized problem in one class with one teacher or is it a systemic problem across the board? Regardless of the answer, teachers gain more insight into the student’s issues and are better equipped to help students succeed. Teachers recounted story after story of students they had observed struggling, brought these students to the PLC, and found out they were having difficulty in other areas as well. Over a three week period, the researcher observed 19 instances of teachers bringing up students’ names during PLC meetings.

The PLC members feel they are very effective in addressing their concerns about students before they become major barriers to success. Susan, discussing the importance of early intervention, sums up the PLC’s perspective:

It’s about identifying issues early on so that we can help be a support to that student. Sometimes it can be harmful behaviors students are doing - substance abuse, neglect at home, or something else comes out - the PLC is phenomenal in sharing that
information… it’s very important, cause holistically you don’t only look at just one piece, academically. You look at all aspects of that person, and that is psychosocial, along with academic cognitive. Are there cognitive restrictions? Then, mentally how are [they] and how are [they] adjusting, so it’s much more comprehensive.

The PLC works hard to identify potential stumbling blocks for students and, as Lisa stresses “to head off crisis situations - academic crisis situations.”

During one observation, Susan expressed concerns she had for one student in the ninth grade, concerns shared by others in the PLC. The teachers agreed to keep an eye on the student; two weeks later, Erica discovered that this student was hurting herself. Erica’s discovery and the subsequent conversation that occurred among the teachers resulted in the PLC leaders contacting guidance, meeting with the parents, and putting together a support plan for this student. If not for the collaborative work of the PLC, this student intervention may never have occurred and certainly would have occurred further down the road.

The common time the PLC has also facilitates the use of resources to support students. Teachers are more easily able to involve parents and guidance counselors to help them with student interventions. Teachers are in regular communication with parents through email and telephone, keeping parents informed of their child’s progress or lack of. “More than last year, this year we’ve had a lot of parent meetings that have been proactive in their nature to get kids on the right track before they fail” stressed Lisa. Guidance counselors are particularly helpful as they have information the teachers often do not. Susan stresses “The only way to really put a good plan together to help students across the board is to know all the elements. It’s the most effective way to really help the student achieve.” With this in mind, over the past two years, the PLC has been meeting with students’ guidance counselors monthly to discuss student concerns.
In addition to being able to streamline support for students, guidance counselors provide teachers with much insight regarding student issues. When teachers have a concern, the guidance counselors can often provide some contextual issues that give teachers a better understanding of a student’s background. This often assists teachers in planning the most effective strategies for the student. The lines of communication between guidance and the PLC are strong; the PLC reports that guidance counselors and parents are very helpful in helping them address student concerns.

One example observed during a PLC meeting involved a student who was teetering on the edge of a D and an F. All of the teachers of this student felt that “we needed an intervention” and had been communicating with the parents back and forth with no discernible improvement in the child’s performance. After discussing the situation with the student’s guidance counselor, the counselor persuaded the parents to come in for a meeting and, as a result, there has been “an upswing in the student’s performance.

Lisa related another story in which she brought a struggling student to the PLC. It turned out this student was struggling in several of her classes, and after contacting guidance, the teachers discovered that this student had been dropped from an IEP at the end of eighth grade. The teachers then developed some strategies to help this student be more successful.

These students, and many more, would likely have continued to struggle and fall through the cracks had the teachers not had common time to share their concerns. In every meeting observation, teachers spent between 10 and 29 minutes discussing various students. The teachers feel that sharing students and having common planning time allows them to put the best plan in place for each student, coordinating with parents and guidance counselors to make use of the various avenues of support available. They attribute the communication between teachers,
parents, and guidance counselors as instrumental in providing the framework for successful student interventions.

Though teachers all recounted successful student interventions, many expressed frustration over this process. Explained Erica, “I feel like we’re talking about the same students all the time, the ones who are in the D-F range.” Cheryl spoke of being disheartened to hear that, after investing so much time into certain students, it is discouraging to hear “later that they dropped out.” Martha expressed frustration that “Sometimes we get sidetracked discussing certain students too much,” a frustration shared by several teachers. Heather states that if the student or the parent is not on board, then their efforts are fruitless. But, as frustrated as the teachers are, they understand that any positive gains in students are beneficial. Martha reasons “I don’t think you can ever get the bang for your buck with [these students]. They’re at risk.” She, like the rest of the teachers on the PLC, understands that there are a variety of home and life factors that are beyond teachers’ control, and some students simply are not ready to turn the corner. “I think it’s good that we try, that we notify guidance, that we meet with the student, that we contact parents,” that they do everything they can for these students, expresses Jim; he sees positive results in about 40% of the students the PLC focuses on. “That 40% is really important, even if it’s six kids. I feel those six kids a year that we really make an impression on, it’s really important.” Teachers were able to list five or six strong success stories from this school year, students who appeared in September to be heading down the wrong path, and with the support of the PLC, have really turned it around.

Some students simply are not ready, but that does not mean teachers’ time has been wasted. In one meeting Jim recounted talking to a former student in the hallway who had come back to visit and talk to his old teachers. This former student, who had dropped out of school
during his junior year, explained how embarrassed he was about his past behavior and how grateful he was to the PLC for never giving up on him. He was now working as a mechanic and attributed getting his life back on track to the intervention of these teachers. Jim recounts him saying, “I sit there now and I think about all the things you guys said to me and it’s all true. I don’t know how you ever dealt with me. You guys were so right.” As challenging and disappointing as it can be sometimes for teachers, stories like this show just how one can never know what seeds have been planted in students, and when those seeds will grow. Still, teachers often become frustrated.

Out of this frustration, however, the PLC continues to develop positive intervention strategies. For example, the English teachers recently began offering student led tutoring sessions to struggling students. The teachers recruited six of their students from the previous school year, and asked them to commit to six weeks of after school time, to work with struggling students to help them understand Shakespeare’s *The Taming of the Shrew*. Two peer tutors are available every Tuesday, Wednesday, and Thursday. The teachers were motivated for this to “implement some specific support for these kids” since the previous plans did not seem to be effective with all students. They report that eight of the targeted students, those who the PLC identified as really struggling, regularly attend. This initiative was prompted by the frustrations brought up during a PLC meeting. The PLC is effective in highlighting student successes and supporting one another to realize those successes.

**Knight salutes:** To both combat the frustrations that inevitably occur in teaching and to support successful students, the PLC has implemented monthly Knight Salutes. A Knight Salute is a postcard mailed out to selected students each month, recognizing a student’s contribution to class, strong work ethic, general citizenship, or academic success. Knight Salutes were initiated
several years ago by a former teacher, but had fallen by the wayside. The PLC resurrected this method of communicating with students and parents to celebrate the positive aspects of their students. The effects of this are twofold; the PLC recognizes and supports students who are not always the focus of their work, and it reinvigorates teachers. “After we’ve talked about the amazing kids that we have and are forced to articulate their strengths, that’s been a really great experience” explains Lisa. Erica adds:

Doing the Knight Salutes, even though it’s only once a month, they’ve been, I think its just lifted up our morale a little bit – until we’re actually fighting over which great kids we can send postcards to and I think when we do that we realize that there are a lot of great kids here who often don’t get recognized because we’re so focused on helping the ones that need us. This has shifted us in a positive way.

