PROFESSIONAL EVOLUTION STORIES AS TOLD BY SECONDARY TEACHERS
WHILE IMMERSED IN PROFESSIONAL LEARNING COMMUNITY
COLLABORATION

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By
Jeanette Hoskins Wolfe
Dr. Phillip Messner, Dissertation Supervisor

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The undersigned, appointed by the dean of the Graduate School, have examined the dissertation entitled

PROFESSIONAL EVOLUTION STORIES AS TOLD BY SECONDARY TEACHERS WHILE IMMERSED IN PROFESSIONAL LEARNING COMMUNITY COLLABORATION

presented by Jeanette H. Wolfe,

a candidate for the degree of doctor of education,

and hereby certify that, in their opinion, it is worthy of acceptance.

__________________________________________________
Professor Phillip Messner

__________________________________________________
Professor Joyce Piveral

__________________________________________________
Professor Carole Edmonds

__________________________________________________
Professor Kristina Alexander
DEDICATION

This dissertation is dedicated to the two great loves of my life: Rick and Ivy, and all the others who cared about my success and inspired me to complete my studies.

And to Aunt Susie, who chose to be my Mother.

In MEMORY of my father, Tommie D. Hoskins: promises kept.
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As I begin to reflect on the learning process of writing my dissertation, several thoughts flow through my mind. I first focus my emotions and realize how grateful I am to have gained this experience. I am also somewhat saddened as I recognize this amazing journey is about to end.

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Dr. Phillip Messner,

Dissertation Supervisor

ABSTRACT

A teacher’s world can change when a school shifts from a culture of isolation to a culture of collaboration. With the implementation of a culture of collaboration, gone is the egg crate school with its cell like classroom. Teachers are now coming together as a group, a community, for the purpose of learning. In an effort to provide global learning opportunities for both student and teacher, schools are now embracing the concept of Professional Learning Communities (PLCs): collaborative, inquiry oriented cultures. This shift in the glacier isolation of teachers is leading to teacher teams, a practice of promoting personal and organizational learning through adult collaboration (Hord, 2008).

Yet little is known about secondary teachers’ participation in collaboration. There are questions concerning the why and how teachers are learning and evolving. Given this, there is little knowledge about the process of teacher evolution when teachers are immersed in the collaborative team culture of a PLC (Fullan, 1996; Gonzales & Short, 1996; Hord, 2007, 2008, 2009; Hord & Cowan, 1999; Short & Rinehart, 1993). Hord’s extensive PLC research reveals more studies are needed that follow the development processes of PLCs, particularly the learning processes of secondary teachers in collaboration.
The intent of this single bounded case study, conducted at a large Midwestern high school, was to begin to fill the knowledge gap by providing insight on the evolutionary process of teacher transformation when teachers are immersed in collaboration in a PLC setting. Using a stratified chart to purposefully select 23 participants, my study sought to understand how knowledge was generated and shared.

My research did not follow a step by step process, but instead involved seeking meaning and developing interpretive explanations through a double loop feedback process. Four years of archival data were triangulated with 5 collaborative team observations and 17 face-to-face interviews.

Specifically, this study sought to discover how teachers evolve. Three stages of evolution emerged from the data: a) knowledge creation, b) collaboration, and c) teacher empowerment. Results found teachers evolve to a final stage of “deprivitization of practice.”

The author of this study was immersed in a professional learning community to design the study, collect the data, and review results obtained at the case setting. Personal experiences as a participant researcher are shared and discussed.

This study adds to the body of research by providing teacher stories about their learning process when immersed in a collaborative team environment. Furthermore this research adds to the literature by discussing the factors that attribute to teacher evolution.
CHAPTER ONE

INTRODUCTION TO THE STUDY

Recent school initiatives have focused on improving student achievement in an effort to keep America globally competitive. To achieve this goal, Du Four and Eaker (2002) have focused on teacher learning through collaboration. Du Four and Eaker contend collaboration is the single most important factor for successful school improvement. This key component, however, is often missing in recent school change attempts (Du Four, B., 1998; Du Four, R., 1998, 2003; Hord, 2007; Hord & Cowan, 1999). To better meet the challenge of change, many researchers are promoting the implementation of Professional Learning Communities (PLCs) (Du Four, R., Du Four, R., Eaker, & Many, 2005, 2006; Eaker & Keating, 2008; Hord, 2009). Teachers now immersed in a collaborative culture must abandon their previous egg crate isolation and embrace their peers. Moreover, with the implementation of a school vision of learning for all, teacher success is dependent upon their own, as well as their students’ learning. PLCs have become a catalyst for teacher evolution. But little is known about how teachers are changing. What are their stories?

Background

Reform and change are not synonymous. Some changes come about by evolution, rather than deliberate design. The capacity to learn is a product of evolution (Pear, 2001). Researchers and theorists alike highlight learning as a search for meaning: sense-making, a frame of reference for understanding the world (Bush, 2006; Drago-Severson, 2006, 2007, 2008; Kegan, 2000; Mezirow, 2002). Kegan (2000) views learning as a necessary component in a social community. According to Pear, learning occurs because it
promotes the propagation of the genetic code of the organism that possesses the capacity to learn. Drago-Severson and Kegan suggest that in any school or team, it is likely adults will be making sense of their experiences in developmentally different ways. In adulthood, knowing is realized through concrete orientation, socialization, and self-authorization (Drago-Severson, 2008). These different ways of knowing shape how teachers understand their roles, what constitutes good practice, and the types of support needed to grow. Moreover, because humans have the gift of language, they are able to develop complex cultures that compete for members and resources. In turn, this competition creates a cultural evolution similar to species evolution: both demand a survival of the fittest. My study seeks to tell in-depth teacher “sense-making” stories about their learning experiences, growth, and evolution while immersed in a collaborative environment.

Some practices of a culture may hinder, not promote its survival. Learning techniques in education have changed little in the last fifty years despite research revealing some learning techniques are superior to others (Bush, 2006; Du Four, Du Four, Eaker, & Many, 2006; Marzano, Pickering, & Pollock, 2001; Seashore-Lewis & Leithwood, 1998). Slow to change, education continues to mirror the classroom practices of the 1950s. Education, however, must now mirror a complex global knowledge economy (Drago-Severson, 2007). In an effort to provide global learning opportunities for both student and teacher, schools are now embracing the concept of Professional Learning Communities: collaborative, inquiry-oriented cultures. This shift in the glacier isolation of teachers is leading to teacher teams, a practice promoting personal and organizational learning through adult collaboration (Hord, 2008). Schools are beginning
to see value in encouraging teachers to collaborate. Based on deep exploration of student data coupled with critical reflection, teachers determine where they are or are not succeeding with students and together they prioritize areas for improvement (Du Four, et al, 2006). According to Hord (2008), the identified student learning areas “provide the target for the staff’s intentional learning (p.12).” Collective, intentional learning is taking place. Collaborative learning communities combine trust, communication, efficacy, and equity to create vital, flourishing living systems (McCombs & Whistler, 1997). Once a PLC exists, an evolutionary process begins to take place. Like every living system in nature, PLCs have nourishing relationships, interdependence, and diversity to help teams continue to grow and renew. As complexity grows, organizations require more sophisticated coordination strategies (Bolman & Deal, 2003). Integrated and organic, with a focus on nurturing relationships, PLCs align organizational structure with mission and environment.

Knowledge Sharing: Webs of Inclusion Lay Foundations for Evolution

Climate is important in the “success of working and learning relationships” (Eraut, 2004, p. 269). By creating “webs of inclusion” multiple, open, and diffuse lines of communication are created (Bolman & Deal, 2003). Accessibility and equality are both emphasized. Middle up-down management helps move tacit knowledge to explicit knowledge, from principal, coordinator, and chair to classroom teacher. By using self-organizing vertical teams, the transmission of knowledge, tacit to explicit, can result in innovative product creation (Nonaka, 1994). How knowledge is articulated in interactions within and between teams is both crucial and powerful: explicit to explicit. Double loop learning occurs when the learning is internalized (explicit to tacit) (Nonaka). By
implementing teams, leaders become catalysts in making knowledge available to everyone while facilitating fluctuations in the receipt of such knowledge (Yukl, 2006).

**Knowledge Creation through Team Collaboration**

A continuous cycle of interaction is evident among collaborative team members (Du Four, Du Four, Eaker, & Many, 2006). Cross functional teams, the building block for knowledge creation, reflect continuous dialogue with diverse viewpoints and experience sharing (Nonaka, 1994). According to Bruffee (1993), conversation is vital to learning. Knowledge is a consensus: constructed interdependently through talking together (Bruffee). Reflective thought, social conversation internalized, lays the foundation for boundary conversion and reacculturation. Vertical teaming, as well as whole group interactions, demonstrates a conscious overlapping of individuals and teams to create redundancy of knowledge within the organization (Nonaka, 1991). Collaboration, process, dialogue, and sharing now lead to new individual as well as organizational knowledge.

Collaborative learning can marshal a power of interdependence and influence among peers. As group members undertake open-ended tasks in small groups, a willingness to rethink, coupled with a positive attitude, might be demonstrated by team members for effective collaboration. Bruffee (1993) asserts “people in collaboration exceed what no one of them could have learned or accomplished” (p. 21). Perhaps the most powerful driving force in the learning will be the granting, as well as the accepting, of authority as trust is established in order for boundaries to expand (Bruffee). With this in mind, my study seeks, through observation, interview, and document analysis, to relate the evolutionary stories of collaborative teachers.
Conceptual Underpinnings of the Study

My epistemological stance was knowledge is constructed and my goal was to understand, through conversations, the learning processes that led to teacher evolution when secondary teachers are immersed in collaborative teams in a PLC setting. Using relativist ontology with a value laden axiology, I believe this research will give value to educators who are beginning the learning journey. It was my hope to provide an in-depth story of my understanding of one secondary Midwestern PLC’s collaborative teams’ learning evolution. With educators as my intended audience, I hope to provide a missing informational piece in the gap concerning teacher learning in PLC research literature.

Introduction of the Phenomena of Teacher Evolution

The educational movement towards Professional Learning Communities (PLCs) has changed the atmosphere of schools nationwide. The PLC concept is to “persuade educators that the most promising strategy for helping all students learn at high levels is to develop a staff’s capacity to function as a professional learning community” (Du Four, et al, 2006, p. 2).
Figure 1. Flow chart of researcher’s assumptions concerning the cultural shift when a Professional Learning Community (PLC) is created.

**Problem: Knowledge Gap of Teacher Evolution Process**

Staff capacity is developed through the development of fundamental building blocks: collaborative teams whose members “work interdependently to achieve common goals linked to the purpose of learning for all” (Du Four, et al., 2005 p. 3). Collaborative teams are to develop knowledge through collective inquiry and critical reflection. Consensus is achieved through the building of shared knowledge. Decisions are to be made with focus on learning, rather than teaching (Du Four, et al.). The learning, according to Hord (2008, 2009), is neither trivial nor unplanned. Yet little is known about secondary teachers’ participation in collaboration. There are questions concerning the
how and why secondary teachers are learning and evolving. Given this, there is little
knowledge about the process of teacher evolution when teachers are immersed in the
collaborative team culture of a PLC (Fullan, 1996; Gonzales & Short, 1996; Hord, 2007,

Purpose of Learning about Teachers

While there is not a large body of research, there are significant studies about how
Professional Learning Communities function and their positive impact on staff and
student learning (Du Four, 2005; Hord & Cowan, 1999; Hord & Roy, 2004; Hord, 2007,
2008, 2009). We still have much to learn, however, about how to initiate and develop
Professional Learning Communities (PLC) in a school. Hord’s extensive PLC research
reveals more studies are needed that follow the development process of PLCs,
emphasizes knowledge of this change process is “critical both for creating and sustaining
this kind of radical reform” (p. 502). Even though the research over PLCs continues to
expand, the focus continues to be on student, not teacher, learning (Fullan, 1996; Hord,
2008, 2009; Short & Rinehart, 1993). The intent of this inquiry was to begin to fill the
gap by providing insight on the evolutionary process of teacher transformation from
isolation to collaboration: a documentation of the process of change, through storytelling,
when secondary teachers are immersed in collaboration in a professional learning
community setting. My study sought to understand how knowledge is generated and
shared: How were teachers learning individually and in conjunction with others? I am
currently an insider: a non-tenured teacher at the case study school. This case study by an
insider with tacit knowledge would provide outsiders with explicit knowledge of the
evolutionary learning processes of teachers immersed in collaboration in a secondary PLC and might also build substantive theory on how collaborative learning processes lead to teacher evolution.

Understanding Teacher Evolution through Conversation

Since qualitative research and learning are both processes, I chose qualitative research as my method of inquiry because it lends itself to the understanding of meanings in context. Following the suggestions of Creswell (2003, 2007) and Merriam (1998), my specific method of inquiry was a single bounded case study comprised of teachers selected from one Midwestern secondary PLC school.

To best assist me in understanding the research question, participants were selected purposefully from existing collaborative teams to reflect multiple realities. I purposefully selected core and non-core subject teachers that reflected the school’s diversity of years of experience and age (Creswell, 2003; Merriam, 1998; Short & Rinehart, 1993). This interpretive case study looked carefully at learning processes and techniques using direct observation, individual and focus group interviews, and PLC group generated documents from the past four years.
Figure 2. Researcher’s concept map for case study of teacher evolution while immersed in a Professional Learning Community (PLC).

Grand Tour Research Question

During the process of examining related literature, best practices, and considering my interests in collaborative learning, I developed the following grand tour question to
guide this qualitative research study: What are the themes and concepts identified from secondary teacher stories about their professional evolution; what moves teachers forward from isolation to collaboration? Areas explored within their collaborative stories included investigating the pace, rate, and breadth of professional change.

Delimitations of the Study

Delimitations narrow the scope of the study (Creswell, 2003). A delimitation of this study was only one suburban Midwestern high school provided input. Additionally, the case study used only archival data since 2006 and not all subject area collaborative teams were studied. Furthermore, while all the participant volunteers have been in the district since its inception as a PLC, they may not collectively reflect the diversity of the faculty because not all invited to participate in the study chose to do so.

