

PLAYING ON TWO COURTS: FACTORS THAT FACILITATE AND CONSTRAIN TEACHER
LEARNING IN A LESSON STUDY GROUP

by

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Abstract

Playing on Two Courts: Factors that Facilitate and Constrain Teacher Learning in a Lesson Study Group

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This purpose of this study was to explore the question “What are the factors that facilitate and constrain teacher learning in a lesson study group?” through an ethnographic case study of five teachers involved in a lesson study group at a Manhattan middle school. This study had two specific goals: (1) To contribute to existing theories on how and why lesson study leads to a sense of instructional improvement and (2) To examine the larger institutional and personal factors that may contribute to or present obstacles to instructional change.

Data was collected over the course of two school years, and consisted of observation notes from lesson study meetings; observation notes of teachers in their classrooms; field notes; interviews with participants and school leaders; a variety of documents, including artifacts from the lesson study group, emails, student work, and memos; audio recordings of lesson study meetings and interviews, which were transcribed, and a pre-lesson study questionnaire and survey.

In order to examine the factors inside and outside of the lesson study group that affected the learning of the participants, data was coded based on factors that *facilitated* a sense of growth and factors that *constrained* a sense of growth. A framework for data analysis emerged out of the data and consisted of four main elements: structural features of lesson study, foundational features of the school and larger system of schooling, experiences within lesson study, and teacher characteristics.

Analysis suggested that lesson study can create a sense of growth in teaching practice, yet lesson study in itself does not always lead to instructional change. It appears that teacher characteristics, structural and experiential features of lesson study, foundational features within the school, and larger institutional factors both facilitate and present obstacles to change in teaching practice. Findings indicated that though teachers may feel a sense of growth in their practice, they still may not change their instruction or curriculum. The implication from these findings is that lesson study alone – at least for a short period of implementation – is unlikely to create long term change in instruction.

To all the teachers who have made a positive impact on the lives of children.

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CHAPTER 1 Introduction

Few contemporary school reforms do address the needs or experiences of teachers. Business-supported reforms that propose national performance goals, technological innovations, and the production of skilled and trained future workers barely take into account teachers' ability to accomplish these tasks given their working conditions. Reform policies that restructure the school organization to incorporate teachers, parents, and community are more promising, but only if, in fact, teachers are given authority. Whatever their objectives, few of these reforms are initially generated in the school building by teachers or followed through by working teachers.

- Rousmaniere, 1997, p. 134

Today's schools are tossed on a sea of change. With the mandates of the No Child Left Behind Act of 2001 (NCLB), schools are under great pressure to have their students meet benchmarks and standards. Included among the major provisions of NCLB is a requirement that every state use yearly achievement tests to measure student progress. This has great implications for public school teachers and principals across the country.

Teachers and principals work in a climate of high accountability due to the mandates of NCLB, and the penalties for failing to increase student achievement can be severe, especially in urban schools. Often, urban schools must contend with both city and statewide accountability measures. For example, New York City schools are in the midst of a major organizational reform movement led by the mayor and school chancellor. Schools are being held accountable to the New York City Department of Education for their progress through their use of data and standardized test scores. Great demands have been placed on teachers and administrators to help students meet these goals and not only pass these tests, but also continue to show yearly progress. Schools that fail to show adequate yearly progress can be penalized and subjected to sanctions. In addition, schools are ranked using a report card system; they are assigned a letter grade (A –F) based on three principal factors: school environment, student performance, and student progress. Schools that achieve

grades of As or Bs are eligible for rewards while schools that are failing risk consequences such as closure or removal of the school's leadership. At the center of this storm are the teachers. They are the ones in classrooms across the city, working with students every day.

Much attention has been paid to importance of school leadership – Mayor Michael Bloomberg and Chancellor Joel Klein emphasize that school leaders will have more power to create a climate of success or failure – but the rhetoric around school reform clearly illustrates that teachers bear the primary responsibility for student performance and progress. Calls for merit pay by policymakers and politicians reveal this belief in the centrality of the teacher in improving student achievement. At a federal level, former United States Secretary of Education Margaret Spellings has suggested, "We know that nothing helps a child learn as much as a great teacher. And we must start rewarding teachers who get great results" (U.S. Department of Education Teacher Incentive Fund, 2007). At the time of this writing, President Obama had just outlined his plan on education reform, indicating that his administration favors a system where teacher salaries are linked to student performance (Stout, 2009). Recent federal policies have mirrored this rhetoric; the U.S. Department of Education included a Teacher Incentive Fund in its blueprint for strengthening NCLB, which will help states and districts reward teachers and principals who make progress in raising student achievement levels or closing achievement gaps. In addition, state and local governments have echoed these policies and sentiments. In New York City, Chancellor Klein has been trying to create a merit pay system for NYC teachers based on student test scores despite objections from the Teachers' Union (Garland, 2007). In Washington D.C., Chancellor Michelle Rhee is proposing a contract with the Teachers' Union which would allow teachers to choose a performance-based salary (Risen, 2008). Thus, policymakers and politicians who advocate for merit pay imply that: (1) the teacher is a crucial