Teachers reported that the meetings when they discuss Knight Salutes are among their favorites as they get to discuss all the students who are doing great things. Cheryl also spoke of how these meetings improved morale: “When there’s so many difficult things going on that we can’t deal with, it’s good to spend some time talking about who really brightens our day.” The researcher also observed that when choosing the students to get Salutes, the teachers appeared more enthusiastic and energized.

The Knight Salutes have also had a positive effect on the students who received them. Teachers regularly receive emails from parents thanking them for taking the time to recognize their child. Often students will make a big deal out of these Salutes. Before Jim’s class one day, a student was telling her friends about the Salute she received. Jim remembers her saying, “All night long her parents were saluting her, laughing about it.” She was acting humble, saying how she did not know why she had received it. Then, her friends started sharing the times they got
one and talking about their friends getting them as well. Susan spoke of a quiet student who had a lot to offer the class but who never spoke up. After sending home a Salute, the student began to “blossom”, having gained the confidence to participate more as a result of the positive encouragement from the Salute. Heather recounts that about a month after sending home a Salute to a really quiet student in class, her students were jokingly telling her that they knew who her favorite in class was. On reflection, Heather states “I betcha it was because she (the student in question) said something about her Salute.”

Jim spoke of a shy quiet student who always completed her work and worked really hard but was overshadowed by the boisterous personalities in the class and always seemed to be on the periphery of the group. Sending her home a Knight Salute prompted a discussion between the two of them about her abilities. They spoke about her moving from college prep to honors level for her sophomore year. While she was initially hesitant, she eventually agreed to the move. Jim adds that, after a successful year in sophomore Honors American History, this student is now “applying to AP and is a different student. She was kind of quiet in my class …and is now one of the most outspoken students” in her sophomore class. Jim attributes her growth partly to having received a Salute.

**Theme Six: Teachers Develop Stronger Relationships With Students**

The teacher collaboration and continual support for students increases the investment these teachers have in their students. The increased collaboration has allowed teachers to recognize potential issue prior to them becoming significant. Additionally, in sharing concerns and information about students, teachers have been able to develop stronger relationships with students, a significant factor in positive educational experiences for students.
Building relationships with students. Teachers feel that the knowledge they gain about their students from their PLC colleagues is invaluable to connecting with their students. As a result of better understanding their students, teachers feel they are able to better support these students and help them be successful. Susan explains that before she was on the PLC, she did not know anything about the students’ personal lives, and this made it much harder to connect with them and understand any barriers to success they may have. During PLC meetings, teachers share what they have individually gathered about students’ interests and personal issues. This helps teachers connect with students, developing strong relationships. Cheryl states, “I can ask him about his band, or her about her skating or something like that to feed the relationship…I grab tons of ideas like that.”

Teachers also reported that discussing student behavior and participation in their classes helps them to reevaluate the student and see him/her in a more positive light. Several teachers spoke of how surprised they were to hear that a student they had concerns about was thriving in another classroom. Mike states that “Sometimes I’ll have a kid in my class who isn’t doing anything but in science class they're tearing it up - there’s such a disconnect.” This prompted him to reflect on his approach with the student. Talking to the teachers on the PLC provided him some strategies to take back to his classroom to try to connect with the student. Both math teachers discussed students that come to their classrooms with “math phobia,” an insight they attributed to having gained through conversations with the PLC. Understanding that some students act out in math due to this phobia has changed the approach these teachers took with these students. Cheryl recounts, “Students can be a delight all day long and then come into my class and be so difficult, so just being able to understand it’s a math thing and I just have to work around that.”
Teachers also found that the monthly conversations around the Knight Salutes were insightful. Hearing the different ways that students act in other classes prompted teachers to reconsider some students and reflect on the disconnect in behavior and attitude between their classes. Erica explained Cheryl’s influence on her:

She’s opened my eyes to students that I may have disliked, not connected with, or not seen the potential in, and she’s kind of brought them up and then I’ve actually later thanked her for that because it’s easy to see - I think especially because she teaches math, our views on the students are different, and I think it’s interesting to see the students that way.

They find this information and discussion so helpful to building relationships with all students.

Teachers also reported that they learn so much from their PLC colleagues about their students’ personal lives, information that helps them to support and connect with their students. Martha was oft mentioned as a particularly valuable resource; because she lives in the town and has school age children, she tends to know a lot about the students. Mike shared the value of having this level of insight into students’ lives:

I know that sometimes being tipped off to the emotional states of kids - like I don’t personally know that much about kids. My style is a little more ‘crisp’ in the classroom.

Less about what’d you do this weekend. And so I’m able to pick up info from other teachers like ‘wow… there was a breakup, there was…’, that kind of personal level stuff.

Heather expressed that this personal information helps her to be more patient with students, a thought echoed by Cheryl:

It’s helpful to know what they’re going through a little bit more and we can kind of understand when they are being insufferable. It helps me with ideas on how to approach
them and how not to approach them. I hear about good things they’re doing in other
classes and I can kinda use that in my class, so I think it helps me build better
relationships.

Lisa confessed, “Sometimes I’m quick to judge a student. I wish I didn’t, but sometimes I do.
And having a fuller picture, hearing their successes or struggles in other classes can help build a
fuller picture.” Through hearing about students’ challenges at home, teachers feel they have a
better understanding of students. Lisa explained how she learned that one particular student,
who put on a really tough exterior, had significant turmoil at home, which prompted Lisa to
reflect on the student’s classroom performance and demeanor. As a result, the student often
receives differentiated assignments where she can be successful. Without the knowledge learned
from her colleagues, this student may easily have fallen through the cracks.

**Summation**

The data gathered from semi-structured interviews, observation of PLC meetings, and
observation of lesson tuning sessions involving the ninth grade interdisciplinary PLC at
Yorktown High School were analyzed to understand participants’ experience as part of this
interdisciplinary PLC. Guiding this research study were the following three research questions:

1. How do teachers interpret the influence of school contextual factors (cultural, historical,
   and institutional) on collaboration efforts of the professional learning community?
2. How do staff members of a ninth grade interdisciplinary PLC describe their experiences
   as members of this group?
3. How have teachers’ practices been influenced by their participation in the grade nine
   PLC?

Six significant themes emerged from the analysis of the data. They are:
1. Institutional factors positively impact the culture of the professional learning community
2. Cultural factors positively impact the collaborative work of the professional learning community
3. Participation in the ninth grade interdisciplinary PLC leads to increased support and a higher degree of teacher empowerment
4. Participation in the ninth grade interdisciplinary PLC leads to increased teacher capacity and sense of self-efficacy
5. Participation in the ninth grade interdisciplinary PLC results in increased support for students
6. Participation in the ninth grade interdisciplinary PLC results in stronger relationships with students

The first theme emerged from semi-structured interviews and PLC meeting observations. Though direct contact with the PLC was limited, institutional factors had a strong effect on the collaborative culture of the PLC. The superintendent’s initiatives were the driving force of much of the professional development around pedagogy in the PLC. Further, the principal provided common meeting time to teachers during the school day and afforded the group much autonomy. These factors established conditions that facilitated the success of this collaborative community of learners.

The second theme was evident through PLC meeting observations and through analysis of semi-structured interview transcripts. The institutional factors of the PLC, particularly the common planning time, was influential in establishing relationships built on trust and respect. Participants felt they were treated equally by all members of the PLC and that their ideas were
taken seriously. As a result, they trusted each other, engaging in honest discussions about their work.