Limitations and Biases of the Study

Limitations of qualitative research focus primarily upon potential weaknesses of the study. Positionality might have biased my interpretation of what participants are revealing: I am a non-tenured teacher at this school. Creswell (2003) points out this “backyard research” could compromise my ability to disclose information and thus compromise the validity of the study. A challenge for me was to combine participation and observation so as to become capable of understanding the process as an insider while describing the process for outsiders (Merriam, 1998). Trust building was essential to establish a rapport that allows participants to openly express their thoughts. As a safeguard, pseudonyms were used at all times to identify participants. Furthermore, I took care so participants’ voices were heard. Following the directives of Krueger and Casey (2000), it was important I remain open to unexpected information by way of open-ended
questions. Thus, I used open-ended questions to foster the discussion of a variety of topics. Since qualitative studies cannot be truly replicated, I followed Merriam’s (1998) advice and maintained an audit trail to provide in detail how data were collected, categories derived, and decisions were made throughout the study.
Figure 3. Data Collection Process Map for researcher’s case study.
Definition of Key Terms

There are a few terms that require common working definitions. The terms will be given followed by the definition used in the study.

*Professional Learning Community.* (PLC) A learning community, composed of goal-oriented interdependent collaborative teams, working with an equal commitment to both learners and learning.

*Collaboration.* Team members working interdependently to achieve common goals with the purpose of learning for all.

*Climate.* The relationships among administration, faculty, and teachers.

*Double Loop Learning.* Creative reflection involving the role of underlying frameworks.

*Explicit Knowledge.* Formal knowledge; knowledge easily communicated and demonstrated in written directions, guides, and manuals.

*Reacculturation.* Cultural change created by working together. Members of one group renegotiate ties to one community to gain membership in another.

*Relativist Ontology.* What exists, nature of reality; realities are constructed locally and specifically.

*Teacher Evolution.* Teacher change over time as modified by PLC collaboration processes.

*Tacit Knowledge.* Informal know-how, a highly personal knowledge.

*Tenured Teacher.* A teacher who has signed at least six consecutive teaching contracts with the school.

*Value Laden Axiology.* Ethics value theory; emancipation is the valued end.
Summary

Learning is not a linear path; it is a continuous loop of gaining knowledge, sharing knowledge and assessing the knowledge to gain a new perspective on the knowledge. Repetition through redundancy turns explicit knowledge to tacit performance (Nonaka, 1991). Individuals within schools can collaborate and learn by interaction with each other. Importantly, Bruffee (1993) asserts “people in collaboration exceed what no one of them could have accomplished” (p. 21). Senge (1990) explains, organizations can learn only through individual learning. PLCs promote teacher learning.

This dissertation will be organized into five chapters. Chapter one provided a brief overview and statement of the problem, identified specific evaluative research questions, and defined terms used in the research. Chapter two will contain an initial review of literature including evolution, knowledge creation and organizational learning, transformational leadership, and the principles of Professional Learning Communities (PLCs). A detailed description of research design and data collection procedures for the case study will be reflected in chapter three. Chapter four will provide an analysis of data obtained through observation, interview, and archival documents, while chapter five will summarize the implications and findings and the overall impact of the case study of a Midwestern secondary professional learning community.
CHAPTER TWO
REVIEW OF RELATED LITERATURE

Introduction

The educational movement towards Professional Learning Communities (PLCs) has changed the atmosphere of schools nationwide. In Chapter two, current literature is examined to assist in the development of this study, which is to provide insight on the evolutionary process of teacher transformation from isolation to collaboration: a documentation of teacher evolution, through storytelling, when secondary teachers are immersed in collaboration in a PLC setting. My study will seek to understand how knowledge is generated and shared among teachers.

Evolution of Schools from Machine to Collaborative Model

The machine model of schools has evolved (Bolman & Deal, 2003; Morgan, 2006). In previous decades, schools, when ran as machines, had the “thinking” done by administrators while the “doing” was accomplished by faculty members (Morgan, p. 23). Replaced by a vision of collaboration, thinking and learning are now the heart of the transformed machine. The emerging consensus is “schools are living systems” (McCombs & Whistler, 1997, p. 1). Schools serve as the basic function of learning for both the recipient (student) and those who support the process: teachers, administrators, and parents. Supporting this learner-centered approach, schools concern themselves with how to provide the most individualized learning context for a diversity of learners. When schools focus on all learners and how they learn best, “students will be both more successful and more satisfied in school” (McCombs & Whistler, p. 16). Furthermore, current educational reform innovations will be more effective in generating student
motivation, learning, and achievement. School climates are changing as schools move from a machine to a collaborative model. Schools now have a dual focus: learners and learning. Importantly, teacher learning and its relationship to increased student achievement are now front and center. No longer structured as top down pyramid systems, schools emphasize accessibility and equality. More circular than hierarchical, collaborative schools build from the center out creating “webs of inclusion” (Bolman & Deal, 2003). Like a spider’s woven web, threads of the web connect and reinforce one another. More organism than machine, schools can now evolve.

Key to Evolution: Organizational and Individual Learning

In every organization the creation, dissemination, and evaluation of knowledge is imperative for continued growth. As Nonaka (1991) stated, “In an economy where the only certainty is uncertainty, the one sure source of lasting competitive advantage is knowledge” (p. 96). Nonaka (1994) also suggests, “Knowledge is a multifaceted concept with multilayered meanings” (p. 15). While new knowledge always begins with an individual, it is not simply a matter of mechanistically processing objective information. Importantly, for new knowledge to be created and learned, individuals must be committed (Nonaka, 1994). Self evaluation, feedback, value of the work, coupled with commitment affect the level of learning effort. Furthermore, the workload must be at a level that allows reflection to new challenges rather than coping with mechanisms. Learning at work is also influenced by the personality, interpersonal skills, and learning orientation of the leader.

Leadership learning is “facilitated by having a plan, a design for learning” (Donaldson, 2008, p. 20). Donaldson’s Interpersonal Cognitive Intrapersonal (ICl)
illustrates three knowledge domains or three areas within an organization where knowledge and leadership can be assessed, pursued, and improved. The first domain is interpersonal. Within this domain the researcher can view the relationships between the leader and those lead. Within the second cognitive domain, the leader’s explicit and tacit knowledge used to lead can be seen. Finally, in the intrapersonal domain, the researcher can see the personal reflection of the leader and the thorough processes which lead to decision making. Leaders who can create a synergy of knowledge, cognitive, interpersonal, and intrapersonal skills stand a good chance of motivating their colleagues to learn and improve (Donaldson).

The transfer of “knowledge from education to workplace settings is much more complex than commonly perceived” (Eraut, 2004, p. 256). Knowledge is acquired informally through participation in group activities, working alongside others, tackling challenging tasks, or working with clients (Eraut). Contexts that provide informal support are more important for learning than formally designated mentors. Furthermore, giving and receiving both short term specific and long term strategic feedback are vital to nearly all learning process. Learning must be “created, sustained, and re-created at regular intervals” (p. 268). Knowledge acquisition involves five stages: a) extraction of potentially relevant knowledge from context, b) understanding the new situation, c) recognizing relevant knowledge and skills, d) transferring skills to the new situation, and e) integrating the knowledge and skills in order to communicate in the new situation (Eraut). Flowing from tacit to tacit (socialization), explicit to explicit (combination), tacit to explicit (externalization) and explicit to tacit (internalization), the interaction and
continuous shift in knowledge creation creates a spiral of double loop learning (Nonaka, 1994).

Cultural (tacit) and codified (explicit) knowledge can be found in nearly all workplaces (Eraut, 2004). Tacit knowledge, informal know-how, is highly personal and not easily communicated. Eraut defines it as personal knowledge used uncritically because it works well for the user: expertise used rapidly and efficiently. In contrast, explicit knowledge is easily communicated and can be shared through formal directions, guides, and manuals.

Transformational learning requires the “absence of inequality” (Mezirow, 2002, p. 83). Connected knowing allows for collaboration and learning among un-equals. There are four conditions of transformational learning: a) presence of the other, b) a mentoring community, c) opportunities for committed action, and d) reflective discourse (Mezirow). Critical reflection, the action of reframing and reconsidering assumptions about oneself and one’s world, is central to adult learning and critical for evolution. Groups can learn as “discrete entities in a way that transcends individual learning within the group” (Mezirow, p. 253). Group learning is a process where the group creates knowledge for its members and for others. The goal of organizational transformational learning is to allow the organization to more effectively realize its goals and performance objectives.

Collaborative learning marshals the power of interdependence among peers (Bruffee, 1993). Collaboration provides an important platform on which to construct shared understanding out of conflicting or confusing data. The building of mutual trust accelerates the creation of implicit perspective shared by members as tacit knowledge (Nonaka, 1994). A key factor in knowledge building is conversation: the sharing of
experience. Thus, cross functional teams are the basic building block for structuring the process of organizational knowledge creation. Shared implicit perspective is conceptualized through continuous dialogue, and realized when a redundancy of information exists. Nonaka (1991) states redundancy is the first step in managing a knowledge-creating organization.

Redundancy is important because it encourages frequent dialogue and communication. This helps create a ‘common cognitive ground’ among employees and thus facilitates the transfer of tacit knowledge. Since members of the organization share overlapping information, they can sense what others are struggling to articulate. Redundancy also spreads new explicit knowledge through the organization so it can be internalized. (Nonaka, 1991, p. 102)

Causing a sense of shared knowledge, redundancy encourages frequent communication through conscious overlapping, strategic rotation, common cognitive ground, and free access to information (Nonaka, 1991). Teams play a central role because they provide a shared context where “individuals can interact and engage in constant dialogue on which effective reflection depends” (Nonaka, p. 103). Team members create new points of view through dialogue and discussion. Knowledge becomes the common property of the group. When collaborative teams are led by a charismatic individual who is interested in the betterment of the organization, organizational growth and betterment are possible (Bolman & Deal, 2003). According to Bruffee (1993), teams, through collaboration, are the prescription to reacculturate.

A learning organization is where “members continually expand their capacity to create the results they truly desire” (Senge, 1990, p. 20). Members hold a vision of what
might be possible. Facilitating learning for all its members, the learning organization is immersed in the collaborative learning process. Learning enhances the capacity to create. There are five disciplines central to any learning organization: a) systems thinking, the ability to comprehend and address the whole, b) personal mastery, organizational learning through individuals who learn, c) mental modes, perceptions of how relevant parts of a system interact with one another, d) building shared vision, capacity to hold and share a picture of the future—commitment rather than compliance, and e) team learning, aligning and developing capacities of team to create desired results (Senge). Distributing responsibility while maintaining control, leaders become facilitators.

Communities of practice are “significant repositories for the development, maintenance, and reproduction of knowledge” (Brown & Duguid, 2001, p. 201). Tacit knowledge (“know how”) remains isolated where practice is not shared. On the other hand, networks of practice are created when explicit knowledge leaks in the direction of shared practice. Oriented towards the long term goal, double loop learning becomes the boundary spanner and epistemic cultures become global learning communities. However, Senge contends, “organizations learn only through individuals who learn” (1990, p. 11).

Critical Components of Professional Learning Communities (PLC)

Teaming cultivates avenues for teacher collaboration. Du Four (2005) emphasizes the importance of creating contexts in which teachers can engage in dialogue and reflection. Teaming provides teachers with space to examine their assumptions and practice. Drago-Severson’s (2007) research finds teaming allows teachers to “take a broader perspective on themselves and their work” (p. 75). Peer inquiry provides opportunities to develop more complex perspectives by listening and learning from
others. Taking different inquiry forms that include collaborative goal setting, individual reflection, and conflict resolution, such practice supports adults with different ways of knowing. Critical reflection, the center of practice, is an essential step in both learning and evolving for all teachers (Mezirow, 2002; Yukl, 2006).

Many leaders committed to school reform advocate teaming. Teaming enhances learning, initiates system-wide change, and encourages innovation (Senge, 1990). Teachers teams involved in shared decision making can unfreeze assumptions and established practices. Teaming nurtures growth (Lencioni, 2002). According to Eaker and Du Four (2002), teams are the driving engine of Professional Learning Communities (PLCs).

The term “Professional Learning Community (PLC)” emerged among researchers in the 1960s, when they offered the concept as an alternative to the isolation in which most teachers worked (Honawar, 2008, p. 25). Professional Learning Communities (PLCs) are composed of “collaborative teams whose members work interdependently to achieve common goals linked to the purpose of learning for all” (Du Four, Du Four, Eaker, & Many, 2006, p.3). The fundamental building block of a PLC is the team meeting regularly with established team norms of interaction, teams are the vehicles for teacher professional growth and ongoing learning (Honawar; Jolly, 2008). Understanding cooperation does not constitute collaboration, PLC teams engage in collective inquiry into both practices and learning: they learn how to learn together (Du Four, 2003). Collaboration and learning happen within the context of a vital, flourishing community: unity created by celebrating and appreciating diversity. By building shared knowledge, teams develop new skills, facilitate dialogue, achieve a consensus, and transform school
culture. Schools that function as a PLC are “always characterized by a collaborative culture” (Eaker, Du Four, & Du Four, 2002, p. 5).

![Diagram](image)

**Figure 4.** Professional Learning Community (PLC) Venn diagram of learning for all.

Collaborative teams in PLCs are action oriented: they learn by doing (Du Four, et al, 2006). With a focus on learning rather than teaching, results-oriented teams develop and pursue measurable goals. Common formative assessments are created to develop an ongoing evidence of learning. Members engage in a cyclic process of questioning,
gathering evidence, developing and implementing strategies, and analyzing data. Teams continually revisit, reflect, and revise (Jolly, 2008).

Summary

To assist in the development of this study the first literature review discusses evolution, knowledge creation, organizational learning and the development of Professional Learning Communities (PLCs). The literature reveals education has been slow to change. Schools, in an attempt to become global learning communities are now embracing collaborative, inquiry-oriented cultures. This shift in the glacier isolation of teachers is leading to a new practice of promoting personal and organizational learning through adult collaboration (Hord, 2008). Emerging in the 1960s, PLCs are becoming growing, reflecting, and renewing systems.

According to Nonaka (1991, 1994), team collaboration promotes redundancy, which in turn accelerates the creation of tacit knowledge. Demonstrating double loop learning, communities of practice are becoming repositories for the development and reproduction of knowledge. The initial literature review provides insight on the learning evolution of teachers. As data are collected and analyzed, a more focused second literature review will be conducted after the initial observations of collaborative teams and during the focus group interview. New concepts emerging from the data will be supported a second literature review presented in Chapter Four.
CHAPTER THREE
METHODOLOGY

Introduction

A teacher’s world can change when a school shifts from a culture of isolation to a culture of collaboration. With the implementation of a culture of collaboration, gone is the egg crate school with its cell like classroom. Teachers are now coming together as a group- a community- for the purpose of learning. In an effort to provide global learning opportunities for both student and teacher, schools are now embracing the concept of Professional Learning Communities: collaborative, inquiry-oriented cultures. This shift in the glacier isolation of teachers is leading to teacher teams, a practice promoting personal and organizational learning through adult collaboration (Hord, 2008). The learning, according to Hord (2008), is neither trivial nor unplanned. But what are they learning? How are they learning?