component in school reform and (2) teachers are ultimately responsible for student achievement – so much so that their salaries should depend on it.

Though there is much disagreement over merit pay, leaders in educational research and academic literature also point to the primacy of the teacher (Bransford & Darling-Hammond, 2005; Fullan, 1991; Fulton, Yoon, & Lee, 2005). Current research indicates:

Students who have an ineffective teacher during any given year may test as much as one year behind peers taught by a more effective teacher. Those unfortunate to have weak teachers for three or more years in a row may never catch up. (Fulton et al., 2005, p. 2)

Despite this agreement on the central role of the teacher, teachers have little voice in creating educational policy in the United States, including over those reforms aimed at improving instructional practice (Cuban, 1993; Meyers & Rust, 2003). Furthermore, teachers are the main recipients of blame for student failure (Cuban, 1993). Time and again “policymakers, officials, and academics scold teachers for their stubbornness in maintaining conventional styles of teaching inconsistent with the newly adopted policies, programs, and materials” (Cuban, 1993, p. 1).

What has been set up is a frustrating paradox. Teachers have no choice or voice in the creation of policies directly aimed at changing their teaching, yet they are told they must abide by them. It does not matter whether the teacher believes in the policy, wants to follow the policy, or even understands the policy. It is their responsibility to learn it and change. And when teachers do not change, they are heaped with blame. The image of the stubborn, set-in-her-ways teacher is one that has existed for decades, and educational policymakers, politicians, and academics have struggled to change the ways of such teachers. There is a persistent belief that if these teachers would just change then students would do better and schools would improve. It is essential that we examine this belief, since educational change is dependent on the cooperation and investment of teachers (Fullan, 1991).

There is a wide range of perspectives on how to train, attract, and retain the best teachers in our nation's schools. Recent research focuses have included examining the impact of the type of teacher preparation programs, or "pathway" a teacher takes into teaching, increasing state and federal credential requirements, bonus programs such as merit pay, and professional development programs for in-service teachers (Gordon, Kane, & Staiger, 2006). This dissertation will focus on one of these research areas: professional development.

Professional Development

Professional development emerged in the 20th Century as a way of helping teachers improve their practice, and today ninety-nine percent of U.S. teachers participate in some form of it (Lewis et al, 2002, cited in Berg, Donaldson, & Johnson, 2005; Fulton et al., 2005). In addition, a significant amount of money each year is funneled into professional development programs across the nation (Elmore, 2004). For example, according to a press release by U.S. Representative Anthony D. Weiner's office the new mandates of NCLB required New York City to spend millions of dollars for professional development (www.house.gov/weiner/report1.htm). Also, leaders of large urban school systems, such as Chancellor Klein, have indicated that professional development is a central part of school reform; in the educational research community, "professional development is seen as increasingly vital to school success and teacher satisfaction" (Rebora, 2004, para. 1).

In itself professional development does not guarantee change in teacher practice, nor does it guarantee progress; in fact, most professional development programs are not successful (Fullan, 1991). However, there is a growing consensus among educators that there are common features of successful professional development programs (Elmore, 2004). Current literature and research on professional development indicates that professional development that is

collaborative, school-based, focused on student learning, continuous, and embedded in the daily work of teachers is the most successful in changing teacher practice (Elmore, 2004; Sagor, 2000). The National Staff Development Council (NSDC) identifies the following as characteristics of quality professional development that improves the learning of students:

- Organizes adults into learning communities whose goals are aligned with those of the school and district
- Requires skillful school and district leaders who guide continuous instructional improvement
- Requires resources to support adult learning and collaboration
- Uses disaggregated student data to determine adult learning priorities, monitor progress, and help sustain continuous improvement
- Uses multiple sources of information to guide improvement and demonstrate its impact
- Prepares educators to apply research to decision making
- Uses learning strategies appropriate to the intended goal
- Applies knowledge about human learning and change
- Provides educators with the knowledge and skills to collaborate
- Prepares educators to understand and appreciate all students, create safe, orderly and supportive learning environments, and hold high expectations for their academic achievement
- Deepens educators' content knowledge, provides them with research-based instructional strategies to assist students in meeting rigorous academic standards, and prepares them to use various types of classroom assessments appropriately
- Provides educators with knowledge and skills to involve families and other stakeholders appropriately

(www.nsd.org/standards/index.cfm)

This type of professional development may have the best results in terms of teacher retention and satisfaction, another critical issue that urban schools are facing (Berg et al., 2005; Fulton et al., 2005).