The third theme emerged from analysis of the interview transcripts and PLC meeting observations. Teachers repeatedly discussed the importance of the collegial relationships they had developed with members of the PLC. Particularly evident from the research data was the sense of community the PLC participants had developed, in stark contrast to the isolation many high school teachers experience. These relationships were further strengthened by the support they provide one another regarding general classroom issues. Teachers felt like equal partners regardless of their classroom experience and the regular PLC meetings energized them, allowing them to focus on the many positive aspects of the teaching profession.

The fourth theme emerged from interview transcripts, PLC meeting observations, and lesson sharing observations. Teachers regularly shared teaching strategies with their colleagues, allowing teachers the opportunity to get ideas they could use in their classrooms. The constant emphasis on new pedagogical strategies provided teachers the opportunity to grow professionally. Additionally, teachers worked together to implement district-wide initiatives, helping one another understand them and collaborating to implement them successfully.

The fifth theme emerged through PLC meeting observations and semi-structured interviews. It was evident that the PLC benefits the students in many ways. One is in the concerted effort made by teachers to help the ninth grade students transition to high school. The regular meeting time allows teachers to frequently check in on students, ensure all are progressing, and intervene if necessary to help students succeed. The PLC has systems in place to help both at risk students and students who are excelling through monthly Knight Salutes.
The sixth theme emerged from semi-structured interviews and PLC meeting observations. The regular contact PLC teachers have provides them opportunities to discuss their students, getting to know aspects of their personalities better, and providing opportunities to develop close relationships with them. Teachers share information about students that is often used to develop closer teacher – student relationships.
Chapter 5: Discussion of Research Findings

Professional learning communities have great potential to realize positive change in education. As a professional development model, PLCs provide ongoing support to teachers that focuses not only on content knowledge but also has relevance in their daily lives (Darling-Hammond & Richardson, 2009). Teachers engaged in PLCs report greater job satisfaction (Ivy et al., 2008). They attribute this success to the benefits of sharing common assessments and the collaborative focus on student learning. As oft touted are the benefits of teacher collaboration, the actual benefits of this collaboration often fall short of expectations, particularly in high schools. The potential for educational improvement through PLC work is substantial; however, few schools have successfully realized the full benefits of this challenging work (Fullan, 2007; Huffman, 2011; Wells & Feun, 2007).

The purpose of this case study was to understand how teachers experience and benefit from collaboration in professional learning communities. The researcher focused on eight members of an interdisciplinary professional learning community at Yorktown High School, a small suburban high school in northeastern Massachusetts. This research study was designed to answer the following questions:

1. How do teachers interpret the influence of school contextual factors (cultural, historical, and institutional) on collaboration efforts of the professional learning community?
2. How do staff members of a ninth grade interdisciplinary PLC describe their experiences as members of this group?
3. How have teachers’ practices been influenced by their participation in the grade nine PLC?

Review of the Methodology
This qualitative case study investigated how teachers in a suburban high school experienced collaboration in a ninth grade interdisciplinary professional learning community. During the three month duration of this study, data were collected using the following methods: initial and follow up interview with all participants, regular observation of PLC meetings, an observation of a lesson study activity and follow up interview with the presenting teacher, and the use of field notes. Data were then coded using first and second stage coding methods to discern categories and themes.

The coding and subsequent analysis resulted in the emergence of six themes:

1. Institutional factors positively impact the collaborative work of the professional learning community
2. Cultural factors positively impact the collaborative work of the professional learning community
3. Participation in the ninth grade interdisciplinary PLC provides increased support and a higher degree of teacher empowerment
4. Participation in the ninth grade interdisciplinary PLC leads to increased teacher capacity and sense of self-efficacy
5. Participation in the ninth grade interdisciplinary PLC results in increased support for students
6. Participation in the ninth grade interdisciplinary PLC results in stronger teacher-student relationships

Within these themes, several subthemes emerged. Table five provides a summary of these themes and subthemes.
<table>
<thead>
<tr>
<th>Research Question</th>
<th>Themes</th>
<th>Subthemes</th>
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<tr>
<td>How do teachers interpret the influence of school contextual factors (cultural, historical, and institutional) on collaboration efforts of the PLC?</td>
<td>Institutional factors positively impact the collaborative work of the professional learning community</td>
<td>District initiatives guide the work of the PLC. Common meeting time supports a collaborative culture. Group autonomy supports collaborative culture. Respect. Trust.</td>
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<tr>
<td></td>
<td>Cultural factors positively impact the collaborative work of the professional learning community</td>
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<tr>
<td>How do staff members of a ninth grade interdisciplinary professional learning community describe their experiences as members of this group?</td>
<td>Participation in the ninth grade interdisciplinary PLC provides increased support and a higher degree of teacher empowerment</td>
<td>Fosters collegial relationships. Strategies to address classroom management issues. Feel energized. Sharing of resources and ideas. Lesson sharing. Common time for collaborating with subject teacher.</td>
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<td>Participation in the ninth grade interdisciplinary PLC leads to increased teacher capacity and sense of self-efficacy</td>
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<tr>
<td>How have teachers’ practices been influenced by their participation in the grade nine PLC?</td>
<td>Participation in the ninth grade interdisciplinary PLC results in increased support for students</td>
<td>Transition to high school. Facilitates identification of and intervention for struggling students. Knight Salutes. Building relationships with students.</td>
</tr>
<tr>
<td></td>
<td>Participation in the ninth grade interdisciplinary PLC results in stronger teacher-student relationships</td>
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The chapter has been organized into the following sections: a discussion of the limitations of the study, a discussion of the study as it relates to the theoretical frameworks, an overview and discussion of the findings, the credibility and trustworthiness of the findings, the limitations of the study, and implications and recommendations for future study.

Limitations of the Study

There were potential limitations to this study that may have impacted the research findings. The purpose of this qualitative case study was to understand how teachers experience and benefit from collaboration in professional learning communities. The group studied was composed of eight ninth grade teachers from various disciplines and, therefore, is not a standard PLC. However, this study did not attempt to understand all teachers’ experiences in a PLC, but rather focused on understanding this particular group. Such a narrow focus allowed for an in depth understanding of this group which may be applicable to researchers and practitioners. Additionally, there were several commonalities in the findings of this study and other studies of PLCs, suggesting a degree of transferability. As such, the unique findings of this study have implications for other PLCs.

The second limitation is the potential bias of the researcher. The researcher currently serves as the English Department Chair at the high school where the research was conducted. Additionally, the researcher is a former member of the PLC that is the focus of this research. As such, the researcher has several biases that, potentially, could influence the interpretation of the research. Several steps were taken to minimize this bias. One, all administrators were informed of the nature of the research study and provided the research questions guiding the study. This transparency provided administrators to consider the possible outcomes of this study and remove any potential surprises if aspects of the school and/or district were cast in a negative light.
Further, steps were taken to ensure that the researcher had no supervisory duties over any participants and that participants were fully aware of this and that their participation in the study would have no effect on their standing in the district. Finally, the researcher engaged in several methods to ensure accuracy of the data. These steps were triangulation of the data, prolonged engagement, clarification of researcher bias, member checking, and the use of thick, rich description.

**Use of Theoretical Frameworks**

This study was guided by two theoretical frameworks, Vygotsky’s Social Development Theory (1978) and Lave and Wenger’s Communities of Practice model (1991). Sociocultural theories are at the core of professional learning communities. Vygotsky (1978) characterizes learning as a social process; social interaction is at the core of cognitive development. Vygotsky stressed how everything is learned at two levels, through interpersonal social interaction with others and then through an intrapersonal process where learners reflect on and internalize information; this information then becomes a part of the learner’s thinking (Gallucci, 2008; John-Steiner & Mahn, 1996; Lave & Wenger, 1991).