While there is not a large body of research, there are significant studies about how Professional Learning Communities function and their positive impact on staff and student learning (Du Four, 2005; Hord & Cowan, 1999; Hord & Roy, 2004; Hord, 2007, 2008, 2009). However, we still have much to learn about how to initiate and develop Professional Learning Communities (PLC) in a school. Hord’s extensive PLC research reveals more studies are needed that follow the development process of PLCs, specifically the learning processes of secondary teachers in collaboration. Fullan (1996) emphasizes knowledge of this change process is “critical both for creating and sustaining this kind of radical reform” (p. 502).
In Chapter Three, I will discuss the rationale for the qualitative case study research design. An introduction to the phenomena of teacher evolution, research questions, as well as setting and participants will be outlined. Data collection procedures and analysis will be explained in detail. The chapter will conclude with a discussion of ethics, delimitations, and limitations impacting the study.

Rationale for Using Qualitative Research

Previous research has shown effective teams manage themselves through an improvisational and emergent process (Bruffee, 1993; Scribner, Sawyer, Watson, & Myers, 2007; Seashore-Lewis & Leithwood, 1998). Furthermore, leadership research has found in self-managing teams, multiple leaders emerge and a dynamic pattern of shared leadership evolves (Yukl, 2000). Key is the fact PLC teams are fluid and loosely coupled self-organizing systems (Morgan, 2006). Thus, to provide a means to understand the complexities of team learning, I selected a research design that allowed for evolution and discovery. Furthermore, the open coding system of qualitative research allowed me to examine, compare, categorize, and conceptualize data. In using the constant comparative method and discourse analysis, more data can be “processed with fewer adjustments because the theory emerges with a smaller set of higher level concepts” (Merriam, 1998, p. 191).

My research did not follow a step by step process, but instead, involved seeking meaning and developing interpretive explanations through a double loop feedback process. In using the constant comparative method, data evolved through integration and refinement of categories. Following the premise of Patton (2008) that no one single method ever adequately solved a problem, I triangulated data through observation,
interview, and document analysis to ensure trustworthiness while making interpretations meaningful. Strategies to collect information included: a) focus group and teacher interviews, b) review of collaborative team archival documents such as Department Instructional Plans (DIPs), teacher reflections, book studies, and collaboration team agendas and minutes, and c) observation of collaboration teams on school scheduled Collaboration Mondays. Combinations provided a cross-check for the study and strengthened reliability. My purposefully selected participant numbers were small, thus allowing for greater in-depth data collection and analysis (Scribner, et al., 2007). My case study was an appropriate design for studying learning within a PLC because its objective was to “develop a better understanding of the dynamics of a program” (Merriam, 1998, p. 39). Furthermore, I used common language in a rich and holistic narrative that offered insights into secondary collaborative learning processes.

There is debate among some qualitative researchers about when to conduct a literature review. My plan involved conducting two literature reviews; the initial review appears in Chapter Two. Providing background information, the initial literature review was designed to identify gaps and serve as a guide. Underlying assumptions about the research question were identified through the initial literature. A more focused second literature review was conducted throughout the review of archival data and again after the initial observations of collaborative teams and individual interviews. New concepts that emerged from the data were supported in the second literature review presented in Chapter Four. Research underpinnings of knowledge creation, organizational learning, Professional Learning Communities, collaboration, and evolution were linked to data.
This second literature review was critical in conducting data inspection and the creation of research findings and implications.

Following Merriam’s (1998) suggestion to triangulate data through parallel data sources, my research concept map reflects a spiral data collection process of field note observations of core and non-core collaboration teams, verbatim transcribed interviews with purposefully selected individual teachers as well as a mixed subject area teacher focus group, and the mining of archival data found in collaboration agendas and minutes, teacher and team reflections, and book studies. Continually linking underpinnings and literature through double looping, my data analysis process, mirroring Creswell’s (2003, 2007) data analysis outline, was a repetitive back and forth process of sense making and interpretation through the creation of maps and matrices, categories, comparisons, reflections, note taking, questioning, and organizing.

Conceptual Underpinnings

My epistemological stance was knowledge is constructed and my goal was to understand, through conversation, the learning processes that led to teacher evolution when secondary teachers were immersed in collaborative teams in a PLC setting. Using relativist ontology with a value laden axiology, I believed this research would give value to others who are beginning the learning journey. It was my hope to provide an in-depth story of my understanding of one secondary Midwestern PLC’s collaborative teams’ learning evolution. New concepts are presented in Chapter Four after I filter emerging themes and categories through a second literature review. With educators as my intended audience, I hoped to fill the gap concerning teacher learning in the research literature of PLCs.
Introduction of the Phenomena of Teacher Evolution

Merriam (1998) asserts, in qualitative research, the researcher is an instrument of data collection and is responsive to the context of the environment. My extensive involvement with PLCs has made me responsive to their unique environment. For the last four years I have been a part of a collaborative team in two different learning environments: a PLC in its very beginnings, another established for six years. In the first PLC I was part of the initial leadership team trained by the Regional Professional Development Center through the Professional Learning Communities Project. As a team leader, I initiated the creation of collaborative vertical teams. Through process and dialogue, I observed collaborative teams demonstrating both a commitment to a shared goal and a willingness to share knowledge beyond the team. Developing collectively, as well as individually, members appeared to continue to learn to learn. As a leader, however, I discovered there was a knowledge gap in the research about the process of teacher evolution when teachers were immersed in the collaborative team culture of a Professional Learning Community (Gonzales & Short, 1996; Hord, 2008; Hord & Roy, 2004; Short & Rinehart, 1993).

Learning about Teacher Evolution

The intent of this study was to provide insight on evolutionary process of teacher transformation from isolation to collaboration: a documentation of the process of change, through storytelling, when teachers are immersed in collaboration in a PLC setting. My study sought to understand how knowledge was generated and shared among teachers: How were they learning individually and in conjunction with others? I am a non-tenured teacher in the case study school. My case study as an insider with tacit knowledge may
provide outsiders with explicit knowledge of the learning processes of teachers immersed in collaboration in a secondary PLC and might also build substantive theory on how collaborative learning processes lead to teacher evolution.

My research plan, displayed in a Figure 2, outlines the process plan I followed to conduct my case study. Beginning with the statement of the problem and ending with data analysis, the concept map provides a picture of the whole as reflected in parts.
My research, however, did not follow a step by step process, but, rather, involved seeking meaning and developing interpretive explanations through a feedback process. Data collection was subject to a critical reflection process to determine what is going on in
order to build a picture that would guide me in the next set of data collection. Creating a recursive spiral as suggested by Creswell (2003, 2007), a series of actions was looped and repeated until data saturation occurred. Using a basic hermeneutic research design as described by Merriam (1998), afforded me creativity and freedom to decide what to undertake in my case study as well as what techniques to use in data collection and analysis.

**Understanding Teacher Evolution through Conversation**

During the process of examining related literature, best practices, and considering my interests in collaborative learning, I developed the following grand tour question to guide this qualitative research study: What are the themes and concepts identified from secondary teacher stories about their professional evolution; what moves teachers forward from isolation to collaboration? Areas explored within teacher collaborative stories included investigating the pace, rate, and breadth of professional change. Also important was what I might see, for example, evolutionary advantages: a survival of the fittest.

**Research Setting and Participants**

The setting for my single bounded case study was a Midwestern secondary professional learning community (PLC) with a total faculty population of 103, with 89 full-time certified teachers. The school was given the pseudonym, Shermer High School, and the school district, was re-named River District, to help ensure anonymity. Twenty-three faculty participants were purposefully selected from existing collaborative curricular teams to reflect core and non-core teachers who have been involved with PLC initiatives since 2006. Because Short and Rinehart, using their 38 item Likert-type School
Participant Empowerment Scale (SPES), found age and experience to be statistically important predictors, I also selected participants to reflect a diversity of age and years of teaching experience (Creswell, 2003; Merriam, 1998; Short & Rinehart, 1993). Additionally, for continuity of archival data, purposefully selected research participants were tenured, having taught at the secondary PLC since 2004. However, participant numbers were small (less than 20), thus allowing me greater in-depth data collection and analysis (Scribner, et al, 2007). Due to extensive school commitments, six teachers chose not to be a part of the study; however, the study still continued to reflect my desired faculty diversity as well as reflect the high school’s total faculty composition.

Table 1

*Stratified sampling for purposeful participant selection for case study.*

<table>
<thead>
<tr>
<th>Strata</th>
<th>Criteria</th>
<th>Agreed</th>
<th>Invited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Under 30 years</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>30-45 years</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Over 45 years</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Years Teaching Experience</td>
<td>Less than 10 years</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>10-20 years</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Over 20 years</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Total participants</td>
<td>Sample pool of 89</td>
<td>17</td>
<td>23</td>
</tr>
</tbody>
</table>

Data Collection Procedures

Prior to data collection, I sent a letter to request permission to conduct the study to the superintendent and principal of the Midwestern secondary school (Appendix C). In keeping with Creswell’s (2003, 2007) guidelines, the request letters included the purpose
of the study, right of faculty members to participate voluntarily, ask questions, withdraw at any time, and obtain copies of the study. Participants could choose, at any time, to opt out of the study and have their data excluded. Twenty-three purposefully selected faculty members, from a pool of 89, were personally invited through a letter to participate in the case study (Appendix D). Seventeen faculty members agreed to take part in the case study and signed an informed consent form (Appendix E). After signed permission forms from the school and all participants were obtained, I began the process of data collection, first with observations of team collaboration, followed by individual and focus group interviews. Data collection continued until redundancy was achieved. The mining of archival documents was an ongoing interpretive process of seeking meaning and developing explanations through double looping (Appendix B). To help maintain teacher anonymity, interviews were held in teacher classrooms before and after school. Furthermore, all teachers were given pseudonyms.

*Interview Protocol*

I developed questions for both individual and focus group semi-structured interviews based on the two reviews of related literature and the initial broad based research question developed for the case study. Surveys (Short & Rinehart, 1993) and self-reflection instruments (Du Four, Du Four, Eaker, & Many, 2006) used in the PLC process were utilized for background information to ensure development of a comprehensive set of questions. In keeping with textbook protocol, questions were developed using a semi-structured interview protocol (Creswell, 2003; Krueger & Casey, 2000; Merriam, 1998). The flexibility of this format allowed me variation in wording, question order, and probing to provide additional insights. I followed Merriam’s advice
and avoided questions that might have led the participant. On the other hand, my use of interpretive questions provided the opportunity “to check for understanding, as well as provide an opportunity for yet more information, opinions, feelings to be revealed” (Merriam, p. 78). Additionally, in creating an explorative, interpretive case study, I followed the directives of Krueger and Casey (2000) and ensured familiar language was used in the construction of open-ended questions that asked participants to “tell me about” individual collaborative experiences. The twenty minute interviews were conducted at school in order to keep the data collection bounded within the context of the study (Creswell, 2003). My original plan was to interview participants in April and May, however, due to exceptionally busy year-end schedules, interviews were not conducted until August and September. Interview questions (Appendix F) were given to the participants at the end of the school year to enable a better opportunity for reflection. The interview questions were delivered by hand and through email. I asked participants to forward responses to me prior to their individual fall interview by using asynchronous internet applications. The August and September interviews followed Creswell’s and Merriam’s interview protocols. With participant permission, I chose the name of academy award winning actors and the characters they portrayed as pseudonyms for teachers participating in the study. To further protect participant privacy, interviews were not videotaped. Interviews were transcribed verbatim. To increase trustworthiness, I read a script concerning interview protocol prior to each interview (Appendix G). Furthermore, I conducted member checking to verify the accuracy of the transcripts and confirm for each participant that their stories were portrayed as intended (Krueger & Casey, 2000).
Focus Group Protocol

Offering a carefully planned series of discussions, focus groups have become popular by qualitative researchers to obtain perceptions on defined areas of interest (Krueger & Casey, 2000; Creswell, 1998). Through relaxed and non-threatening discussions, members with common interests share ideas and perceptions through group dialogue. The focus group method of inquiry mirrors the nature of the PLC collaboration process. My research plan included a focus group comprised of five purposefully selected volunteer core and non-core tenured teachers to serve as another data collection research procedure. By grouping teachers who do not regularly interact during scheduled collaboration, inhibited disclosure may be avoided (Krueger & Casey).

For the convenience and comfort of the participants, one, thirty-minute focus group interview took place after school in my classroom in August. Acting as host, I greeted, introduced members as necessary, offered refreshments, and made small talk (Krueger & Casey, 2000). I placed name tents in advance on the large classroom tables to allow strategic positioning of participants. Because of teacher schedules and other time restraints, no ice breaker was conducted. With participant permission, I chose the name of academy award winning actors and the characters they portrayed as pseudonyms for teachers participating in the study. After ground rules were discussed and I had read the interview protocol, I began the interview. Following Krueger and Casey’s (2000) interview technique, I recorded the interview using jottings and a tape recorder. I employed two of Krueger and Casey’s (2000) essential techniques: the five second pause and the probe. In utilizing both techniques, I was able to prompt, not lead, the participants
to obtain additional information. At the close of the session I summarized the main points, asking if the summary is accurate, and then thanked the participants.

Observations and Fieldnotes

Like interviews, observations are an important tool utilized in qualitative research (Merriam, 1998). Unlike interviews, observations allow the researcher to examine an actual view of the phenomenon being studied in a natural setting (Merriam). “Fieldnotes, according to Emerson, Fretz, and Shaw (1995), are accounts describing experiences and observations the researcher has made while participating in an intense and involved manner” (p. 5). Observation by immersion allowed me to see how participants respond to events as they happen as well as experience the events that give rise to them (Emerson, Fretz, & Shaw). Through participation, I saw first-hand how “meanings emerge through talk and collective action and how understandings and interpretations change over time” (p. 4). The distinctive and unique features of fieldnotes allowed me to create thick, rich description through texture and variation thus avoiding the flatness derived from generalities.

During observations of bi-monthly scheduled department collaborations, I took open jottings of scenes, sensory detail, observed action, and dialogue. Recording my initial impressions, these jottings were used to develop meaningful patterns. Furthermore, to keep impressions fresh, I began immediately the free-flow writing of fieldnotes after the observation session had ended.