Looking at the big picture

Professional development cannot be studied in isolation, since research has shown that the “fabric” of schools is critical to its success in changing teacher practice (Fullan, 1991). The literature on school reform indicates that schools supporting the growth of collaborative environments are more open to change (Elmore, 2004; Fullan, 1999), and numerous studies on action research and communities of practice reveal that collaborative environments foster growth and creativity (Elmore, 2004; Fullan, 1999; Lave & Wenger, 1991; Sagor, 2000). Collaborative environments allow for knowledge to spread from teacher to teacher (Watson, 1967). Fullan (1991; 1999) has found that schools that are collaborative are more likely to support professional development resulting in change to teacher practice and in overall school improvement.

Reform is fostered by schools that have learning communities where teachers are provided with opportunities to talk about their work and reflect on their teaching in meaningful ways. Creating time and space for reflection and dialogue is essential if we want to keep quality teachers in our schools and have them invest in change (Fullan, 1999). Like students, teachers need time to learn and implement new practices (Wilhelm, 2007). Unfortunately, the schedules of schoolteachers and the amount of responsibilities they must fulfill permit little time for such reflection (Miles, 1967).

Most schools are not collaborative places (Elmore, 2004; Fullan, 1991; Fullan, 1999; Miles, 1967). The culture of schooling in the United States does not encourage collaboration (Stigler & Hiebert, 1999). Additionally, teaching conditions have deteriorated over the past few decades, making the lives of teachers increasingly difficult (Apple, 1989; Fullan, 1991).

The Case for Lesson Study

There are many successful forms of professional development practiced in the United States connected to school reform and improvement. Teacher Research Groups (TRGs), Teacher Study Groups (action research groups), and Japanese lesson study groups are all forms of collaborative, teacher-driven professional development models that are gaining in popularity in the United States (Brown & Wiburg, 2007; Sagor, 2000). For example, the Lesson Study Research Group at Teachers College, Columbia University, reports that in September 2003 at least 29 states and 1,100 teachers were involved in lesson study. By May 2004 at least 32 states and 2,300 teachers were involved in lesson study (www.tc.edu/lessonstudy). Teacher study groups such as lesson study have been cited as “potentially the most powerful device for changing teacher practice” (Elmore, 2004, p. 23).

Lesson study “is emerging in the United States as an increasingly popular form of teacher-directed professional development designed to improve mathematics learning, though its use is now expanding beyond mathematics into additional content areas” (Brown & Wiburg, 2007, p. 2). Though there is a growing body of research on lesson study and TRGs, there are few studies on how teachers learn and construct knowledge in such groups, and how participation in these groups affects teachers’ sense of agency (Fairbanks & LaGrone, 2006). In addition, leading researchers on lesson study have suggested that more studies are needed in order to identify how schools in the United States are adapting lesson study to their settings, and there is also a critical need for research that explicates the mechanism by which lesson study may work to improve instruction (Lewis, Perry, & Murata, 2006).

Research Question

Despite the popularity of professional development and teacher research groups, we know little about the factors that constrain and facilitate how teachers learn within these groups; we have limited information on how they apply their learning about pedagogy in their own classrooms; and finally, we have little information on short and long-term growth in their teaching and their students' learning as a result of participation in such professional development groups. This study was designed to open an inquiry into these issues. It is vital that research be conducted on collaborative teacher professional development models such as lesson study so that we can understand the process by which teachers learn and apply their understandings, since there is widespread agreement in the educational and political establishments that teachers are key players in school reform. I agree with this belief, and accordingly this study assumes that "teachers must be at the center of the enterprise" of school improvement (Cossentino, 2004, p. 128).