Lave and Wenger’s Communities of Practice model rests on Vygotsky’s theory. This model is based on three essential characteristics: communities of practice are defined by a common interest, members collaborate to help each other and share information, and participants develop shared resources to improve their practice (Wenger, 2011). The Community of Practice model has been implemented in schools throughout the country under the name of professional learning communities (DuFour, 2007). PLCs are based on the sociocultural assumption that learning occurs within the social context of everyday life and within communities rather than individually (Gallucci, 2008). PLCs provide this framework to teachers, who meet regularly to
collaborate to achieve a common purpose. The research findings, guided by these theoretical lenses, are presented in the next section.

Overview And Discussion Of Findings

The following section will discuss the major themes that emerged from the data analysis.

Theme One: Institutional factors positively impact the culture of the professional learning community. This research confirmed that the Yorktown School District’s initiatives and goals influence the collaborative work of the PLC. Teachers regularly discussed the work they undertook in understanding and implementing district-determined measures (DDMs), presenting lesson-sharing activities, and reflecting on classroom practice. Though these district initiatives often guided pedagogical discussions, it is important to emphasize that teachers repeatedly stressed this focus was their decision, not an administrative mandated use of time. This study emphasizes the importance of self directed learning for adults, an important part of adult learning (Knowles et al., 2005).

The philosophical direction of the district, evidenced by an emphasis on early college opportunities, internship opportunities, and the creation of several Innovation Schools (Arts or Business related), has directly impacted the collaborative work of teachers. About this focus, Jim explained, “It’s trickled down into the classroom.” Several teachers discussed the emphasis on open-ended projects they have developed that allow students choices. These district initiatives are extremely important to teachers’ evaluations and highly relevant to their professional careers. This finding supports Knowles’ contention (2005) that adult learning must be relevant.

This study also confirmed the importance of providing teachers common planning time to collaborate; this common time is at the core of successful PLCs. Participants in this study
repeatedly expressed how much they valued the daily common meeting time provided by administration, which they felt was essential to the sustained success of their collaboration. Susan called it a “critical component” to the PLCs’ success. Lisa stressed, “Time is one of the most important things in any collaborative relationship.” Martha echoed these sentiments, saying, “The continuity of meetings definitely bolsters working relationships.” This study also supported the importance of common time in fostering productive discussion around pedagogy. Cheryl explained that “Because we have that block together, it’s been very useful to bounce ideas off each other… share different ideas.” Study participants spoke of the value of this time to consistently work on district initiatives, conduct lesson-sharing activities, and discuss strategies to support students.

This study also supported previous research findings that consistently emphasized the importance of providing PLC participants autonomy to guide their learning (Darling-Hammond et al., 2009; DuFour et al., 2008; Hord, 1997; Scribner et al., 2007). This study’s findings were consistent with previous studies. Teachers reported that the autonomy granted them to set the PLC agenda was beneficial and directly related to their investment in the work of the group. Teachers reported and were observed to be productive and focused on group goals. While the teachers were occasionally directed by the principal and did often engage in district initiatives, they felt they had the autonomy to set meeting agendas based on their needs; this resulted in more teacher buy in and investment in the work of the PLC.

**Theme Two: Cultural factors positively impact the collaborative work of the professional learning community.** In addition to the institutional factors that influenced the work of the PLC, this research found that cultural factors also impacted the collaboration in the PLC. Teachers reported that the development of strong feelings of respect and trust in the PLC
were instrumental in establishing the conditions for successful collaboration. Teachers reported that all members listened to one another, valued one another’s opinions, and felt that all members have valuable contributions to make to the group. The importance of fostering respect is often cited as an essential factor to successful teacher collaboration (DuFour, 2001; Louis et al., 1996; Sergiovanni, 2004a; Thompson et al., 2004).

This study found that this respect has nurtured an atmosphere of trust in the PLC, one where teachers are comfortable sharing with each other their successes, failures, insights, and vulnerabilities. Teachers expressed how they regularly discuss their struggles and frustrations in the classroom, seeking the advice of their colleagues in addressing these issues. With so many of their classroom concerns validated by other group members, teachers reported that they gained confidence in their abilities and that the challenges they faced were common challenges, not weakness or ineptitude on their part. Many studies support the importance of trust in collaborative work (Thoonen et al., 2011; Wahlstrom and Louis, 2008) found a direct correlation between trust and the regularity of collaboration in schools. The respect and trust evident in the PLC group led to productive dialogue, where teachers could openly collaborate to improve their pedagogy and better meet the needs of their students.

**Theme Three: Participation on the ninth grade PLC provides teachers support and a higher degree of professional empowerment.** Results of this study showed teachers had developed strong, collegial relationships with the other members of the PLC. Teachers reported that the PLC provided a supportive community of teachers and led to the sharing of ideas and a positive professional culture. Teachers in this study emphasized the value they placed on these relationships. These relationships, formed with colleagues outside of their subject department,
allowed for engagement with teachers they would not normally speak with during the course of
the day.

The relationships developed in this PLC allowed for teachers to feel more comfortable
sharing ideas and classroom strategies with each other. This was clear throughout this study in
teacher interviews and during observations conducted by the researcher. All teachers expressed
that the PLC provided them with strategies to address classroom management issues. This
sharing of strategies was evident in all PLC meetings. Teachers regularly discussed their
classroom practice, providing strategies to help their colleagues. These conversations are an
essential aspect of professional learning communities (DuFour, 2007; Hord, 1997).

Teachers routinely supported one another, offering guidance to successfully deal with
challenging students, students that often frustrated them. Collectively, they worked to support
each other with specific strategies for a particular student, general strategies, and at times, direct
intervention on another teacher’s behalf. In this research, Susan expressed “we’re giving support
and receiving support,” demonstrating how sharing strategies is an important part of the PLCs
work.

This study found that teachers gained motivation and felt recharged as a result of PLC
meetings. Teachers discussed the stresses of their jobs and how PLC members supported one
another through these stresses. Teachers reported that their colleagues often provided a new
perspective on a student or issue, which gave them a more positive outlook. Others mentioned
that hearing their colleagues share their classroom successes positively impacted their attitude.
A clear change in mood was often observed in teachers during time dedicated to sharing ideas
with the PLC.
Theme Four: Participation on the ninth grade PLC leads to increased teacher capacity and sense of self-efficacy. Directly connected to the general support teachers receive in PLCs, the data showed that regular teacher collaboration had a positive effect on teachers’ classroom pedagogy.

Teachers in this PLC regularly shared resources and ideas with one another; each stated that this collaboration led to pedagogical improvement in their classrooms. Meeting observations revealed that significant time was spent sharing resources and lessons with colleagues and collaborating to work through new ideas. Teachers discussed how they appreciated and benefitted from the perspectives of their colleagues and noted how each teacher contributed something positive to the group. PLCs are characterized by this support and focus on collaboratively improving pedagogical strategies (Achinstein, 2002; DuFour, 2004; Lieberman & Miller, 2011; Morrissey, 2000). Results from this research also showed that this collaboration was collective and reciprocal. Whether it was the experience of a veteran teacher or contributions from a younger teacher, the variety of ideas and perspectives created a rich environment where teachers were encouraged to improve their teaching practice and had various resources to do so. One veteran teacher expressed that it had been years since he had taken any advanced coursework, and attributed the ideas his colleagues shared from those courses motivated him to experiment with pedagogy. Another teacher expressed how the regular discussions about pedagogy prompted much reflection and motivated her to step out of her comfort zone and try new ideas. Many teachers emphasized the benefits of being provided consistent exposure to the various styles and approaches of their colleagues, some of which they had simply stopped practicing over time. These included peer editing, the use of reflective journals, class discussion activities, and reading comprehension strategies. These findings
support Horn’s (2005) research results that veteran and novice teachers both benefit from the collective inquiry that occurs in PLCs.