Document Collection

There are some limitations in the use of archival documents for data collection and analysis, such as incomplete nature or lack of clarity to an outsider (Merriam, 1998).
Data gleaned, however, from school documents served to provide information that was “thoughtful, in that participants have given attention to compiling and creating them” (Creswell, 2003, p. 187). Documents I collected for inspection included collaboration meeting minutes and agendas, book study reflections, individual teacher reflections over instructional strategies, learning logs, Department Instructional Plans (DIPs), Power Points, and other documents created for collaboration planning and evaluation. In using team collaboration documents archived by the building principal, I was able to add historical content while representing the collaborative team activities of the PLC since 2006 through PLC activities.

Data Inspection and Analysis

Data collection is an on-going process of continual reflection (Creswell, 2003, 2007). The data collection process map (Appendix B) reveals a back-and-forth approach to data analysis by seeking meaning through a critical reflection and feedback processes. I repeated actions in a cyclic manner until data saturation occurred. Following the suggestion of Creswell (2003, 2007), I created a recursive spiral by looping and repeating a series of collection processes until data saturation occurred.

Following my verbatim transcription of individual and focus groups interviews, I examined data to develop a broad view of possible patterns (Creswell, 2003, 2007). Using a constant comparative method, I submitted data to open and axial coding in order to identify emerging categories and themes (Creswell). Using the same protocol, I examined data mined from documents and observation fieldnotes. As part of the findings, yet keeping school and faculty anonymity, I included a detailed setting and history of the
secondary PLC since its inception in 2004. This cyclic process provided a synthesis of
the process of implementing collaboration in a Midwestern PLC setting.

Ethics/Trustworthiness/Validity

To guide this case study I used ethical principles for conducting qualitative
research as defined by Merriam (1998) and Creswell (2003). I submitted my study
proposal for IRB review and gained approval via email notification on April 12, 2010 to
conduct research for one year. In addition, I obtained permission in writing from the
River School District superintendent and Shermer High School principal prior to seeking
IRB approval. I used hand delivered letters to personally invite twenty-three purposefully
selected teachers to participate. After full disclosure of the parameters of the study and its
role in my doctoral program, I acquired a signed consent form from each of the seventeen
faculty members agreeing to be a part of the case study.

Moreover, I understand the extreme importance of confidentiality in my research.
Signed permission slips from all participants are only part of the needed regimen.
Because I was doing an emic study, I first established trust in order to gain rapport that
allowed for honest and free speech. Participants must feel safe in the study environment. I
employed pseudonyms for all participants; at no time was any document identified to an
individual, team, or the school. Member checking assisted in ensuring the trustworthiness
of the study. Furthermore, I stored interview transcripts, observation field notes, and
other documents obtained for data analysis in a locked, fire-proof cabinet in my home. As
the instrument of data collection, I maintained a personal commitment to balanced and
credible analysis, seeking only to answer the research questions posed.
Delimitations

Delimitations narrow the scope of the study (Creswell, 2003). A delimitation of this study was only one suburban Midwestern high school provided input. Additionally, the case study used only archival data since 2006 and not all subject area collaborative teams were studied. Finally, my case study focused only on team learning phenomena.

Limitations and Biases

Limitations of qualitative research focus primarily upon potential weaknesses of the study. Positionality could have biased my interpretation of what participants are revealing: I am a non-tenured teacher at this school. This “backyard research” could have compromised my ability to disclose information and thus compromise the validity of the study (Creswell, 2003). A challenge for me was to combine participation and observation so as to become capable of understanding the process as an insider while describing the process for outsiders (Merriam, 1998). Trust building was essential to establish a rapport that allowed participants to openly express their thoughts without fear of administrative repercussion. Furthermore, I had to take care so participants’ voices were heard. Following the directives of Krueger and Casey (2000), it was important I remain open to unexpected information by way of open-ended questions. Thus, I used open-ended questions to foster the discussion of a variety of topics. Since qualitative studies cannot be truly replicated, I followed Merriam’s (1998) advice and maintained an audit trail to provide in detail how data were collected, categories derived, and decisions were made throughout the study.
Summary

This inquiry was designed to explore the evolution of teachers through their immersion in collaboration in a PLC setting. One secondary Midwestern professional learning community, Shermer High School, was researched using a qualitative case study design. While there is not a large body of knowledge, there are significant studies about how PLCs function and their positive impact on staff and student learning (Hord, 2008, 2009). We still have much to learn, however, about PLCs and teacher evolution through collaboration. This study hopes to provide outsiders with explicit knowledge of the learning processes of teachers when immersed in a collaborative environment and might also build substantive theory on how collaborative learning processes lead to teacher evolution.
CHAPTER FOUR

DATA COLLECTION

Inspection of Data and New Learning

This chapter will provide results from an inspection of the data collected on Shermer High School. The first part of the chapter presents the setting of Shermer High School followed with a chronological history of its Professional Learning Community (PLC) implementation process during 2006-2010. Through the use of archival data and member checking, Shermer’s journey towards becoming a PLC is unfolded. During the process of examining related literature, best practices, and considering my interest in collaborative learning, I developed the following grand tour question to guide my qualitative research study: What are the themes and concepts identified from secondary teacher stories about their professional evolution; what moves teachers forward from isolation to collaboration? With a focus on the changes collaboration initiated and supported, I identify motivating factors as well as barriers to the PLC implementation process. Following the uncontested historical data, I focus inward and discuss my role as participant researcher.

Next I introduce the case study participants as I re-story individual teacher reflections found in archival documents and told in individual and focus group interviews. Here I relate their actions and evolution as part of the PLC process. Finally, I discuss the coding of data and its reduction to themes. Throughout, the new learning process is related to research literature.
Case Study Setting

Located in an all-American Midwestern city that oozes American history, Shermer High School has continuously operated since 1895. Set high on a hill in a small urban historic district, Shermer’s stately three-story red brick façade reflects the river city’s architectural genius. However, much of the surrounding neighborhood of sloped and narrow streets mirrors not the glory of the past, but current economic woes: homes in disrepair, litter, and graffiti. The river city has left downtown and expanded into suburbia eastward. Yet Shermer continues to thrive. To maintain adequate facilities, Shermer has had three major renovations, the most recent in 2002. Over 1,500 diverse students crowd the nearly four miles of polished and freshly painted hallways. Distributed among 10 academic departments are 103 certified teachers. Shermer’s cultural value of knowledge is evident in the large signage recognizing regional and national academic accomplishments of students and teachers. Examples of student work from all ten departments are hung on every available surface. Moreover, Shermer houses one of the oldest National Honor Society charters in the nation. Classrooms reveal current technology often paired with outdated furniture: iPODS and MAC laptops on worn oak desks. Everywhere Shermer is a blend of old with new.

Chronological History of PLC Implementation

Shermer High School committed to its journey as a Professional Learning Community (PLC) in 2004, but mandated collaboration was not initiated until the beginning of the school year in 2006. Mandated collaboration was the result of Shermer’s request to River District to approve a late start calendar, thus allocating scheduled time for teacher collaboration. What I discovered in archival data was Shermer had been
merely saying it was a PLC, but it was more like, “we were told we were one. Nobody took a vote.” In the August 2006 faculty meeting, the new principal asked the faculty if they “should ditch the concept.” Faculty response was, “No! We just need permission to understand what it means and try and do it right.” Thus began the third year of Shermer’s PLC model.

Teachers at Shermer decided how to organize the composition of collaborative teams and agreed to commit to bi-weekly Collaborative Monday meetings as well as three planning periods per month to Job Embedded Professional Development (JEPD). Collaborative teams were also given the responsibility of deciding 8-10 essential outcomes per semester derived from teacher knowledge of curriculum. Teachers also agreed on when and how to establish a baseline that would create a data picture on where the students are today. Meeting the challenge to create a paradigm shift, teams also agreed to create two common assessments, beyond the baseline. Department Instruction Plans (DIPs) were now designed to move the PLC forward.

Du Four’s *On Common Ground* (2005) was used as the main faculty PLC resource. Three big ideas were to drive Shermer as their PLC tenets: a) ensuring all students learn, b) establishing a culture of collaboration, and c) focusing on results. Other resources available to teachers were curriculum guides, national standards, ACT assessment frameworks, departmental vertical articulation, data on past student performance, examples of student work, workplace skills and the curriculum framework for high performing schools. Teachers at Shermer quickly voiced concern: “How are we going to ensure that all departments, not just core, are part of the work we do?” Overall the faculty expressed, “we need to bring the big picture into focus.” Another concern was
how would all departments, not just core, be a part of the work done together? During the first semester of 2006, frustration and confusion ran high regarding doing things that didn’t make sense. Faculty demanded “no more jargon.” Teachers needed to first learn what really good essential outcomes looked like before they could create them. Faculty wanted to understand the “difference between working harder and working smarter.”

Research shows for most teachers, time is currency, and like currency, few are willing to give it away. Notwithstanding, teachers declared, “Give me interesting work; make me feel part of the team; make my time at work valuable, so I can have spare time to do other things.” Notably, facilitator team meeting documents indicated, “teachers would be enthused to feel part of something bigger than departments.” Overall, early concerns over collaboration were cleared up by distinctly framing expectations. As teachers became more comfortable, first responses were less emotional: “honest conversation rose to a more intellectual level.” There was power in conversation. Teachers were stretching, challenging: the learning was causing disequilibrium.
Collaboration

A critical element of Professional Learning Communities (PLCs) is the use of scheduled collaborative time for teachers (Du Four, R. 2004). In 2007 the River District set aside collaborative time for teachers in each school to focus on teaching and learning. These mandated team meetings provided both space and time for teachers to focus on conversing, listening, clarifying, problem-solving, decision-making, trusting, and risking. Collaboration refers to the various ways teachers work together: consider a continuum that ranges from teachers working in isolation, to stages of collaboration characterized by teachers first getting to know each other personally, to a sharing of activities over student learning, culminating in a deprivitization of practice. Research demonstrates mandated

Figure 5. Shermer High School Professional Learning Community (PLC) implementation process cycle chart.
collaboration provides teachers the time to gather and use data to inform and improve best practice while building shared knowledge. Importantly, collaboration also provides an opportunity for clarification of what must be learned individually and collectively. In a letter dated, February 12, 2007, the River District superintendent reflected, “collaboration was the vehicle for decreasing the isolation of teaching and increasing learning for all of us investing the time required to speak, listen, and learn.” The superintendent continued, “Collaboration should be a culture in our organization, whatever our role.”

Leading the district, Shermer High School implemented Monday Collaboration in 2006, setting aside time in the school schedule by means of a bi-weekly late start. Activities referred to in archival data included spending time on teambuilding, creating a school vision, development and analysis of common assessments, work on curriculum, planning for individual student learning, book studies, and working on Departmental Instruction Plans (DIPs). Agendas or team protocols, created by the principal and the leadership team, served to focus the collaborative groups. Because teachers were teamed according to specific course taught (i.e. band, studio art, debate), the initial collaborative teams reflected some teams with only two members, while others had as many as eleven. In 2007, collaborative teams consisted of an entire curriculum department (i.e. fine arts, math) as one team, the smallest having four members, the largest thirteen. Collaborative team facilitators provided the agendas to their respective teams on the scheduled meeting date. It should be noted that Shermer’s collaborative team facilitators were elected by their department peers, and chairs could not serve in the position. The team leaders, called Community Facilitators, were a “critical element to the new structure of shared governance.” Focused on Shermer’s three PLC tenets, the facilitator team was dedicated
to helping make sure Shermer was in pursuit of an authentic professional learning community. It was imperative that all team actions fit Shermer’s needs. Shermer’s faculty desired to be a “real community”, not “just a bunch of smaller communities (departments) who are in the same building.” As expected by the principal, it took many more open discussion all-faculty meetings to find areas of commonality and clarify Shermer’s thinking.

Creation of Collaborative Teams

According to Erkens (2008), collaborative teams have “hardware and software:” hardware being goals, products and strategies with software being beliefs, behaviors, and relationships. The first item on the first Monday collaboration agenda, dated September 11, 2006, was for teams to meet and address a hardware issue: identify their common purpose. Second, teams shifted to the software mode and discussed why norms were necessary and then created a set of norms which included procedural details such as where meetings would occur. An overarching theme that emerged from inspecting the teams norms was the desire for “meetings to be open, and we are free to discuss with others.” The majority expressed the importance of confidentiality: “. . . what is said in the meeting stays in the meeting.” Most of the teams noted they would “seek consensus,” with one team establishing, “We will handle decision making via majority rules then seniority.” All teams “expected participation,” with one team qualifying the participation as “per administration mandate.” Another team emphasized it would “do whatever it takes to support each other.” Three of the 23 teams did not create norms.

Subsequent team protocols for the first semester of 2006 included items like: defining essential outcomes, creating and implementing baselines, explaining the process
of using data to underpin outcomes, examining data packets, and collecting artifacts. A form for taking minutes was provided to each team. Minutes, turned into the principal’s secretary, included a list of attendees and questions in need of clarification. Minutes served to provide a process time-line for the administration, as well as the group. The agenda support, team norms, and minutes proved to be strength in the PLC process.

**Staff Collaboration 2006-2007**

Staff whole group activities in 2006-2007, designed to create a building-wide instructional focus, and were generally reviewed with an attitude of “we’re in it together.” A non-core teacher reflected, “… the more communication between teachers, the more insight we gain on how to collaborate.” Another teacher commented, “… put us all on the same page/same terminology.” Other teachers added, “… established a consistency among teachers; … could see what the building as a whole was achieving.” Yet there were some dissenting opinions, “… lack of school-wide teamwork; some are in it for themselves.” One teacher voiced, “We have a disconnect between what we want and what we are willing to do.” Another veteran teacher aired, “We are told to work toward closing the gap, but middle class, educated, white me has no clue how to do that.” Collaboration as a process, rather than a checklist became a common understanding at Shermer.

Mandated collaboration created a bevy of teacher questions. Some centered on why some issues continued to be a struggle. Others focused on how to differentiate instruction, the conflict of mandated curriculum objectives and benchmarks, and attendance problems. Collaboration brought ideas: professional development on urban
issues, cross-cut the data, and the need to reflect. Teachers expressed the need to share what works, what is effective, and what transfers to results. One core teacher commented,

“Sometimes it takes a little sharing of what we know to get quality products. Some techniques do work better than others and there are folks who just may have that new idea to regenerate their delivery in the classroom.”