I have chosen to focus on a lesson study group for this study because of the recent attention it has received for changing teacher practice and, in turn, creating school improvement. Lesson study is a form of collaborative professional development with roots in Japan, which seems to lend itself to effective professional development because it is based on "a convergence of student needs, teacher needs, school needs, and district needs" (*Ensuring Teacher Quality*, 2001, p. 9). It is largely teacher-driven and teacher-run. Research indicates that lesson study can encourage teachers to question their assumptions about student learning and hone their teaching skills while engaging in reflective, evidence-based practice (Brown & Wiburg, 2007; Fernandez & Yoshida, 2004; Lewis & Tsuchida, 1998; Pesick, 2005; Rock & Wilson, 2005; Stigler & Hiebert, 1999). Additionally, it can help educators notice "gaps in their own understanding, and provide a meaningful, motivating context for seeking a deeper understanding" (Lewis, 2002b, p. 17).

Though there are hundreds of sites across the United States where lesson study is taking place, teacher educators and researchers need to better understand the conditions that allow lesson study to take place and succeed in American schools (Rock & Wilson, 2005). The popularity of lesson study is growing in the United States, but deep knowledge about it is rare, and it is likely that some groups have an incomplete understanding of Japanese practice (Chokshi & Fernandez, 2004).

The research question that directed this study is: "What are the factors that facilitate and constrain teacher learning in a lesson study group?" I am assuming that lesson study *can* provide learning opportunities for teachers, and I am also assuming that there are factors that may occur within and outside of a lesson study group that will affect the way teachers learn, retain, and apply their understandings from the group.

Finally, in doing a study on school reform it is helpful to remember Fullan's caution that "there never can be a silver bullet of change" (1999, p. 28). My goal is not to find one specific answer to the complexity of problems that urban schools face. Rather, I seek to examine reform in the context of schools and the larger educational structures that surround them in order to truly understand what facilitates and constrains the possibility of real change. Therefore, in undertaking this study I have taken care to examine not only what goes on within the lesson study group, but also what goes on within the school it is situated in, and the larger school system outside of it.

Definition of Terms

Professional development is a term that is used widely in the education community, and it can refer to a vast range of activities. According to Elmore (2004):

Professional development [also referred to as staff development] is the label we attach to activities that are designed in some way to increase the skill and knowledge of educators (Fenstermacher & Berliner, 1985). In professional discourse, "professional development" is distinguished from "preservice" education by the fact that it occurs after teachers and administrators are on the job, during the routine course of their work...In practice, professional development covers a vast array of specific activities, everything from highly targeted work with teachers around specific curricula and teaching practices to short, "hit-and-run" workshops designed to familiarize teachers and administrators with new ideas or new rules and requirements, to off-site courses and workshops designed to provide content and academic credit for teachers and administrators. (p. 94-95)

This paper will focus on a specific form of professional development that has come to be known as *lesson study*, which has been translated from its original name in Japanese. The practice of lesson study will be described in more detail later in this paper, but Fernandez and Yoshida (2004) offer a concise summary:

Lesson study is a direct translation of the Japanese term *jugyokenkyu*, which is composed of two words: *jugyo*, which means lesson, and *kenkyu*, which means study of research. As denoted by this term, lesson study consists of the study or examination of teaching practice....[Japanese teachers] engage in a well-defined process that involves discussing lessons that they have first planned and observed together. These lessons are called *kenkyujogyo*, which is simply a reversal of the term *jugyokenkyu* and thus literally means study or research lessons, or more specifically lessons that are the object of one's study. Study lessons are "studied" by carrying out...[a series of steps] in an attempt to explore a research goal that the teachers have chosen to work on (e.g., understanding how to encourage students to be autonomous learners). (p. 7)

The concept of a *learning community* will be referred to throughout this paper. A learning community is a professional community in which each member brings individual expertise. Whether members are newcomers or veterans, the learning community recognizes and values the individual strengths each person brings with them. In such a community, each member believes he or she can learn from the other members and the community is continually evolving (Fulton et al., 2005).

Another term that will be used in this paper is *agency*. The quality of *agency* refers to a person's awareness of themselves and the ability to act based on one's

knowledge of the self. Bruner (1996) explains, "agency implies not only the capacity for initiating, but also for completing our acts [and] it also implies *skill* or *know-how*" (p. 36).

Significance of the Study

My study seeks to add to the literature on professional development and lesson study by examining a lesson study group in the wider context of an urban school system. In addition, I wish to bring the voices of teachers to the forefront of the dialogue regarding school reform. This is important for several reasons.