It was clear through teacher comments and observing a lesson sharing session that one of the most beneficial ways for teachers to gain pedagogical ideas was through participating in a lesson sharing activity. Teachers reported that lesson sharing was valuable both to the presenter and to the group as a whole. After one session, Erica, the presenter, immediately incorporated feedback into the activity, making changes to the lesson that she would present to students the following day. Some teachers reported getting specific ideas from the lesson shares while others emphasized that it motivated them to reflect on their use of pedagogical strategies. These benefits are consistent with the findings of Dunne et al. (2000) and Garet et al. (2001) who reported that lesson sharing leads to positive changes in teacher pedagogy.

As much as teachers valued whole group collaboration, all felt they gained the most pedagogical knowledge through collaborating with their PLC department colleague. The PLC participants, composed of two teachers from the math, social studies, science, and English departments, spent one to two days each week collaborating within their discipline. Teachers spent this time designing and calibrating assessments, analyzing assessment data, curriculum planning, looking at student work, planning lessons and activities, and discussing classroom strategies.

Teachers expressed many benefits of this collaborative time. Louis and Marks’ (1998) finding that PLCs foster higher order thinking skills and depth of understanding was supported by the work of these teachers. Both social studies teachers stated how their collaboration resulted in higher expectations for students. To that end, they incorporated essential questions into their classes, revolving units around these larger themes. Science teachers report that they
used their collaborative time to analyze data from common assessments to inform their instruction and felt this positively benefited students. English teachers have also dedicated time to analyzing data from student writing and calibrating their grading. Math and science teachers have also focused on curriculum and assessment, resulting in consistent instruction. All of the teachers found that this collaborative work led to individual and collective reflection and resulted in significant curriculum revision.

**Theme Five: The ninth grade PLC provides increased support for students.** Beyond the pedagogical benefits that are realized with professional learning communities, this study found that teachers collaborated to provide specific support to students. Providing this support helps to establish a caring atmosphere, one where students feel comfortable and are more likely to become engaged in their learning (Haberman, 2004; Klem & Connell, 2004).

This support was evident in the teachers’ emphasis on supporting students’ transition to high school. Recognizing the challenges students faced as they entered high school, the PLC instituted “Freshman Day”, which occurs the day before the start of the district’s first day of school. On Freshman Day, ninth grade students come to school for the day to meet their peer advisor, meet their teachers, and get acclimated to the layout and structure of the school. Teachers reported that this day is beneficial to students as it allows them to navigate the hallways, find their classrooms, and start to connect with their classmates and teachers.

Research supports that such transitional days positively affect student engagement and learning (Cauley & Javanovich, 2006; Iver & Epstein, 1991; McIntosh & White, 2006).

To complement Freshman Day, the PLC has implemented several support structures to assist students throughout their school year. Understanding the challenges their students face with their demanding workloads, teachers use School Loop, a web based online communications
app, to post homework and coordinate short and long term projects and tests. To ensure consistency in rules for students, teachers have developed basic rules around submitting work digitally, using cell phones appropriately, and writing appropriate emails to teachers. While minor in the larger picture, teachers feel these agreed upon norms for students represent a concerted effort to provide consistency and show students there is a community of teachers looking out for their interests. Studies have found that establishing such basic parameters is important to students’ success (Klem & Connell, 2004; Rentfro, 2007).

This study also demonstrated the support the members of this group provide to struggling students. Teachers expressed that one of the shared goals of the PLC is to support struggling students; they use common time to develop individualized success plans to support these students. This focus was consistently observed during PLC meetings. In fact, in one three week period, teachers brought up 19 students they had concerns about, 10% of the freshman class. The PLC structure facilitates the process of identifying struggling students, and teachers report they quickly determine if additional support is needed to help students (Honawar, 2008; Iver & Epstein, 1991; Many, 2009; Marzano, 2011).

Teachers’ concerted effort to support struggling students often includes utilizing further resources such as guidance counselors and parents. As a result of this focus, teachers report an increase in interaction with guidance counselors and more frequent parent-teacher meetings over the past two years; additionally, as a result of students’ needs discussed during PLC meetings, teachers have begun additional support services such as after school tutoring sessions for students struggling to comprehend texts in English. Teachers report that the regular discussion of students leads to early intervention, allowing them to address student issues before they
become significant barriers to student success. These interventions positively impact student success (Haberman, 2004; Marzano, 2011).

DuFour (2007) and Many (2009) emphasize the positive outcomes that occur for all students as a result of PLC implementation in schools. This was evident in the support teachers provided students experiencing classroom success. To that end, the PLC began sending out Knight Salutes in September of 2014; this has been a positive for teachers and students. Knight Salutes are postcards that teachers write a collective positive message on and send home to students. Each month, teachers nominate and collectively choose six students to receive this recognition. Erica explains that this has “lifted up our morale a little bit” as it allows teachers to discuss and celebrate “the great kids here who often don’t get recognized.” Teachers reported that receiving a Salute is often important to students who appreciate the recognition, a sentiment supported in research studies on student engagement (Klem & Connell, 2004; Marzano, 2011).

Theme Six: **Teachers develop strong relationships with students.** The time teachers invest in the PLC and the regular discussion of pedagogy and students’ needs has led to increased teacher investment in students. This has resulted in stronger relationships between teacher and student.

As teachers collaborate and discuss their students, they become more invested in their students as they gain insight into students’ personalities and lives; with this insight, teachers report they are better able to connect with students. Teachers report that this combination of factors leads to stronger relationships with students and positively impacts the educational experience for students. Teachers regularly share information they learn about students’ interests and personalities with PLC colleagues. Collectively, this allows teachers to better understand
their students and allows them to see the whole student, which increases student success
(Haberman, 2004; Hord, 1997; McLaughlin & Talbert, 2001).

Teachers also benefit from gaining their colleagues’ perspectives on students. Teachers
spoke of several incidents in which they learned that a student who had not experienced success
in their class was much more successful in another; they found this information eye opening,
which prompted reflection and discussion in the PLC as to why this was the case. For example,
both math teachers reported that many students exhibited negative behaviors in class. After
hearing how the students behave in other classes, teachers realized that several of their students
suffer from “math” phobia, which they had heard other math teachers discuss but never
connected to their students’ behavior. This has changed the way they approach management
issues with some students, and has resulted in more positive relationships with those students.
Another teacher, who described his classroom demeanor as “crisp”, spoke of how he learned so
much about his students’ emotional states from others in the PLC. Many teachers had similar
stories regarding the benefit of hearing colleagues’ perceptions of students. Because they are
able to experience a variety of perspectives about their students, teachers feel they are able to
better understand their students; this provided them with additional strategies and approaches to
develop student-teacher relationships (Marzano, 2011; McLaughlin & Talbert, 2001).