As expected, Shermer High School spent its first year analyzing data using whole group and small teams. Team norms were set and followed. Strategic, measurable, attainable, results-oriented, and time bound (SMART) goals for DIPs were written and modes of data collection initiated. Hard work was done in collaboration. Teachers had to first examine data packets and figure out the student data picture, draw conclusions, and then use the data to underpin essential outcomes. Teachers continued to back up and revisit their three PLC tenets “so that work could be done right.” For example, because of discussion that came out of collaboration, it became apparent that building-wide essential outcomes would be a better fit for Shermer than departmental outcomes would have been. By having building-wide focal points for instruction, Shermer students benefited from the consistency that came from all of their classes, across the content areas and grade levels. Collaboration time during 2006 moved to content-based best practice and an examination of student work that supported the three building-wide essential outcomes.

Administrative Walk-throughs 2006-2010

Administrative team building-wide walk-throughs were conducted quarterly during 2006-2007 to assess two things: general quality of instruction and student attentiveness. As a PLC, Shermer’s first goal was to change the traditional classroom model where the teacher was the only voice with students the passive information
receivers. The October 2006 inspection, held on three separate days, found in traditional classrooms “where lecture and worksheets were the only means for engagement, student attentiveness was low, as it was in those places where teachers had not shown the purpose for the learning to the students.” The team spoke to students in every classroom. Students in classrooms where no clear reason for learning had been established often responded with a shrug when asked if they understood what they were doing. When asked why, students often responded, “Because that’s what the teacher told us to do.” “Objectives were evident in most classrooms, but should have been evident in all of them.” In some classrooms, students were sleeping. In contrast, one classroom teacher had students particularly engaged. A student comment was, “she makes us stretch ourselves and what we think we can do.” The obvious ingredient in this classroom was the interaction between teacher and students. In classes where students were engaged, many questions relevant to the lesson were asked. Overall the team noted the need for higher level student engagement and a clear purpose for learning.

The December 2006 walk-through found great things: “more students were engaged in learning that included coding processes—and that students were able to not only explain what they were doing, but also why the strategy was useful.” The team was impressed to see the use of Marzano’s best practices in many classrooms. Teachers were working, trying, reflecting, learning, and trying again. Teacher collaboration was evident through the sharing of lesson ideas.

In January 2007, a building-wide walk-through was conducted to assess the level of inquiry students were asked to use, as well as to see how visible the instructional tools studied during mandated collaboration were implemented in day-to-day practice. The
team found students able to analyze similarities and differences. The comparison matrix was not “hit and miss,” it was visible in nearly every classroom building-wide. With the exception of one classroom, implementation of the new inquiry-based science curriculum was evident. Several teachers, working on National Board certification, discussed their evolving visions of what it meant for students to construct meaning and learn at deep levels. Shermer has met many challenges and through each teacher’s endeavors has become a stronger team.

Overall, in January 2008, the administrative team could “not stop speaking about the good work being done here.” Evidenced in the collaboration notebook, teacher shared public document drive, and school blog, Shermer teachers were making great strides in their accountability for learning. Room for growth came in the area of consistency. While the team found that the comparison matrix was an institutionalized strategy, they also reminded teachers that new instructional strategies needed to be revisited several times for students to know and understand how to use them meaningfully.

One year later, Shermer’s leadership team walk-through sought to measure the level of implementation of its professional development: how much of what they were studying was really reaching students and impacting both teacher and student learning? Also of critical importance, the team hoped to find demonstrated instructional consistency across the classrooms and visible evidence of instructional processes. What they found were Shermer’s faculty were able to walk, research, think, examine student work, and make improvements to instructional plans based on goals determined in collaboration. Shermer did not look this way three years ago. Collaboration was the engine driving Shermer’s faculty. In fact, Shermer now had a model uncommon in other
high schools. Elective teachers were told they were the “heart and soul” of the school, while core teachers were informed they carried the “burden of accountability.” The report closed the third year with the traditional “Rock Star” report: specific feedback regarding some faculty members and a celebration of the combined achievements of all. Shermer was attaining their mission: educating each child for success.

Leadership team walk-throughs continued to show growth: administrators left “without any doubt that had left a school doing flagship work.” Highly focused work was being done at the departmental level to improve student learning in each of the content areas. This “laser-focus” was not evident in other district high schools. There was also ample evidence of work on district and building level instructional strategies. “Really, there was nothing that they saw that wasn’t impressive. The amount of active learning was notable. What was probably the most impressive was the “change in culture and climate” at Shermer. By working together with their district departments, Shermer faculty expanded opportunities for collaboration and were able to pool resources. In a building with a “tone of teaching and learning,” faculty were building a school that demonstrated high levels of academic expectations.

Testing results provided by the state in fall 2010 were cause for celebration. Shermer students had outscored the district and most of the state. End of course exams showed a fifty per cent improvement in Algebra and Communication Arts scores. International Baccalaureate Programme students, in their first year of testing, earned near perfection: six out of a possible seven. Considering over one-third of Shermer’s students were classified as Free/Reduced Lunch or at poverty level, these achievements were a milestone. On another note, at the end of this five year PLC cycle, Shermer was also
realizing nearly a fifty per cent turnover in faculty due to budget cuts and retirements. Despite the accolades — Shermer now had to revisit and re-focus on the mission to maintain their changeless core (Covey, 2010).

Relationship of Researcher to Research

I am currently an insider: a non-tenured third year teacher at the case study school. Creswell (2003) points out this “backyard research” could compromise my ability to disclose information and thus compromise the validity of the study. A challenge for me was to combine participation and observation so as to become capable of understanding the process as an insider while describing the process for outsiders (Merriam, 1998). Even though I was a staff member, I discovered, to my surprise, teachers were at first reluctant to participate in the study due to privacy concerns. Trust building became essential to establish a rapport that allowed participants to openly express their thoughts. Informal conversations and member checking throughout the study assisted in increasing participant trust. Moreover, I quickly realized, since I was a new hire, I had missed a few of the implementation steps that were essential to the PLC collaboration process. The knowledge gap created a frustration for me, and I realized other new hires might also be feeling such frustration. This led to my first epiphany: the PLC implementation process needed to continually double loop learn (Nonaka, 1991).

Participants: Cast of Characters

I began my case study in April 2010. My first step after purposefully selecting and obtaining verbal agreement from each of my participants (discussed in Chapter 3) was to initiate the interview process. Following IRB protocol, Informed Consent paperwork was completed for each teacher who agreed to be a part of the study. The
process took ten school days, longer than I had expected. Because it was the end of the school year, it was difficult to find convenient times to meet with other teachers due to semester testing schedules and year end school events. The teacher mood was, please--not another thing to do. To better allow for teacher reflection, a list of interview questions was delivered dually: hand delivered and through asynchronous Internet applications (email) before teachers left for summer vacation in May. These pre-determined interview questions were used to facilitate teacher recall of collaborative stories as well as help guide the face-to-face interviews scheduled later in August. The asynchronous Internet interviews were based upon the questions located in Appendix G, while the twenty minute follow up interviews were informal conversations conducted using open-ended prompts to allow for opinions and questions to flow in any direction. Face-to-face and email venues were used to elicit further discussion as needed to clarify participant stories.

At each step of the interview process, participants expressed concern with the maintenance of their anonymity. Each participant, as well as the school, was given a pseudonym and all documents were blinded throughout the data collection process. The face-to-face interviews were transcribed and a copy of each transcription was given to each participant to check for accuracy. Interviewee involvement helped to establish trust while minimizing the possibility that a participant would feel they had been misrepresented.

*Interview Participant Demographics*

A stratified chart was used to purposefully select participants to invite (Creswell 2003). Shermer’s total teacher population was first placed into sub-groups according to age and years of teaching experience. The strata used were mutually exclusive: a
potential participant could only be assigned to only one stratum. Random sampling was applied within each stratum. Using this method improved the representativeness of the sample by reducing sampling error. The stratified chart also helped guard against an unrepresentative sample: for example, having participants who were all under thirty years of age.

Twenty-three teachers, selected from a stratified chart of 89 possible high school teachers, were asked to participate in the case study. Due to extensive academic commitments, six teachers chose not to participate in the study. Seventeen of the twenty-three invited teachers agreed to participate and signed consent forms. Five of the teachers were under thirty years old and had taught less than ten years. Seven teachers fell in the 30-45 years of age category and had taught 10-20 years. Five teachers were over 45 years of age with three teaching over twenty years and two with 10-20 years of teaching experience. One teacher 30-45 years of age taught less than 10 years. The seventeen participants provided a range of insight from the subject taught, age, and years of experience: mirroring Shermer’s faculty demographics.
Table 2

*Stratified sampling chart for purposeful participant selection for case study.*

<table>
<thead>
<tr>
<th>Strata</th>
<th>Criteria</th>
<th>Selected</th>
<th>Pool Possible</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>Under 30 years</td>
<td>5</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>30-45 years</td>
<td>7</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Over 45 years</td>
<td>5</td>
<td>26</td>
</tr>
<tr>
<td><strong>Years of Teaching Experience</strong></td>
<td>Less than 10 years</td>
<td>6</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>10-20 years</td>
<td>8</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Over 20 years</td>
<td>3</td>
<td>23</td>
</tr>
<tr>
<td><strong>Total Participants</strong></td>
<td></td>
<td>17</td>
<td>89</td>
</tr>
</tbody>
</table>

Audrey, James, Bette, Diana, Angelina, and Julia had taught less than 10 years at Shermer High School. All, except Angelina, were under 30 years of age. An Alternate Certificate teacher, Angelina fell into the 30-45 years of age category. Annie, Johnny, Gene, Sophie, Jack, Sigourney, and Paul had all taught 10-20 years and were 30-45 years of age, while Meryl was over 45 years with 10-20 years of teaching. Veteran teachers Faye, Rosalind, and Katharine were over 45 with over 20 years of teaching experience.

**Interview Questions**

Five individual interview questions were developed to assist in investigating teacher evolution through their pace, rate, and breadth of professional change. The first two interview questions were written to set the interviewee at ease (Seidman, 2006).
Following Meriam’s (1998) advice, the following three interview questions were broad, open ended, and study-related. The interview questions were: a) What would be your metaphor for collaboration?; b) Take me back to your first day at Shermer, how has your teaching style changed since then?; c) Tell me a few stories that illustrate your collaborative learning journey.; d) Tell me about how, when, and with whom you collaborate.; and e) What piece of learning as part of your collaboration has had the greatest impact on your instructional practices?

My original research plan involved conducting participant interviews in late April and May. However, due to extensive year-end activities and academic testing obligations, teachers asked to be interviewed in the fall: they could not juggle another task. Following participant request, I opted to provide the interview questions to participants at the end of the 2009-2010 school year to enable a better opportunity for reflection over the summer break. The interview questions were delivered by hand and through email. I asked participants to forward responses to me prior to their individual fall 2010 interview by using asynchronous internet applications. The interviews, conducted in August and September, followed Creswell’s and Merriam’s interview protocols. With participant permission, I chose the name of academy award winning actors and the characters they portrayed as pseudonyms for teachers participating in the study. To further protect participant privacy, interviews were audio recorded, but not videotaped. Interviews were transcribed verbatim. To increase trustworthiness, I read a script concerning interview protocol prior to each interview (Appendix G). Furthermore, I conducted member checking to verify the accuracy of the transcripts and confirm for each participant that their stories were portrayed as intended (Krueger & Casey, 2000).
Interview Settings

Fifteen of the seventeen participants chose to complete the pre-interview questions over the summer break or during the first week back at school. The responses were returned via the asynchronous internet application of email with the exception of one which was placed in my school mailbox. The participants chose this method because it allowed time for reflection. Furthermore, it allowed for flexibility: responses could be emailed at anytime throughout the summer. The choice of asynchronous application proved to be helpful to me as well, because I was allowed to have think-time before responding to the participants. This application allowed me to get reactions from one participant and review those responses prior to the face-to-face interview. This process also provided me the catalyst to ask the other participants similar questions throughout the interview processes. The end result was an interactive interview process (Seidman, 2006). The interview process of exchanging multiple emails coupled with face-to-face interviews resulted in a study with thick, rich description (Merriam, 1998).

I originally planned to conduct the initial twenty minute face-to-face interviews during August and September, after school in my large air conditioned room at Shermer High School in order to keep the data collection bounded within the context of the study (Creswell, 2003). However, due to teachers’ schedules, and at their request, fourteen of the seventeen face-to-face interviews were conducted before or after school in the participant’s classroom. Follow up interviews and member checking of transcripts were conducted in early September 2010. During all interviews, participants sat in plastic student chairs around a Formica topped table. Refreshments were not served; teachers
brought their own water or coffee. The day after the interview I sent a plate of gourmet pastries to the participant with a thank you note.

The interview setting was kept casual by being held in a classroom as opposed to the conference room. We first talked about personal events and I reassured each participant that all names would be deleted from the transcripts. Before beginning the questions, I again asked permission to audio-record the conversation. Two participants remarked they were glad the interviews were not video-taped because they did not feel comfortable in front of a camera. The participant led conversation flowed easily. Being a participant researcher may have been an advantage: trust was already established. Teachers talked openly. At the end of one interview, the participant commented, “That was painless. I feel like we didn’t talk long.” In reality the interview had lasted nearly thirty minutes.

Collaborative Team Observations

Observation by immersion allowed me to see how participants responded to events as they happened. Through participation, I saw “first-hand” how “meanings emerge through talk and collective action and how understandings and interpretations change over time” (Merriam, 1998, p.4). I observed two district and five local level department collaboration meetings during April, May, August, and September. District meetings were held after school, while local department meetings were held bi-weekly on Monday mornings. During the observations, I took open jottings of scenes, observed action, and dialogue. Recording my initial impressions, these jottings were used to develop meaningful patterns. To keep impressions fresh, I began writing field notes immediately after the observation session had ended. The field notes allowed me to create
thick, rich description through texture and variation, thus avoiding the flatness derived from generalities.

*District and Departmental Collaborative Team Observations*

Both district department collaboration meetings, held after school, provided delectable snacks: five varieties of cheesecakes and cookies, fresh strawberries and melons, and assorted nuts. Teachers filled their plates; refueled, they were ready to get to work. Teachers chose to sit intermixed: not by school or subject taught. Laughter filled the air. Everyone was talking and moving around the room to meet and greet others. The atmosphere was one of storytelling with an eagerness to communicate. When the meeting began, teachers became quiet and respectful of one another. There was almost no side talk and absolutely no interruptions. Demonstrating a sense of trust, teachers talked openly about concerns: budget, class assignments, and technology. Questions focused on clarification. Teachers first collaborated as a whole group and then broke into smaller, grade or subject-level groups. Chairs were slid away from tables and teachers leaned in towards one another focused on the speaker. Throughout the meeting, teachers re-filled their plates, yet stayed on task. When the meeting ended, teachers lingered. No one seemed in a hurry to leave. Teachers moved to new groups and continued to tell stories and share examples of student projects. One teacher commented, “I always leave with something I can use tomorrow.”