1. There is a large gap between the "demands [of accountability in schools today] and actual knowledge and skills of educators" (Elmore, 2004, p. 89). It is vital for research to be done in public schools to see how schools are attempting to bridge this gap. Since professional development is a popular vehicle for school improvement, it is essential that research be done to investigate how teachers perceive the effectiveness of it.
2. Lesson study "is emerging in the United States as an increasingly popular form of teacher-directed professional development" (Brown & Wiburg, 2007, p. 2). Because of this increase in popularity, there is a need to understand how lesson study is being implemented in schools in the United States. It is critical for us to locate and understand not only the dynamics that create learning within a lesson study group, but also the larger institutional factors that facilitate and constrain their learning if we truly want to create school improvement through the use of teacher learning groups.
3. Though lesson study is growing in popularity, "deep knowledge about lesson study is rare in the United States" (Chokshi & Fernandez, 2004, p. 1). There is a need to study groups that are implementing lesson study in

order to document how they are adapting lesson study for their needs and understand how they construct knowledge about the process (Lewis et al., 2006).

4. Though there is a growing body of research on lesson study and TRGs, there are few studies on how teachers learn and construct knowledge in such groups, and on how participation in these groups affects teachers' sense of agency (Fairbanks & LaGrone, 2006). Since agency has been a critical factor identified with teacher retention, satisfaction, and effectiveness, this is a vital area of study (Chambers, 2003; Niesz, 2003; Patterson, Collins, & Abbott, 2005).
5. Since innovations are unlikely to succeed if educators only focus on the surface features of the innovation (Fullan, 1999), it is important for researchers to gather information on the mechanism by which lesson study may result in instructional improvement. This can help "innovators to avoid rote implementation of surface features and to adopt a more thoughtful and flexible – less recipe-like – approach to innovation and accompanying research" (Lewis et al., 2006, p. 5).

Outline of the Study

Chapter one introduces my study and situates it within the context of professional development and school reform. I justify the need and purpose for my study by focusing on the dialogue around the role of teachers in school improvement, and the current focus on professional development (in particular, teacher research groups such as lesson study) as a vehicle for changing teacher practice and revitalizing schools. I make the argument that we must look at the factors that constrain and facilitate teacher learning not only within these groups, but also look at the larger institutional and systemic educational factors.

In chapter two I present my review of the literature. I discuss professional development, teacher quality, change theory, collaborative learning, and working conditions in urban schools. I also provide a historical context for school reform. My goal is to present relevant literature that provides a framework for my study.

The purpose of chapter three is to present my research design and process. I present my methods for data collection and analysis and connect them to my goal of bringing the voices and experiences of teachers to the forefront of my study. In addition, I introduce the framework which I used to sort and analyze my data.

Chapter four places the professional development group that I studied in the larger context of the school and the urban school system that surrounds it. I also provide a brief biographical sketch of each participant.

The goal of chapter five is to explore my findings on what the participants believed they learned from participation in the lesson study group. This chapter also summarizes the lesson study group's design process and presents portions of the lessons they created.

Chapters six through eight utilize the metaphor of two basketball courts as an explanatory schema to present my findings. This metaphor is a vehicle for illustrating the dynamics within and around the lesson study group that contributed to or inhibited learning. Chapter six focuses on the foundational features at the school and the structural and experimental features of lesson study that facilitated learning. Chapter seven explores the question "Who gets the most out of neighborhood play," by discussing the individual characteristics of the teachers and the experiences they had within the lesson study group, as well as the structural features of lesson study that impacted learning. The last findings chapter, chapter eight, examines why the lesson study group could not be sustained and ultimately disbanded, and explores how this was an obstacle to teacher learning.

Chapter nine is the concluding chapter and contains a summary of my study, my interpretation of my findings, a discussion on the limitations on my study, and suggestions for future research. The main objective of this chapter is to lay out a theory about my findings. I argue that though this was a small case study, there are larger lessons that we can – and should – take away from this case study about the role of professional development in school reform.

CHAPTER 2 Literature Review

All these reform movements believe that teachers and teaching matter – that is, all hold, implicitly or explicitly, that teachers have a crucial impact on our children and youth, and, hence, our society's future. All argue that in one way or another schools currently are not doing a very good job, resulting in serious societal problems. All assume that education is far too important to be left to the control of educators, and all assume that it is altogether fitting and right that concerned citizens and groups, such as themselves, intervene to fix the problems of schools. All believe that teachers – their training, capabilities, performance – are a key source of problems in schools. As a result, all seek to improve the performance of teachers, through a variety of requirements and regulations. In other words, all seek to solve educational problems through the exertion of more external control, of one sort or another, over the work of teachers.