Credibility and Trustworthiness of the Findings

Creswell (2013) summarizes credibility as “an attempt to assess the ‘accuracy’ of the
findings, as best described by the researcher and the participants” (pp. 250-251) and recommends
employing several strategies to ensure the accuracy of their findings. To that end, the researcher
employed several strategies recommended by Creswell: triangulation of data, prolonged
engagement, clarification of researcher bias, member checking, and the use of thick, rich
description.

Triangulation of data is the process of corroborating different forms of data to enhance
the accuracy of a study (Creswell, 2012). To triangulate the data in this study, the researcher
made use of several data sources (Creswell, 2012; Yin, 2009) including initial and follow up
semi structured interviews with each participant, regular observation of PLC meetings,
observation of a lesson tuning session and follow up interview with the presenting teacher, and
the use of researcher field notes.

The researcher also employed prolonged engagement and persistent observation.
Creswell emphasizes the importance of developing trust with participants and understanding the
culture of the study group (2013). Being a former member of the PLC that is the focus of this
research, the researcher had developed working relationships with participants prior to the start
of this study. Further the researcher has some familiarity with the group and larger school
culture. These factors along with regular access to participants during the study period allowed
for accurate data collection.

Clarification of researcher bias was identified from the outset of this study as essential to
ensuring accurate findings. Because of the researcher’s knowledge of the study group,
knowledge of larger contextual factors in the school and district, and the researcher’s
positionality, clarifying researcher bias and considering that bias through all stages of the study
was important. The researcher is also the English Department Chair in the school where the
research occurred. Though this position is a position of limited authority, the researcher has no
supervisory duties over any of the study participants. Throughout the study, the researcher
reflected on “past experiences, biases, prejudices, and orientations” (Creswell, 2013, p. 251) that potentially influenced the interpretation of findings.

The researcher also employed member checking, the process of asking one or more study participants to check the accuracy of the account (Creswell, 2012). After the researcher transcribed each interview, each participant was provided a copy of his/her transcript and given the opportunity to review the transcript to ensure his/her words were transcribed accurately. Additionally, participants were asked to consider the contextual accuracy of their responses and provided an opportunity to elaborate on their thinking to ensure their words matched their intent.

Last, the use of thick, rich description was employed throughout the presentation of this research in order for readers to make decisions regarding the transferability of the research findings. A rich description of the setting, participants, observed activities, and findings were employed (Creswell, 2013), allowing for a thorough, unbiased understanding of how teachers experience their participation in the PLC.

**Implications For Future Study**

This study built on previous studies focusing on teachers’ perceptions of and experiences in PLCs. Though many of the findings are in line with past research, there are several areas of investigation that should be further explored to improve the understanding of professional learning communities.

More qualitative studies should be conducted to understand high school *interdisciplinary* PLCs. Though informative, this study was narrow in focus, concentrating on the experiences of a single group of eight ninth grade teachers and is not a representative sample of PLCs throughout the country. Additional studies would allow researchers and practitioners to develop further insight into the collaborative workings of these groups. Further research would also
provide more evidence and, potentially, a deeper understanding of the benefits to teachers and students involved in the PLC.

Another area for future research is to work to quantify the benefits of high school interdisciplinary PLCs. Findings from this study found that teachers supported one another with management, pedagogical, and curricular issues. Though teachers expressed the value of this collaboration, these perceptions were anecdotal; they had no measurable benefits to gauge the success of these efforts. Further studies should be undertaken to quantify the extent that this collaboration benefitted participating teachers and student learning.

Future researchers should also consider effective strategies PLCs can take to address students’ social and emotional needs. Addressing these needs was a major focus of the PLC. Several steps to address these students’ needs emerged in the findings such as meeting with parents, guidance counselors, and students. Researchers may want to consider researching these and other intervention strategies that are appropriate for PLCs to employ.

Finally, future researchers should look at the role that PLCs play in retaining teachers. Given the supportive environment of many PLCs and the informal mentor/mentee relationships that often develop in these groups, researchers should consider the effect of PLCs on teacher retention. Further studies should consider statistical data regarding the rate of teacher attrition when teachers are engaged in a PLC and when not engaged as a means to measure this influence.

**Implications and Recommendations For Practice**

This study supported research showing the promise of PLCs as a professional development model for realizing and sustaining teacher development in schools (Darling-Hammond, 1997; DuFour et al., 2008; Garet et al., 2001; Little, 1990; Stoll et al., 2006; Strahan,
2003; Wenger, 1998). Fully understanding how teachers experience participation in such groups is paramount to maximizing the benefits of this professional development model.

One recommendation that emerged from this study is that administrators must provide consistent support to the PLC. Administrators did provide guidance through district initiatives, provided teachers common time to collaborate, provided teachers autonomy to set the PLC agenda, and trusted the PLC to work effectively to best meet their students’ needs. Such supportive leadership is crucial to effective PLC implementation (Hipp et al., 2008; Hord, 1997; Leithwood et al., 1998). The balance between structure and autonomy is a challenge; however, the research findings suggested that the PLC could have benefitted from further guidance by administrators. This was evident in lesson sharing, an initiative emphasized by the principal over the past two years, that has fallen by the wayside. Teachers attributed the lack of recent lesson sharing sessions to the push to implement DDMs and the increased time needed for some teachers to collaborate with special education teachers for their co-taught classes. At one PLC meeting, the team spoke of the importance of reintroducing lesson shares; two teachers immediately asked if they could finish their DDMs first. In fact, the DDMs have been one of the major focal points of the PLC this year. DDMs play an important role in teachers’ end of year evaluations, and are clearly an essential part of their job. However, the time spent on DDMs has come at the expense of conducting lesson-sharing sessions, which teachers considered extremely valuable to their learning. With the support of the principal, the PLC could better balance their time between the DDMs and lesson shares.

In order to effectively provide this support, the principal and PLC members should meet each year to establish goals, establish the role of the principal and PLC members in attaining these goals, and establish ways to evaluate the work of the PLC. This supportive and shared
leadership is essential to the long-term success of the PLC (Barnett & McCormick, 2003; Huffman, 2011). Establishing this shared leadership will also create an environment where informal teacher leaders will step forward to help realize the PLCs’ goals.

Administrative support must also include teacher driven professional development to help teachers realize the professional goals of the PLC. This study revealed that one need for professional development is in the area of providing support for struggling students. Though teachers did experience some success with developing individual success plans for students, these plans were developed with common sense rather than from research based strategies. With professional development focused on supporting struggling students, teachers would be provided resources that could result in more successful interventions.

Another area where teachers could benefit from professional development is in using data to inform instruction. Though many teachers did look at student data with their subject colleague, teachers had no system to quantify the success of the wider PLC work. Success was measured anecdotally. Providing teachers professional development to learn ways to quantify the PLC success could lead to the identification of areas where teachers could focus to further improve student learning. Providing teachers opportunities to refocus on student learning is an essential element of effective PLCs (Horn & Little, 2009; Grossman et al., 2001; Lieberman & Miller, 2011; Vescio et al., 2008). Professional development guided by the needs of the PLC has the potential to increase the effectiveness of the group.

Finally, there is opportunity to further realize the benefits of the interdisciplinary nature of the group. While teachers considered the collective work of the whole group very beneficial, they reported that the most significant pedagogical benefits came as a result of collaborating with their department colleague. Department colleagues practiced several in depth strategies to
improve instruction such as curriculum design, looking at student work, and analyzing data from formative and summative assessments. During teacher interviews and in PLC meeting observations, there was no evidence that teachers shared this department work with the larger PLC group. This represents a missed opportunity to share their learning with colleagues and take full advantage of the insights that were gained in the subject groups. Teachers must be encouraged to share the work they do with department colleagues to further the goals of the PLC.