My observations of five local department meetings yielded similar results. Department collaboration was casual, yet followed an agenda. Teachers stayed on task. DIP instructional project strategies were discussed and clarified. Teachers held each other accountable: student artifacts and/or data were presented for group analysis. Feedback
was positive and constructive. Active listening to each other was observed through body language and lack of cell phone use. Teachers arrived early or on time to the meeting. On three occasions teachers met until the bell rang for class. On those occasions, teachers ran out of time. Facilitators told teachers to “email questions about anything that needed clarifying.” Snacks were not served, except on one occasion where the Facilitator brought donuts. Coffee or soft drinks were the norm. Teachers sat around long tables, randomly dispersed among subjects taught. Relationship building was important: each meeting ended with the individual sharing of personal celebrations. Observations of district and local department collaboration meetings left me with the same overarching feeling: “There was a strong sense of community, a culture of collaboration.” Teaming was successful with teachers reporting a positive work environment: responsibility and decision-making were shared (Keiffer-Barone & Ware, 2002). Words and actions demonstrated collected efficacy or a spirit that “we can do this together” (Langer & Colton, 2005, p.25).

On the other hand, the issue of late paperwork resounded at every observation. Facilitators reminded teachers to turn in reflections and project data. One facilitator commented, “Remember we do not like late work from our students; we must be the role model we seek our students to be.” Another facilitator told the group, “[the principal] keeps track of who [departments] turns things in. If yours are not in, turn them in ASAP!” Teachers expressed confusion concerning the turning in of paperwork. One remarked with surprise, “I turned them in the day we had PD.” Another remarked, “Do we have to turn this in to district and department?” Facilitators continued to express the need for the
collected evidence to be turned in on time. Teachers continued to express their confusion of “who gets what.” Resolution of this problem did not appear to happen.

Data Analysis

Merriam’s (1998) constant comparative method of analyzing participant’s transcripts was employed for data analysis. This included mining through the conversations as they transpired, probing further and adjusting the questions as needed based on previous participant comments, reading through the completed conversation transcripts for an overall feeling of the conversations, identifying significant phrases from the conversations, and then identifying the emerging stages common to all participants’ responses. Four years of archival documents were inspected and stages identified. Finally, literature was consulted about each theme as it emerged to provide a richer examination of the emerging stages.

First, using colored highlighters, I coded each transcript. Next, I transferred each coding to Post It papers. The Post It papers were then placed on the walls in my office and continually re-arranged as categories emerged. In the end, four main categories emerged, all having ties to the conceptual underpinnings of the study. The first three stages, knowledge creation, collaboration, and teacher empowerment, conveyed an in-depth look at the phenomenon of teacher evolution while immersed in collaboration within a Professional Learning Community while also revealing the final evolutionary stage, deprivitization of practice.
Quality was controlled by ensuring external and internal validity of the study. This was done by using multiple qualitative research methods: individual and focus group interviews, collaborative team observations, and the mining of archival documents. In order to ensure respondent safeguard, I sought IRB and school district approval, issued consent form letters to all participants stating their rights as participants of the study, and collected informed consent forms from all participants prior to pursuing interviews. In order to ensure validity I utilized member checking with all participants, triangulated data, used adequate sample size, interviewed until saturation of data was achieved, and employed the use of thick rich description of the phenomenon (Creswell, 2003, 2007; Merriam, 1998). For reliability purposes, I stated my biases as a participant researcher (Creswell, 2003, 2007).
Research Findings

Open and Axial Coding to Create Stage Development

From the mining of four years of archival data, seven observations, and seventeen face-to-face interviews conducted, 324 significant statements were extracted using open and axial coding methods. Table 3 illustrates through example significant statements, the resulting four stages of teacher evolution.

Table 3

Resulting Stages and Corresponding Significant Statements.

<table>
<thead>
<tr>
<th>EVOLUTION STAGES</th>
<th>SIGNIFICANT STATEMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1: Knowledge Creation</td>
<td>Instructional strategies have been insightful</td>
</tr>
<tr>
<td></td>
<td>I am more reflective</td>
</tr>
<tr>
<td></td>
<td>Brainstorm</td>
</tr>
<tr>
<td></td>
<td>Talking through problem to find solution</td>
</tr>
<tr>
<td></td>
<td>Powerful and underestimated</td>
</tr>
<tr>
<td>Stage 2: Collaboration</td>
<td>Accountability and professionalism</td>
</tr>
<tr>
<td></td>
<td>I cannot think about doing it any other way</td>
</tr>
<tr>
<td></td>
<td>We are all connected</td>
</tr>
<tr>
<td></td>
<td>Building collaboration has had profound effect</td>
</tr>
<tr>
<td></td>
<td>I have input</td>
</tr>
<tr>
<td>Stage 3: Empowerment</td>
<td>I became a leader</td>
</tr>
<tr>
<td></td>
<td>More confident; opinion valued</td>
</tr>
<tr>
<td></td>
<td>Taking more risks</td>
</tr>
<tr>
<td>Stage 4: Deprivitization of Practice</td>
<td>I never saw other teachers before</td>
</tr>
<tr>
<td></td>
<td>Gathering and sharing data</td>
</tr>
<tr>
<td></td>
<td>Working together to meet goals</td>
</tr>
<tr>
<td></td>
<td>My department is very close</td>
</tr>
<tr>
<td></td>
<td>Share as much as I can</td>
</tr>
</tbody>
</table>

Evolution Stage 1: Knowledge creation. In every organization the creation, dissemination, evaluation of knowledge is imperative for continued change and growth.

As Nonaka (1991) stated, “In an economy where the only certainty is uncertainty, the one
sure source of lasting competitive advantage is knowledge” (p.96). This competitive edge, essential for survival, was demonstrated by teachers immersed in collaborative teams at Shermer High School: knowledge was created, disseminated, and evaluated within. However, it is important to remember new knowledge always begins with an individual (Nonaka).

For knowledge to be created and learned individuals must be committed. Teachers at Shermer High School demonstrated their commitment by embracing the learning tasks given to their collaborative groups. Critical to the development of the PLC, explicit to explicit knowledge, an exchanging of formal knowledge through collaborative meetings became the foundation of whole group and district collaborative meetings. During whole group collaboration explicit, formal and systematic knowledge, was gained. Instructional strategies were introduced. Group data analysis coupled with book studies served to further the teachers’ growth. Shermer began to grow by creating new knowledge.

Explicit and Tacit Knowledge

The process of explicit to tacit knowledge, the internalization of formal information, began at bi-weekly departmental meetings. Here a double loop learning process was initiated. The socialization or exchanging of knowledge through observation, imitation, and practice became visible in departmental meetings. This powerful sharing of tacit to tacit personal knowledge served to build trust and deepen the connections of team members. Teachers implemented their new tacit knowledge, deepening their knowledge. Paul explained this, “Since our PLC began, I have implemented different initiatives and they have become part of my teaching palette.” Angelina described her journey in a similar fashion, “I have been able to learn about
different activities that other teachers use in their classrooms. For the most part, these activities are now part of my own arsenal and I am grateful that I have learned about these new activities.” Roy stated, “Before my tool belt was pretty empty; I have worked really hard to find just the right tool.” Bette’s interview yielded a similar statement, “the tools [instructional strategies] we have been given have been insightful.”

*Spiral of Learning*

The interaction and continuous shift of learning created a spiral of learning evident throughout the entire school. Knowledge was moving back and forth (Nonaka, 1991). Over time, tacit knowledge shared through team interaction evolved to the learning process of tacit to explicit, the externalization of knowledge. Here dialogues extended beyond the team, innovation emerged, and teachers began to reinvent themselves as well as Shermer (Nonaka, 1991).

Communication is essential to the growth of new knowledge (Senge, 2008). Teachers met bi-weekly to brainstorm instructional strategies, set goals, and examine artifacts. Effective communication between teachers was clear in the interviews conducted. Audrey describes her team, “I feel we do a really good job of bouncing ideas off each other and get a really good idea of what is going on in the other person’s classroom.” Gene mirrors the sentiment, “I knew I had a sounding board for my problems and a great resource to help me find solutions to those problems.” Katherine added, “We got together often to discuss lessons the students would be working on and gave a lot of quality ideas to each other. We brainstormed; we discussed lessons that didn’t work and ways to change them and also gave each other new ways to present them.” Conversation was vital to learning (Bruffee, 1993).
Feedback and reflection are essential to learning (Donaldson, 2008). Furthermore a reflective learner is far more productive when focused on a goal. Mezirow (2002) states the purpose of critical reflection is “to uncover submerged power dynamics and relationships” (p.138). This shift in “one’s assumptive tectonic plate” is critical for teacher evolution (Mezirow, p. 139). Reflection is a requirement for all Shermer teachers. Teachers submit written reflections after each instructional strategy implementation cycle. Reflections are also part of each book study. Bette described teacher reflection, “I believe true teachers reflect on a daily basis, naturally.” However, she added, “In collaboration it [reflection] is too formal, it’s very repetitive—fake.” Diane offered a different opinion,

“I was pushed to question and reflect about the decisions that I was making, especially the type of assignments I was giving to my students. It really put me in an uncomfortable position because this was the first time I had ever had anyone challenge me to do better!”

Paul addressed reflection as “…looking at what I do; I face an ongoing struggle to implement.” Six teachers stated they were more reflective because of collaboration.

Nonaka (1991) also states redundancy is the first step in managing a knowledge-creating organization.

“Redundancy is important because it encourages frequent dialogue and communication. This helps create a common cognitive ground among employees and thus facilitates the transfer of tacit knowledge. Since members of the organization share overlapping information, they can sense what others are
struggling to articulate. Redundancy also spreads new explicit knowledge through the organization so it can be internalized” (Nonaka, 1991, p.102).

The repetition of knowledge is evident in the implementation of instructional strategies that have become institutionalized over time. At Shermer, archival data revealed the institutionalization of several instructional strategies: G Sprite, science data logs, and the across-curriculum comparison matrix.

All quality organizations evaluate their programs to access the level of performance and determine where they can improve. Consistent evaluation and correction allows them to stay on the cutting edge of learning. Goals are integral in the evaluation efforts. Shermer’s collaborative teams were results driven with a laser focus on data. In his interview Jack described the process: “There is a community between the whole, we all come together, get on the same page. We have a shared goal we are trying to achieve.” Angelina offered a story,

“I have found collaboration to be strong and genuine. We approached the development of the unit together, applied it together, shared its success with each other and revised the format for next year. The result of this collaboration has led to greater students’ involvement and learning.”

Jack shared his change in teaching performance, “Teaching is easier using instructional strategies; I no longer teach the traditional way . . . lecture.”

*Teacher Behavior*

Professional learning must be evaluated by results that are evident on several levels. Teacher behavior is one of those levels. How teachers change the way they work is a result of their learning. At Shermer High School, collective learning for the entire
staff was driven by clear goals that emerged from examining student data (Curry & Killion, 2009). Teachers learned and worked together to build common knowledge to establish a foundation upon which individual teachers or teams of teachers could add their own experiences to shape the learning within their own classrooms (Curry & Killion). For collaborative teachers, learning was not a linear path, but a continuous double loop of gaining knowledge, sharing knowledge, and assessing knowledge to gain a new perspective on the knowledge. Collaboration was the continuity in learning.

**Evolution Stage 2: Collaboration.** The theme of collaboration refers to the various ways teachers work together in PLC activities. Collaborative activities at Shermer High School included analysis of data in whole and small teams, the development of SMART goals, and cooperatively developed activities towards specific goals. A critical element of collaboration is the use of collaborative time for PLC goal focused activities. All of the teachers interviewed shared individual experiences of working with other teachers and agreed Shermer’s focus on PLC provided time to collaborate and that during collaboration time teams were laser focused. However, several teachers felt collaboration outside of the scheduled bi-weekly time was most beneficial.

On the other hand, Annie stated she “shares as much as she can” but felt collaboration was linked to “proximity and luck.” Diane concurred, “I collaborate through discussion during the school day with teachers from my department who are located next door to me, usually during conference periods and passing periods.” Julia added, “I collaborate with my peers on a regular basis outside of those special Monday’s. I collaborate with whom I feel comfortable.” Bette offered a picture of her department, “I
love my department so much. Honestly, my department is very close. We go out to dinner at least one time a month to collaborate.”

True collaboration is a gathering, a discussion, the sharing of ideas. Annie remarked, “It’s funny how you share ideas with people you trust and you like.” With departments open to the sharing of ideas, rapport was built and a “feeling of connectedness” exuded from each team. Teachers felt “inspired” by working together. Julia offered, “This collaborative time reassured me in the choices I was making already, as well as gave me new perspective and ideas for benchmarking.” James felt “the support and idea building which happened through collaboration had a profound impact.” He continued, “If anything, it has built rapport, and that is a powerful and underestimated part of being an educator.” Sigourney was supportive of James and added, “Sharing and discussing with other teachers is the norm in our building and a characteristic I believe is very powerful in changing and improving.”

**Whole Group Collaboration**

Generally department collaboration was found to be “strong and genuine.” Teachers offered that “collaboration was the logical thing to do if you want to change and improve.” Angelina was emphatic, “I cannot think of doing it any other way.” Annie referred to collaboration as “strength by numbers.” She related this story of shared ownership,

“Last year we did so much collaboration with [subject]. I don’t think we would have survived the year without each other. We just shared everything! Everybody just worked really hard. And we saw a change in scores this year, and I think it raised our expectations of ourselves. It’s like I know they are working hard and
they know I am working hard so they better bring something to the table because they know I’m gonna bring something to the table. It increases our professionalism and accountability.” She continued, “When I saw the scores [from the previous year] over the summer last year, I was mad—humiliated. I can’t have my school be embarrassing. They weren’t my kids, but I called the principal and asked what can I do? We can’t have these scores. [pause] [Aha moment] [smile] I guess I took ownership. They were my kids.”

When teachers become active in data analysis it becomes a goal they own and are invested in accomplishing (Du Four, 1994). In a PLC collaborative culture, a win for one would be exemplified as a win for all.