-Ingersoll, 2003, p. 39-40

Any proposed school reform plan reflects implicit beliefs about teaching, learning, and the purpose of education. Michael Fullan (1991) suggests that when beginning a discussion of school reform, it is necessary to start with a big question: "What is the purpose of education?" Though the majority of educational policymakers, politicians, educators, and researchers would agree that the main goal of schools is to make "a difference in the life-chances of all students" (Fullan, 1999, p. 1), there is widespread disagreement on how to achieve this goal, and what larger purpose is served by it.

On one side, there is a long tradition of school reform rooted in the progressive movement. These beliefs center on the idea that "education is the cornerstone of democracy," (Michelli, 2006, slide 4) and that schools are the "key to social, political and economic renewal in society" (Fullan, 1999, p. 1). These views harken back to the work of John Dewey, who wrote:

The obvious fact is that our social life has undergone a thorough and radical change. If our education is to have any meaning for life, it must pass through an equally complete transformation...When the school introduces and trains each child of society into membership within such a little community, saturating him with the spirit of service, and providing him with the instruments of effective self-direction, we shall have the deepest and best

guaranty of a larger society which is worthy, lovely, and harmonious. (1990, p. 29)

Dewey believed that schools were places where students should learn through inquiry and experience, and that this was necessary to the functioning of a democracy. The work of Maxine Greene (1988) echoes Dewey's words today, as she urges educators to use education for open spaces for freedom of thought, reflection, and dialogue. In addition, teacher educators and scholars such as Michelli and Keiser (2005) believe that "we are great risk if we do not attend carefully to preparing the young for life in a democracy and for its concomitant characteristic, a society built on social justice" (p. 3). They argue that we must "demonstrate the connections between democratic programs with social justice themes and high achievement" (2005, p. 253).

On the other side, there is the argument that the work of the progressive movement created "racial and social stratification...[which was] not only profoundly undemocratic, but was harmful, both to the children involved and to American society" and that schools should focus on the "academic curriculum" (Ravitch, 2000, p. 15) to prepare students for life in a democracy. The academic curriculum focuses on the knowledge and skills that these reformers deem as essential for teaching "students to think critically and reflectively about the world in which they live" (Ravitch, 2000, p. 14). These ideas gained popularity after the publication of the 1983 report by the National Commission on Excellence in Education called *A Nation at Risk*. Ravitch (2000) writes that the report was a "landmark of education reform literature...[it] warned that the schools had not kept pace with the changes in society and the economy and that the nation would suffer if education were not dramatically improved for all children" (p. 411). As a result, American education reform began to focus on increasing academic standards. Chester E. Finn, Jr's beliefs reflect this idea: "Perhaps society would be better off if its schools stuck to the three R's and did a

solid job in domains where they enjoy both competence and wide public support” (quoted in Michelli & Keiser, 2005, p. 9). Also along this vein are the ideas of E.D. Hirsch, Jr. who asserts schools must teach an explicit set of core knowledge. Ravitch (2000) writes, “like Lester Frank Ward, William T. Harris, and William C. Bagely, Hirsch recognized that knowledge is power and that access to knowledge is crucial in a democracy” (p. 419).

Thus, there is a fundamental disagreement among educators on what constitutes the purpose of education. Until some consensus is reached about “the role of public schooling in a democratic society and what students should learn” and until we deal “explicitly with scholars’ personal teaching preferences,” there will be no agreement on what forms of teaching “are objectively more effective than others” (Cuban, 1993, p.188). Despite this disagreement, there have been countless reforms aimed at changing teacher instruction in the past century.

Historical Backdrop

Professional development is increasingly looked at as a way to change the teaching practice of our educators in the hopes of creating widespread school reform. In order to provide an historical context for my study, I begin with an examination of how school reforms aimed at changing pedagogy were implemented in the 20th Century. History reveals that, unfortunately, past reforms have been largely unsuccessful at changing teachers’ practice (Cuban, 1993). In fact, reforms themselves often constrain growth in pedagogy for teachers instead of facilitating it.