**Conclusion**

This study found that teachers perceive significant benefits associated with participation in Yorktown High School’s grade nine interdisciplinary community. Though several research studies have explored teachers’ perceptions regarding PLCs, few study the perceptions of high school teachers engaged in interdisciplinary collaboration. As such, this study adds to the research literature on professional learning communities. Findings include insight into the institutional and cultural factors that affect teacher collaboration on this PLC. Teachers benefitted from the common time and autonomy provided them to improve their teaching practice. They used this time to best meet the needs of their students: this included collaborating to realize district goals, sharing management and pedagogical strategies, and supporting students’ social and emotional needs. Teachers perceived many benefits of this collaboration.

In contrast to the traditional isolation experienced by many high school teachers, teachers participating in this PLC developed interdependent, collegial relationships with other participants. Teachers supported one another, offering strategies to address classroom management issues and shared resources and pedagogical strategies with each other. Additionally, teachers’ practices have become more student-centered as a result of being exposed to and implementing new instructional strategies learned in the PLC.
Teachers also used this common time to collaborate to meet their students’ social and emotional needs. Teachers expressed they experienced a positive change in attitude toward students, they worked to support students’ social and emotional needs more, and developed stronger relationships with students as a result of participation in the PLC. This understanding can benefit all stakeholders as they work to improve the quality of their schools.
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Appendix A

Interview Questions

My proposed research interest: to research the ninth grade interdisciplinary PLC. I will seek to answer the following questions:

**Main question:**

How do staff members of a ninth grade interdisciplinary professional learning community describe their experiences as members of this PLC?

**Subquestions:**

How do teachers interpret the influence of school contextual factors (cultural, historical, and institutional) on collaboration efforts of the PLC?

How have teachers’ practices been influenced by their participation in the grade nine team/PLC?

**Background questions**

1. How long have you been a teacher in this district?
2. Tell me about yourself as an educator. Background?
3. Have you taught at other grade levels beside the current 9th grade level?
4. What have your past experiences (teaching experience, professional development, etc.) been with teacher collaboration? How have these experiences prepared you for collaborative work?
5. What is the purpose of the ninth grade PLC?

**Question 1: How do staff members of a ninth grade interdisciplinary professional learning community describe their experiences as members of this PLC?**

6. How would you describe a collaborative culture? / What does teacher collaboration look and sound like?
7. How does the ninth grade PLC live up to that description? How does it fall short? Why?
8. What aspects of the PLC do you consider valuable?
9. Do you feel the structure is in place for teachers to collaborate successfully? How so? Can
you provide some examples of what you mean?

10. Are there any events or individuals on the PLC that stand out as having impacted your experience?

11. How has the ninth grade PLC benefitted students? Teachers?

12. Has your experience with the ninth grade PLC changed over time? How do you account for these changes?

13. Has there been a shift in the collaborative culture of the PLC over the past years? Has it improved, evolved, deteriorated, become stagnant?

**Question 2: How do teachers interpret the influence of school contextual factors (cultural, historical, and institutional) on collaboration efforts of the PLC?**


15. How do administrators and colleagues support the collaborative work of the PLC? Structures? Resources?

16. How do the school and district goals support collaborative work on the PLC? Can you provide an example of this?

17. What historical factors affect the collaboration on this PLC?

**Question 3: How have teachers’ practices been influenced by their participation in the grade nine PLC?**

18. How has your participation on the grade nine PLC influenced your engagement with grade nine teachers and students?

19. How has your participation on the grade nine PLC influenced your engagement with teachers and students in other grade levels?

20. How has the PLC collaboration affected the structure and routine in your classroom?

21. How has your teaching been affected as a result of the collaborative work of the PLC?

22. What value do you see in collaborating with teachers on the PLC?

23. How has the feedback given to and received by your colleagues influenced your teaching?

24. If the school did not provide meeting time, would you try to continue collaborating with your colleagues? If so, how would you do it?
Appendix B

Call for Participants

Dear members of the grade nine PLC,

I am Todd Ruland, a high school English teacher at ************ High School in ************, Massachusetts and a doctoral student at Northeastern University in Boston, Massachusetts. In fulfillment of my doctoral studies, I will be conducting a research study exploring how members of the grade nine interdisciplinary professional learning community experience their involvement as members of the group. As members of this PLC, I invite you to participate in this research study.

Data collection for this study includes semi structured interview responses, observing PLC meetings, reviewing meeting notes, observing collaborative lesson tuning protocol sessions, reviewing teacher notes from these sessions, and a brief, follow-up interview. Teacher interviews will last approximately 45 minutes and may include a follow-up interview of approximately 20 minutes.

Participation in this study is voluntary, and participants have the right to cease participating at any point during the study without penalty. Teacher interviews will take place at your convenience and at a location of your choosing. Pseudonyms will be used for each participant throughout this study and all personal information will be kept strictly confidential. Further, participation in this study will in no way affect participants’ performance evaluations. All data collected will be stored in a locked cabinet and on an encrypted hard drive and will be destroyed after five years.

Your participation in this study will be greatly appreciated. If you have any questions, please contact me. Thank you very much.

Sincerely,

Todd Ruland
Appendix C

Informed Consent Form

Northeastern University, College of Professional Studies

Investigator Name: Robert Todd Ruland

Title of Project: Understanding How Professional Learning Communities Affect Teaching Practice: A Qualitative Case Study of One Ninth Grade Interdisciplinary Team

Informed Consent to Participate in a Research Study:
You are invited to take part in a research study. This form will provide information about the study and your role in it. You may ask the researcher any questions that you have. When you are ready to make a decision as to your participation, please inform the researcher. You are not obligated to participate. If you decide to participate, the researcher will ask you to sign this statement and will give you a copy to keep.

Why am I being asked to take part in this research study?
You have been asked to participate in this study because you are a member of the grade nine interdisciplinary PLC team at the high school selected for this study.

Why is this research study being done?
The purpose of this research is to understand how teachers experience their involvement on the ninth grade PLC team.

What will I be asked to do?
If you choose to participate in this study, the researcher will ask for your participation in an audio-taped interview that focuses on your experiences as a member of the ninth grade PLC team, the contextual factors influencing your involvement, and the influence your involvement has had on your teaching practice. Additionally, following your involvement in a lesson tuning protocol, the interviewer will conduct a 15 minute interview regarding this experience. You will also be asked to share notes from your participation in lesson tuning protocols. After data has been gathered, each participant will be offered the opportunity to review the data from sessions to check for accuracy and/or edit their responses. As with all other parts of this study, this is voluntary.

Where will this take place and how much time will it take?
Interviews will take place at the school during a convenient time and place for the participant and in a private office or classroom. Each interview will not exceed one-hour.

Will there be any risk or discomfort to me?
There are no foreseeable risks involved in taking part in this study. All responses will be kept confidential and the research will be destroyed after the project is completed.

Will I benefit by being in this research?
There will be no direct benefit to you for taking part in the study. However, the information learned from this study may help schools develop strategies to increase the effectiveness of professional learning communities.