Teacher Data Collection

In sharp contrast, a majority of teachers found mandated whole group collaboration “not beneficial when not focusing on direct subject matter.” Audrey commented, I benefit more from collaboration when I am just working with my department co-workers for the simplest fact that they can relate to what is going on in my classroom and understand the new strategies.” Katherine concurred and added, “Our collaboration has taken an unfavorable journey. We have lost touch with what each other is teaching. I feel like we are focusing more on methods that we have been using for years, but now someone has decided they are important and we need to prove we are teaching in that manner. We have become robots.”

Paul asserted there was “stress from the paperwork process.” Bette felt the load of paperwork took time away, while James felt paperwork was an unnecessary complication. Gene concurred and added, “You gather data to send to some folder
somewhere else.” District walkthroughs received unfavorable reviews from most teachers interviewed. Paul related,

“There is a benefit in data. But there is also a danger. You take it out of context, see only a snapshot. There is a lot of stress, undue emphasis on walkthroughs. Maybe you get two minutes. You have to have things posted. Like who are we posting this for? Not our students [not like elementary school], they won’t read it. It can be a dog and pony show.” Paul continued, “We have to drag this war horse into the 21st century, if you will; there is a natural resistance to this. A tug and pull. An attitude of how the institution has been.”

The mining of archival data and collaborative team observations revealed many teachers turned in paperwork late or not at all. On the other hand, all observed classrooms had required artifacts posted.

*Teacher Change through Collaboration*

The purpose of collaboration is ultimately improved student achievement. But teacher interviews revealed that teachers believed they had become better teachers because of the PLC process. When asked how they had changed as a result of PLC processes, one teacher responded, “I have a much longer fuse when dealing with student problems. I look for a wide variety of ways to reach each student.” The majority reported their self-confidence had changed: they were “more confident on how to share the content area.” Teachers overall indicated the bar had been raised on some teachers because they saw a gap in their personal performance and that of their peers. At Shermer a synergy has developed: teachers are relying on each other. This shift to a culture of
collaboration has created a continuum: from team building to focused work on goals to
deprivitization of practice.

Evolution Stage 3: Teacher empowerment. When educators talk about
collaboration, they mean “shared decision making among colleagues and a sense of
synergy when they talk about common goals, problem solving and teamwork” (Johnson,
2005, p.37). Decision making plays a crucial role in teacher empowerment (Gonzales &
Short, 1996). According to Gonzales and Short (1996), teacher empowerment and
teacher participation in decision making “generates higher energy levels and increases
positive attitudes toward teacher performance” (p.211). Furthermore, teachers must feel
autonomous in order to accomplish their tasks. From the onset, Shermer’s principal acted
as facilitator, not principal. Teachers were the active participants in the decision making
process. Amanda describes her experience, “I have become more of a leader because of
collaboration. I have a brilliant department; they boost my confidence. I get affirmation.”
Jack simply stated, “I became a leader.”

Archival documents revealed that at Shermer the focus was to leverage the
combined knowledge, expertise, and experiences of each teacher to champion the best
interests for the students (Richardson, 2005). Empowered teachers assumed ownership
of both problems and solutions (Short & Rinehart, 1993). Ideas were not merely
presented and voted upon, but rather a consensus was established. School Improvement
Plans (SIPs) and Department Improvement Plans (DIPs) were devised by collaborative
teams and revisited after trial periods for updating and alterations as needed. Rather than
one controlling the group, collaborative groups listened to feedback from each other and
together decided on the optimum plan. Furthermore, teachers, placed in charge of formal
collaboration, became the implementers of change and therefore, more invested.

Angelina offered this metaphor for the collaborative process,

“I think about collaboration as an airplane with a pilot, co-pilot, navigator and passengers. In this case, passengers are the students we guide. The pilot, co-pilot, and navigator are teachers, staff and administrators who work together to ensure the flight is safe and reaches its destination. No one is truly above anyone else and everyone’s role is important in the flying of the plane.”

Final Stage: Deprivitization of practice. Teacher isolation, the opposite of collaborative teacher teams and PLCs, is one of the realities of most teachers’ experiences (Bunker, 2008). This tradition of isolation prevents shared decision making. Shermer’s PLC with its focused collaborative teacher teams counteracted this isolationism by providing a concrete means for conversation by establishing Collaborative Mondays. In her interview Rosalind confirmed this fact, “We are all connected now. In the past I never saw any of the other teachers . . . I really didn’t even know them.” Faye and Audrey heartily concurred, “Collaboration helped me not be so isolated.” Sigourney offered the following ideas,

“The previous culture was one in which I was on my own, and I was supposed to do what was needed in the classroom. I suppose there are pros and cons to both ideas [isolation and collaboration], but true professional collaboration has so many benefits. I think it pushes people to be more accountable, more comfortable in the classroom and not so isolated. It has truly opened doors to new ideas I would not have thought of on my own.”
At Shermer, collaborative teacher teams teach together, observe each other, and provide feedback to one another biweekly. Moreover, shared instructional strategies undergo cycles of group data analysis. Deprivitization also includes the sharing of common, formative, and summative (ACT and end of course exams) assessments. Teachers have learned to disaggregate data, not to compare teachers, but to identify teacher practices that resulted in increased student achievement. Louis and Kruse (1995) described this “peers helping peers” process as non-evaluative review of teacher behavior by colleagues as a norm in PLCs. Talbert and McLaughlin (2002) found teachers who teach in strong collaborative teacher communities reported their individualism or “artisanship” was enhanced by collaboration: they worked in groups whose members were committed to improved practice through shared and inventive repertoires of effective classroom practice. Colleague feedback and knowledge sharing was reported as essential to innovation.

Supovitz (2002) listed teacher engagement in the act of constructive criticism of instructional strategies as an attribute of teacher collaboration related to student performance. The structured collaborative time at Shermer allowed teachers to explore and reflect on the relationship between what they did as teachers and student learning. This engagement of reflective dialogue about practice with colleagues took teachers one step further in making teacher practice more public. Scribner (1999) defined reflective dialogue as teachers reflecting on and evaluating their professional practice through conversation with colleagues. Du Four (2004) supported this by defining a culture of collaboration as one that included professional dialogue where teacher teams engage in “an ongoing cycle of questions that promote deep learning” (p. 9). The reflective
dialogue conducted by Shermer’s collaborative teams served not only to enhance the achievement for all students, but to deepen teacher learning and stimulate their evolution.

Shermer’s increase in community counteracted the previously often reported isolation. Teachers had opportunities to “. . . meet without fear of being judged in informal, small groups of colleagues using their own student data to talk and make meaning together” (Champion, 2005, p. 62). James illustrated this,

“I am blessed to work in a department full of veteran teachers. When talking with them, they were unafraid to tell me when I was being unreasonable. Respect has been cultivated in our department. It is and will always be important to me that my opinion is valued and respected in collaboration.”

At Shermer teachers experience the value of learning from one another. Shermer’s teams are successful: teacher communities have a sense of a shared mission and a stronger investment in decision making and accountability. There is a collective efficacy, or a spirit that “we can do this together” as a result of professional inquiry (Kieffer-Barone & Ware, 2002, p. 25).

Summary

Teacher evolution when immersed in collaboration within a PLC was illustrated in Chapter Four through the examination four years of archival documents, seven observations, and seventeen face-to-face interviews. A second review of literature was presented as themes emerged through data analysis. Four stages of evolution resulted in: a) knowledge creation, b) collaboration, and c) teacher empowerment, and d) deprivitization of practice. Each of these stages was examined in detail and discussed in
chapter four. Chapter five will provide a summary of the study. Implications of the case study followed by recommendations for future research will conclude the paper.
CHAPTER FIVE
DISCUSSION

Introduction to the Study

The purpose of this case study was to begin to fill the knowledge gap about teacher learning by providing a document of the process of secondary teacher evolution when immersed in collaboration in a Professional Learning Community (PLC) setting. My study sought to understand how knowledge was generated and shared. The grand tour research question was, “What are the themes and concepts identified from secondary teacher stories about their professional evolution; what moves teachers forward from isolation to collaboration?”

Overview of the Case Study

The setting for my single bounded case study was Shermer High School, a large Midwestern secondary PLC. Twenty three teachers, from a possible participant pool of 89 full time teachers, were personally invited through a hand delivered letter to participate in the study. Due to extensive teaching commitments, six teachers chose not to participate in the study. The remaining seventeen participants, mirroring the faculty diversity in age and years of teaching experience, signed informed letters of consent. To achieve redundancy, data collection began with the mining of four years of archival documents. The mining of documents was an ongoing interpretive process of seeking meaning and developing explanations through double looping. The process continued until saturation was achieved.

Observations and interviews were conducted over a six month period. Interview questions were given to participants in May to enable them the opportunity for reflection.
Using asynchronous Internet applications and intra-school mail, participants forwarded responses to me prior to their face-to-face interview. All observations and interviews were held in classrooms at Shermer High School before or after school.

Participants were given pseudonyms of famous actors to protect their identities and provide accurate reporting of the data without possible harm to themselves or the people or issues which they talked. The school and district were also given pseudonyms, Shermer High School and River District. To further protect participant privacy, interviews were not video-taped. To increase trustworthiness, I read a script concerning interview protocol prior to each interview. Once interviews were transcribed verbatim, member checking was conducted to confirm participant stories were portrayed as intended.

Participant Researcher

I conducted the research as a participant researcher. Although I made efforts to review artifacts and comments with impartiality, prior knowledge and opinions could have colored my perspectives. Continual reflection and member checking helped to mitigate this bias. On the other hand, being a participant researcher proved to be an advantage when conducting interviews. As a result of personal experiences in collaboration, my understanding was tacit. I understood the importance of prior relationships and the willingness to engage in the process. Because of my tacit knowledge I was able to see commonalities. Most importantly, trust had already been established. The participant led conversation flowed without hesitation. Teachers related stories that might not have been told to an outsider. Furthermore, my prior knowledge of participants
provided context for follow up conversations in the semi-structured interviews. Specific questions were posed to deepen understanding of what they reported.

Purpose of Study

The case study was conducted to gain insight into the evolutionary processes of teacher change when immersed in collaboration. The research literature about PLCs, collaboration, individual and organizational learning provided guidelines for successful implementation. I wanted to study what one secondary PLC did to implement a collaborative learning community so their example might inform others. My study sought to tell teacher “sense making” stories about their learning experiences, growth, and evolution while immersed in this collaborative environment.

Making Meaning

The evolutionary stages of knowledge creation, collaboration, teacher empowerment, culminating in “deprivitization of practice” surfaced from the categorical aggregation of data to establish themes and patterns. The stages were used to categorize, axial code, and organize the reporting of the data. A second literature review was conducted as themes emerged. Theme development coupled with the secondary literature review produced several key findings worth highlighting before presenting the discussion.

- Knowledge Creation: A spiral of learning was created through the transfer of explicit to tacit knowledge. All teachers critically reflected on practice. Dialogues extended beyond the team and teachers began the process of reinventing themselves.
- Collaboration: Goals were owned and shared. Focused work was data driven. Trust was the essential element in collaboration. Teachers improved and expanded “tool belts.” Teachers did not see the value in administrative prescribed paperwork, walkthroughs, and whole group collaboration.

- Teacher Empowerment: Teachers, selected by their peers, acted as Community Facilitators. Teachers were active participants in decision making processes. Consensus leadership was established. Teachers stated, “I am a leader.” Teachers became implementers of change.

- Deprivitization of Practice: Focused collaborative teams counteracted isolationism. Common assessments were shared. Colleague feedback and reflective dialogue became essential. Teachers saw themselves as part of a family.

These key findings undergird the following discussion.

Discussion of the Findings

The case study was guided by the following grand research question, “What are the themes and concepts identified from secondary teacher stories about their professional evolution: what moves teachers forward from isolation to collaboration?”

The following five open ended questions were developed to assist in investigating teacher evolution during focus group and individual interviews: a) What would be your metaphor for collaboration; b) Take me back to your first day at <school name>, how has your teaching style changed since then; c) Tell me a few stories that illustrate your collaborative learning journey; d) Tell me about how, when, and with whom you
collaborate, and e) What piece of learning as part of your collaboration has had the greatest impact on your instructional practice? Questions were scribed to offer a platform where the participants could discuss openly any aspect of learning and collaboration. Subsequent probing questions followed to unearth more in-depth understanding of the phenomenon. Below, a metaphorical illustration and analysis serve to highlight the stages of evolution and their relation to teacher evolution through collaboration.
Figure 7. Illustration tornado metaphor and stages to deprivitization of practice.

Tornado.... Twister
Learning is not linear. Knowledge creation is a spiral of learning: a tornado.
Learning follows the same movement as the twister’s rotating columns of air—it
continually spirals up and down. At Shermer, this double loop process was initiated with the internalization of formal knowledge in collaboration. However, it was the sharing of the more powerful tacit to tacit personal knowledge that deepened the bond between teachers. This continuous shift in learning evolved to an externalization of knowledge: tacit to explicit. Sustained critical reflection and feedback, coupled with a laser focus on goals and data, served to challenge teachers’ assumptions. Redundancy allowed complete internalization of best practice. Shermer teachers began to change the way they worked. Knowledge creation set the stage for teachers to begin the process of reinvention.

*Multiple Vortices*

Collaboration has multiple vortices. Teachers collaborated during mandated arenas: Collaboration Mondays, JEPD, whole group. However, teachers stated they preferred to collaborate outside of scheduled times in a more social setting. Proximity and luck also played a factor. All vortices shared a common denominator: a sense of connectedness. The multiple vortices became very powerful—there was strength in numbers, a power in rapport. Shermer teachers were close—they were family. The students belonged to everyone. The focus shifted from inputs to outcomes and intentions to results. The bar was raised. Synergy developed: teachers now depended on each other.

*Intensity Scale*

Teacher empowerment happens over a range of scales. The degree of teacher empowerment can be measured by the conditions in the school that foster professional growth, decision making, self efficacy, status, autonomy, and impact (Short, 1993). At Shermer teacher empowerment was surging to a near F5 synergy. Consensus driven, every teacher participated in the decision making process. Demonstrating a collective
commitment, attitudes were positive. Core values were articulated. Teachers saw themselves as better teachers because of collaboration. Autonomous, teachers were invested. Teacher impact became evident in higher student scores. Teachers were leaders.