Throughout the history of education reform in the United States, there has been a large disconnect between policy and practice. This has been a key factor in constraining the learning and growth in pedagogy of teachers. Elmore (2004) states, “a significant body of circumstantial evidence points to a deep, systemic incapacity of U.S. schools, and the practitioners who work in them, to develop, incorporate, and

extend new ideas about teaching and learning in anything but a small fraction of schools and classrooms” (p. 8). A fundamental constraint has been that policies have been created from above, while the teachers below were mandated to implement them. It is clear that “no matter how well intentioned, policies coming out of summits and statehouses, far removed from classrooms, could not be successfully implemented if teachers were not part of the process that informs policy creation” (Meyers & Rust, 2003, p 156). When reforms aimed at improving instructional practice have failed, fingers are often pointed at the teachers (Cuban, 1993). Heaping blame on teachers even further constrains their ability to develop and sustain pedagogical growth.

If we look at school reform through an historical lens, it is clear that there has been no shortage of reforms in urban school systems. The sheer amount of reforms is another constraint in changing teacher practice. For example, during the progressive period, “perhaps the longest and most intense period of educational reform and ferment in the history of the country,” reforms aimed at changing practice from a teacher-centered pedagogy to a child-centered pedagogy (Elmore, 2004, p. 15). However, it is also evident that these reforms do not always *change* the way teachers teach. History shows us that “the apparent uniformity in instruction irrespective of time and place appears connected to the apparent invulnerability of classrooms to change” (Cuban, 1993, p. 1). Urban schools have been particularly resistant to school reform (Meyers & Rust, 2003).

Larry Cuban used the metaphor of a hurricane to illustrate how impervious classrooms can be to even the most massive of change: “Hurricane winds sweep across the sea, tossing up 20-foot waves, a fathom below the surface turbulent waters swirl, while on an ocean floor there is unruffled calm” (1993, p. 2). Later in his career, he revised this metaphor – there is some shifting at the floor, he acknowledged. However, “the journey from policy talk at the national and state

levels to what occurs in schools and classrooms is long, some road markers are missing, and the unpredictability of the weather makes arrival at the destination uncertain" (1993, p. 245).

Histories of schooling in the United States during the progressive moment all echo the sentiment of "the more things change, the more they stay the same" (Sarason, 1996). Lortie's (1975) work reveals that "basic teaching techniques have been extremely slow to change," with many teachers still relying on traditional modes of teaching such as lecturing, despite the movement in education schools, literature, and policy toward a more constructivist, learner-centered pedagogy (p. 23). In terms of the "structural features of teaching, the balance tips toward continuity" (Lortie, 1975, p. 24). Histories of teachers in New York City from the early part of the 20th Century reveal that "city teachers' experiences at work have changed little over the decades" (Rousmaniere, 1997, p. 133).

In order to create real change in schools the literature indicates that we need "some fundamental change in the incentive structure under which schools and teachers operate" (Elmore, 2004, p. 29). This would facilitate the learning of teachers. In addition, there needs to be a theory of action behind any reform. That is, if there is going to be change, everyone needs to be invested and intrinsically motivated to be part of that change. If educators feel the change has a strong moral purpose, they will be more invested in the change and they will be more likely to be change agents (Fullan, 1999). Also, we need to recognize that change, even for experienced teachers, does not come quickly (Elmore, 2004).

Change Theory

A major barrier to instructional change has been the isolating structure of schools, as well as the persistent belief about the way that change occurs (Fullan, 1999). In this section, I will explore the literature on change theory. These theories

provide me with a backdrop for understanding how collaborative learning models can facilitate instructional as well as institutional change within a school.

Traditional notions of change are based on a closed system where the actions of individuals, organizational actions, environmental responses, and individuals' cognitions and preferences follow a circular cycle (March & Olsen, 1976). March and Olsen (1976) have problematized traditional conceptions of change, which they identified as "choice," by arguing for a theory that allows for complexity and variation among and within individuals. Key to this idea is that energy and time are "scarce resources," that people act because they have interests at stake, and that people must act according to rules (March & Olsen, 1976, p. 14). Their work has critiqued theories that primarily focus on time as a scarce resource, or theories that focus purely on self-interest, and instead have argued for a theory that takes into consideration the possibility that there may be "interplay" between these factors.

Traditional theories of change have emphasized that the decision process is a procedure for producing outcomes. In contrast, March and Olsen (1976) argue that the process can be more important than the outcomes to individuals, since individuals place different value on the outcomes. Christensen (1976) found in his study on the process of decision in a Danish free school that "the explicit outcome of a decision process is often substantially less important than the process" (in March & Olsen, 1976, p. 378). Thus, the process may be the primary concern, even when the outcome is of interest to participants. Christensen (1976) found "the particular combination of participant energy and attention that permits a decision to be taken is unlikely to be sustained." (p. 378). He discovered that immediately following the decision, interest is high, but over time people return to what they were formerly doing and by the time it is time to implement the decision, the pressure is gone. In addition, "other problems and other solutions come to absorb the attention of the

organization" (Christensen, 1976, p. 379). Thus, the process garnered more interest and participation than the implementation.