Who will see the information about me?
Your role in this study will be confidential. Only the student researcher and principal researcher of this study will see the information about you. No reports or publications will use information that can identify you in any way. All audiotapes, observation forms, and documents will be secured throughout the duration of the study. This information will be stored for five years and then destroyed.

What if I do not want to take part in the study?
You are not required to participate in this study. Stopping your participation will not affect your professional standing. At any time during the study, you may refuse to answer questions or end your participation. If you choose not to participate, ignore this form.

Who can I contact if I have questions or concerns?
Todd Ruland
****** Regional High School
Work # (978) 363-5507
Email ruland@prsd.org

Carol Young, Ed.D
Principal Investigator –Overseeing Study
Northeastern University, Boston
Email: c.young@neu.edu

If you have any questions about your rights as a participant, you may contact Nan C. Regina, Director, Human Subject Research Protection, 960 Renaissance Park, Northeastern University Boston, MA 02115 tel. 617-373-4588, email: n.regina@neu.edu

You may call anonymously if you wish.

Will I be paid for my participation?
There is no compensation for participation in this study.

Will it cost me anything to participate?
There is no cost to participate in this study.

I have read, understood and had the opportunity to ask questions regarding this consent form. I fully understand the nature of my involvement in this research study as a participant and the potential risks involved. Should I be selected, I agree to participate in this study on a voluntary basis.

__________________________________________
Research Participant (Printed Name)

___________________________________ __________________
Research Participant (Signature) Date
Appendix D

Study Permission Letter

Permission Letter Superintendent of Schools/Building Principal

May 30, 2014

Dear Superintendent _____ and Principal ___________,

I am writing to seek permission to conduct a study of the grade nine interdisciplinary professional learning community at ********** Regional High School. I am currently the English department chair at the school as well as a member of the ninth grade team. The grade nine interdisciplinary team at ********** Regional High School is particularly well suited for this study. Composed of teachers with diverse educational backgrounds, years of experience, and educational philosophies, this group of individuals will present multiple perspectives and demonstrate the complexities involved in teacher collaboration.

The purpose of my study is to understand how the members of professional learning communities describe their experiences as members of PLCs. This study entails collecting data through one on one interviews with teachers, observing PLC meetings, reviewing meeting notes, observing collaborative lesson tuning sessions, reviewing teacher notes from these sessions, and brief follow up interviews with teachers regarding their perceptions of these lesson tuning sessions. As part of this work, I will also research the extent to which these teachers’ practices have been influenced as a result of being members of the PLC and the extent that contextual factors (cultural, historical, and institutional) have helped and/or hindered collaboration in this PLC.

It is my hope that this study will provide insight into sustaining professional learning communities in high schools. PLCs hold promise as a means to improve teaching and student learning. Understanding the way that teachers experience this professional development initiative may provide insight to other schools that are working to realize the full potential benefits of PLCs.

If you have any questions regarding this study, please call me at 207-459-6632 or the chairperson of my committee, Dr. Carol Young, at Northeastern University, 508-587-2834. Thank you for your time and consideration.

Sincerely,

Todd Ruland
English Department Chair, grades 7-12
******* Regional School District
**** *********, MA
Doctoral Candidate, College of Professional Studies
Northeastern University
Appendix E

Lesson Tuning Protocol

Developed by Joseph McDonald and David Allen of the National School Reform Faculty

1. Introduction (5 minutes)

   • Facilitator briefly introduces protocol goals, guidelines, and schedule
   • Participants briefly introduce themselves (if necessary)

2. Presentation (15 minutes)

   The presenter has an opportunity to share the context for the student work:
   • Information about the students and/or the class — what the students tend to be like, where they are in school, where they are in the year
   • Assignment or prompt that generated the student work
   • Student learning goals or standards that inform the work
   • Samples of student work: photocopies of work, video clips, etc. (with student names removed)
   • Evaluation format: scoring rubric and/or assessment criteria, etc.
   • Focusing question for feedback
   • Participants are silent; no questions are entertained at this time.

3. Clarifying Questions (5 minutes)

   • Participants have an opportunity to ask “clarifying” questions in order to get information that may have been omitted in the presentation that they feel would help them to understand the context for the student work. Clarifying questions are matters of “fact.”
   • The facilitator should be sure to limit the questions to those that are “clarifying,” judging which questions more properly belong in the warm/cool feedback section.

4. Examination of Student Work Samples (15 minutes)

   • Participants look closely at the work, taking notes on where it seems to be in tune with the stated goals, and where there might be a problem. Participants focus particularly on the presenter’s focusing question.
   • Presenter is silent; participants do this work silently.
5. **Pause to reflect on warm and cool feedback** (2-3 minutes)

- Participants take a couple of minutes to reflect on what they would like to contribute to the feedback session.

- Presenter is silent; participants do this work silently.

6. **Warm and Cool Feedback** (15 minutes)

- Participants share feedback with each other while the presenter is silent. The feedback generally begins with a few minutes of warm feedback, moves on to a few minutes of cool feedback (sometimes phrased in the form of reflective questions), and then moves back and forth between warm and cool feedback.

- Warm feedback may include comments about how the work presented seems to meet the desired goals; cool feedback may include possible “disconnects,” gaps, or problems. Often participants offer ideas or suggestions for strengthening the work presented.

- The facilitator may need to remind participants of the presenter’s focusing question, which should be posted for all to see.

- Presenter is silent and takes notes.

7. **Reflection** (5 minutes)

- Presenter speaks to those comments/questions he or she chooses while participants are silent.

- This is not a time to defend oneself, but is instead a time for the presenter to reflect aloud on those ideas or questions that seemed particularly interesting.

- Facilitator may intervene to focus, clarify, etc.

8. **Debrief** (5 minutes)

- Facilitator-led discussion of this tuning experience.
Appendix F

Collaborative Lesson Tuning Observation Template

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<thead>
<tr>
<th>Presenter</th>
<th>Participant</th>
<th>Contextual Notes</th>
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Appendix G

Collaborative Lesson Tuning Follow up Interview Questions

1. In what ways was this lesson tuning session helpful?
2. In what ways did this lesson tuning session fail to help and/or frustrate you?
3. How will you incorporate teacher feedback into your lesson?
4. Overall, how would you describe your experience in this protocol?
### Appendix H

**PLC Meeting Observation Guide**

<table>
<thead>
<tr>
<th>Date:</th>
<th>Start Time:</th>
<th>End Time:</th>
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</thead>
<tbody>
<tr>
<td>Location:</td>
<td>Topic:</td>
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</tbody>
</table>

- **Speaker:** Description of Activities and specific language relating to: PLC norms; lesson protocol; collaboration; comfort in session; school contextual factors; shared goals; relevancy; problem solving; collective learning; support.

- **Researcher Reflection:**
Appendix I

Thank You Email and Interview Scheduling

Dear ____________________,

Thank you for agreeing to participate in this study. Your insight and input is greatly appreciated and will add significantly to this study. I would like to schedule a time and location, at your convenience, for us to conduct an interview about your experience as a member of the grade nine interdisciplinary PLC and how this experience has influenced your teaching practice.

Please respond to this email with a time and place to meet that is convenient for you. We can meet in your classroom, a room in the school, or at an offsite location, whichever is most comfortable and convenient to you.

If you have any questions or concerns, please stop by my office or call or email me extension 310 or Ruland.r@husky.neu.edu. Thank you again for your willingness to participate in this study. I look forward to speaking with you.

Todd Ruland
Doctoral Student
Northeastern University