Aftermath of a Tornado

Deprivitization of practice is the aftermath of a tornado. The old tradition may be swept away, but a collaborative vision remains intact. No one is left isolated. Like emergency response teams, teachers organize into high performing collaborative teams. Like neighbors helping neighbors, peers help peers. In the aftermath, everyone asks, why? How can we better prepare? Using reflective dialogue, Shermer teachers took one step further in making their practice public. Conversation promoted learning. With a collective efficacy, they could rebuild, reinvent. With a shift from a traditional culture of isolation to a social culture of “we are family,” Shermer teachers completed their evolution process.

Factors Facilitating Teacher Evolution

Teacher comments about the factors facilitating collaboration with colleagues were consistent with components described in the research literature. Themes of trust, clarity of goals, increased accountability, and the use of common assessments with a clear alignment of practice were present. Importantly, all Shermer teachers enthusiastically voiced their collaborative team experiences as positive. Through the sharing of ideas, teachers stated they had a deeper understanding of their practice and had become better teachers (Fullan, 1991). Teachers also commented the bar had been raised; they had to bring something to the table. This perspective reflects Keiffer-Barone and Ware (2002) who reported that as teams are successful, teachers report a positive work
environment, a sense of shared mission, and a stronger investment in both decision making and shared responsibility.

Clarity of Goals

During collaboration teachers took time to create SMART goals for their DIPs. Teams were laser focused on results, not process. Goals were data driven and resulted in measured and quantifiable feedback on how students were learning. Strong collaboration resulted in strong student growth. At the end of four years, some areas saw nearly a fifty percent increase in student scores. Teams could achieve what no single teacher could achieve. Teacher isolation became obsolete.

Building Trust

Initially, scheduled embedded Monday Collaboration provided the time and space for teachers to address issues and ideas they had not been able to do before. Four years later, Shermer teachers were now collaborating on their own, mostly outside of school time. Teachers were close—they saw themselves as a family (Keiffer-Barone & Ware, 2002). Furthermore, they saw the students as belonging to everyone. The practice of collaboration became institutionalized: “. . . teachers cannot see of doing it any other way.”

Increased Accountability and Common Assessments

Shermer teachers, engaged in authentic collaboration, provided a concrete means for reflective dialogue. Nonjudgmental, teachers shared assessment results and instructional best practice through conversation. In turn, feelings of isolation were eliminated. Teachers emphatically proclaimed they were held accountable. They would
not “dream of coming to the table” empty handed. Teachers expected each other to provide high quality work. Thus, the “deprivitization of practice” was initiated.

Negative Findings Concerning Teacher Empowerment

There were two findings deemed as negative in the research: the disdain for paperwork deemed as non-essential by teachers and walkthroughs conducted by central office administrators. In both of these findings, there appeared to be a disconnect in teacher-administrator communication.

Teachers stated they did not have a clear understanding of why the documents were needed or when and where they should be turned in. Teachers continually referred to the “endless paperwork” as ending up in some “downtown office file cabinet.” Furthermore, teachers evaluated the walkthroughs as without purpose to either teacher or student. One teacher referred to the walkthroughs as “a dog and pony show that provided only a snap shot.”

These responses are in keeping with Short and Rinehart’s (1993) teacher empowerment research. Using the School Participant Empowerment Scale (SPES), they found a negative correlation between teacher empowerment and school climate. Their findings suggested that as “teachers are empowered they assume ownership of problem framing and problem solving making them more critical of school functioning and school processes” (p. 592). Furthermore, they found that as teachers, in schools who are restructuring to create greater teacher empowerment (Short, 1991), involvement in decision making increases, the opportunities for conflict increase due to perceptions that are not disclosed in a traditional structure. Conversations become more complex as more teachers have input in critical decisions. Teachers, responsible for outcomes, believe they
impact the work of the organization. Thus teachers are more open, both positively and negatively, in their evaluation of school requirements. They suggested teachers should also be “sensitized to conflict resolution and group processes” (p. 592). Thus, the collaborative PLC model may also breed conflict. Knowing this, teachers should be taught effective communication skills and positive approaches to handling conflict (Short, 1991).

Implications for Further Research

Like all change, “professional learning communities and teacher collaboration develop and thrive, representing a continuum of professional practice” (Bunker, 2008, p. 160). However, there still exists a lack of information on the stages of PLC collaboration implementation, and little has been written on the process of teacher change within this setting. This area of future research could inform future practice. Shermer’s collaborative experiences are only one case study of how a PLC with a teacher collaborative model can promote teacher evolution. Such a model must be demonstrated over and over in a variety of settings. Replication of this study or the development of a different study, with a focus on the significance of collaboration and teacher evolution, is critical.

Shermer High School is beginning to experience a near forty per cent turn-over in faculty. Because of this, the collaboration model at Shermer is beginning to revert to more administrator control. New faculty members are undergoing separate training in now institutionalized instructional practice. It would be interesting to find if and how staff turnover affects authentic collaboration, institutionalized practice, and, in turn, teacher evolution.
The climate of Shermer is evident immediately. Even a casual visitor is aware of the family atmosphere that pervades. Shermer emits a “we are in it together” pride. It would be interesting to conduct a climate study to evaluate the shared beliefs, values, and patterns of behavior that have been cultivated over four years in this PLC. Measuring the factors of collaborative leadership, collegial support, and unity of purpose might provide further insight into teacher evolution.

Final Thoughts

In an era of accountability, professional learning communities with their focus on teacher collaboration have the potential to make a difference for what, how much, and how well both teachers and students learn. Furthermore, each PLC must bear its own unique set of mission, vision, values, and goals. Within each collaborative team lies the power to capitalize on individual teacher strengths to improve performance at all levels: from novice to seasoned, from deficient to exceptional. Teacher collaboration affords opportunities to turn explicit knowledge into tacit understanding. Collaboration provides a platform for knowledge creation: nonjudgmental sharing coupled with critical reflection. Tasked with decision making, teachers become empowered. Finally, through its elimination of teacher isolation, the highly collaborative model embedded in PLCs has the potential for promoting teacher evolution. The power of the PLC lets the imagination run with possibilities.
References


Servage, L. (2009). Who is the professional in a “professional learning community? An exploration of teacher professionalism in collaborative professional development


Appendix A

Concept Map Research Plan

PROBLEM: There is a knowledge gap concerning the process of teacher evolution when teachers are immersed in the collaborative team culture of a PLC

PURPOSE: To provide insight on the evolutionary process of teacher transformation: isolation to collaboration

KNOWLEDGE CREATION: Tacit to explicit, double loop, organizational learning, collaborative culture

COLLABORATIVE PROCESS: What are the processes that guide secondary teacher evolution when they are immersed in a collaborative PLC culture?

RESEARCH DESIGN: Qualitative single bounded interpretive case study with purposefully selected sample: Focus group, observations, individual interviews, archival data analysis

DELIMITATIONS: Only one school, purposeful volunteer sample, archival data since 2006

LIMITATIONS: Researcher positionality, bias, "backyard" research, insider describing for outsider, single case study

KNOWLEDGE TRANSFER: Insider with tacit knowledge provides outsiders with explicit knowledge of evolution of teachers immersed in collaboration in PLC

LITERATURE REVIEW: Initial literature review to cover evolution, organizational and individual learning, PLCs

CONTEXT: Midwestern secondary PLC, core and non-core collaborative teams, secondary teachers

DATA: Data collection process is a spiral, double loop using a constant comparative method
Appendix B

Observations
Observations of curricular teams during Collaboration Mondays (April/May)

Focus Group
Interview of teachers from different subject areas (Aug-Sep)

Individual Interviews
Individual interviews: from a pool of 20 participants (Aug/Sept)

Archival Data
Ongoing (Apr-Sept)
Collect documents
Notetaking & Reflection
Open & Axial Coding

Fieldnotes
Reflection

Verbatim Transcriptions
Member checking

Researcher Perceptions
Trust Building
Formulate and refine interview questions

Trustworthiness
Open & axial coding; Initial interpretations; Reflection
Refine Questions
Triangulate Data

Second Literature Review
Confirmatory Analysis; Theme Development
Expand readings to include research on emerging topics

Trustworthiness
Open & axial coding
Reflection; Create categories & themes
Triangulate Data

Final Data Analysis
Create Affinity Diagram, Final categories & themes
Reflection
Interpret data

Observations of curricular teams during Collaboration Mondays (April/May)

Interview of teachers from different subject areas (Aug-Sep)

Individual interviews: from a pool of 20 participants (Aug/Sept)

Collect documents
Notetaking & Reflection
Open & Axial Coding

Verbatim Transcriptions
Member checking

Open & axial coding; Initial interpretations; Reflection
Refine Questions
Triangulate Data

Create Affinity Diagram, Final categories & themes
Reflection
Interpret data
Appendix C

Date

Dear Superintendent of Schools, <name here>
Principal, <name here> High School

I am seeking your assistance; the University of Missouri Institutional Review Board (IRB) requires written permission, on school district letterhead, from the school I use for my study. As a requirement for completion of my doctoral degree at the University of Missouri, Columbia, I am working on a dissertation titled “Professional Evolution Stories as Told by Secondary Teachers While Immersed in Professional Learning Community (PLC) Collaboration.” My research plan is to conduct a qualitative case study of teacher collaboration at <name here> High School using individual and group interviews, observations, and archival documents. I would be grateful if you could take a few minutes to return the necessary permission form to use <name here> High School for my case study.

About the case study:

Twenty teachers who have taught at <name here> High School since its inception as a PLC will be asked to participate. Their participation is strictly voluntary. There is no reward for participation in the case study. It is anticipated each interview will take thirty minutes. Observations would take place during scheduled Monday Collaboration. Archival documents held at <name here> High School would be part of the data collected.

Participants may withdraw at anytime from the study, for any reason. All answers will be kept confidential and will be used only for this study. At no time during the collection or reporting of data will the district, school, or any individual name be used.

Participants may ask questions at anytime during the study and may contact me at anytime at 660-254-1425 or jwolfe@nwmissouri.edu. Participants may also contact my advisor, Dr. Phillip Messner at (660) 562-1064. If you have any questions regarding your school’s rights, please contact the IRB at (572) 882-0985.

By returning the requested permission statement on district letterhead you will grant me permission for this case study. A copy of the study will be provided at your request.

Sincerely yours,
Jeanette Wolfe, Doctoral Candidate
Appendix D

Date
Dear Participant:

Thank you for considering participating in the study of teacher evolution through learning processes experienced in curricular collaboration in your school. This study, “Professional Evolution Stories as Told by Secondary teachers While Immersed in Professional Learning Community (PLC) Collaboration,” is being conducted as a research project in a doctoral program as part of the dissertation process. The case study will be used to provide explicit knowledge to others about the learning processes of teachers when immersed in curricular collaboration. The study may also build substantive theory on how collaborative learning processes lead to teacher evolution.

As a study participant, you will be asked to respond to questions related to collaboration and learning in a discussion format. The time allowed for the focus group/individual interview is not expected to take longer than thirty minutes. Please read below to understand how your input will be used in the study and how your rights as a participant will be protected.

1. Participation in this study is completely voluntary. You may withdraw from participation at any time, including the middle of the focus group/interview, or after it is completed. If you decide at a later time you do not wish your input to be included in the study, you may withdraw. Please do not hesitate to contact me at 660.254.1425, or by email, jwolfe@nwmissouri.edu. You may also contact the University of Missouri IRB at 573.882.9585 with any concerns.

2. Participation will not impact your performance evaluation (PBTE) in any manner. The purpose of this study is to inquire about the collaboration process.

3. Should you decide to participate, your identity, as well as your input, will remain anonymous. A pseudonym will be used to protect your identity when reporting the findings. The school will be referred to as “a Midwestern secondary professional learning community” and with the pseudonym of Shermer High School throughout the research process. If you are still interested in participating in this research project you will be required to sign a consent letter before the project begins.

Thank you,
Jeanette Wolfe, Doctoral Candidate
Appendix E

Participant Consent Form

I, ________________________________________________, have read the guidelines on the proposed study and agree to participate in the case study conducted by Jeanette Wolfe. Furthermore, I understand that:

1. The Focus Group/Individual Interview data will only be used for the dissertation process.

2. My participation is completely voluntary, and I may withdraw at anytime during the study.

3. My identity will be protected throughout the process of the study and a pseudonym will be used when reporting findings.

4. No information collected will be used as part of my performance evaluation (PBTE).

5. I will be given the opportunity to review transcriptions.

Signed: ___________________________ Date: ____________
Appendix F

Statement to be Read Prior to Individual and Focus Group Interviews

I will read the statement below prior to beginning each interview.

“I am studying teacher change when they are immersed in a collaborative team environment as part of my doctoral studies. I have chosen your high school as the focus for my narrative case study because it is an established Professional Learning Community. The purpose of my study is to provide insight on the evolutionary process of teacher transformation: isolation to collaboration. As you know, we define greatness as doing our jobs so well that others will want to learn from us. The conversation you are about to participate in is the major component of my study. I seek to discover how knowledge is generated and shared. How are you learning individually and in conjunction with others? My study will be a collection of your collaborative stories. The information gathered will fill an information gap concerning teacher evolution. I will limit the time for this dialogue to 30 minutes. Please sign the notice of consent form which confirms your participation is voluntary and that the information will not be used in evaluating your performance as an employee. Then we can begin our conversation. I thank you in advance for your participation.”
Appendix G

Interview Questions

This summer I ask you to reflect on the following questions and respond with personal stories. These questions are meant as a starting point in our conversation, you may devise and redirect as you desire. I remind you that any names will be deleted from my research to protect privacy. You may journal your thoughts or send an email in response. I will interview you in August.

Again, I thank you for choosing to participate in my research.

1. What would be your metaphor for collaboration?
2. Take me back to your first day at <school name here>, how has your teaching style changed since then?
3. Tell me a few stories that illustrate your collaborative learning journey.
4. Tell me about how, when, and with who you collaborate.
5. What piece of learning as part of your collaboration has had the greatest impact on your instructional practice?
Appendix H

Theme Process Notes
VITAE

Originally a gypsy of sorts, Jeanette Wolfe has lived the last twenty years on a small farm in Northwest Missouri. She attended the University of California at Santa Barbara, Bakersfield College, North Texas State University, University of Maryland at Kaiserslautern, Florida School of the Arts, Arrowmont School of Arts and Crafts, and Savannah College of Art and Design before receiving her secondary teaching degree from Missouri Western State University in 1986. While serving as the art department’s graduate assistant, she earned her Master of Science degree in Secondary Education from Northwest Missouri State University in 1990. She is currently teaching AP Studio Art and ceramics while completing her doctorate from the University of Missouri, Columbia.