Christensen's work also shows that *attention* is a key piece in understanding what facilitates and constrains an organization's and individual's ability to process and implement change. Similarly, March and Olsen (1976) explain that a structural constraint in an organization is the amount of attention one can give an issue. Individuals have limited attention, and they must decide what to focus on. Furthermore, in any organization there are rules (formal or informal, clear or unclear), which dictate who is allowed to make choices and when: "Such rules indicate who may attend to what, what problems may be attached to what choice, what solutions may be appropriate for which problem" (March & Olsen, 1976, p. 40).

The ideas of attention structures are useful in understanding the lives of teachers, as they constantly need to make choices and decisions based on what is possible in their given amount of time (Fullan, 1991). This presents a constraint for teacher learning because if teachers do not have time to invest in a change, the chances are low that they will adopt the change. Also, though there is limited knowledge on how teachers learn, but Elmore suggests that teachers are "more likely to learn from direct observation of practice and trial and error in their own classrooms than they are from abstract descriptions of new teaching" (p. 28) This model is quite time consuming, and requires teachers to be able to learn in laboratory-like situations with students and other teachers – all of which school structures do not enable. Hence, the idea of attention structures provides a helpful framework for looking at change in teaching practice.

Recent educational scholarship presents an institutional perspective on change, which is the belief that the surface of school structures can change dramatically, while their core remains unruffled (Elmore, 2004; Cuban, 1993). Elmore (2004) explains that this accounts for how schools can change their external

structures, while the practice of persons within schools can remain unchanged. From this perspective, a theory of change needs to make “sense at the individual and organizational level” (Elmore, 2004, p.308). The fundamental incentive structures need to change in order for teaching practice to change. Examples of incentives that would help facilitate change in teachers’ instruction would be for administrators to give teachers encouragement and support, for school schedules to allow teachers time to focus on their own learning, and for structures to be implemented which allow teachers to observe each other (Elmore, 2004). This theory of change also calls for a connection between theories of learning, larger school goals, and the fine grain of practice (Elmore, 2004). However, all of these solutions can be impeded by the problem of scale. Elmore (2004) has suggested four main proposals for facilitating change and dealing with the problem of scale:

1. Develop strong external normative structures for practice
2. Develop organizational structures that intensify and focus, rather than dissipate and scatter, intrinsic motivation to engage in challenging practice
3. Create intentional processes for reproduction of successes
4. Create structures that promote learning of new practices and incentive systems that support them

(Elmore, 2004, p. 30-37)

Hence, according to the institutional perspective, the incapacity of schools for change is “rooted primarily in the incentive structures in which teachers and administrators work (Elmore, 2004, p. 8).

The diffusion model is another theoretical framework that can be useful in understanding resistance to change in schools. Diffusion is “the process in which an innovation is communicated through certain channels over time among the members of a social system,” which can occur because it is planned or spontaneous (Rogers, 2003, p. 5). Rogers (2003) describes four main elements that are key to the diffusion of new ideas:

1. **Innovation.** How an innovation is perceived determines how quickly or slowly it is adopted. There are 5 attributes that related to this: relative advantage, compatibility, complexity, trialability, and observability (p. 36).
2. **Communication channels.** A central component of diffusion is that it dependent on interpersonal communication relationships. When individuals share similar personal and social characteristics and are "homophilous" (similar) in terms of experience with an innovation, they are more likely to communicate more effectively and as a result change will occur.
3. **Time.** It takes time for an individual to understand and adopt (or reject) and innovation. There are 5 steps in this process: knowledge, persuasion, decision, implementation, and confirmation.
4. **Social system.** The social system is made up of norms, and the social and communication structure facilitates or constrains the diffusion.

The diffusion theory depends on communication, yet schools are largely isolating, non-collaborative environments for teachers. New York City teachers have mostly worked in isolation for the past century (Rousmaniere, 1997), and schools have not been good at transferring and developing knowledge because they provide few opportunities for collaboration. For example, only 5-13% of U.S. teachers report that they visit another classroom often or very often (Lewis, 2002a). Watson (1967) suggests that school systems work to prevent diffusion of knowledge because teachers are not provided with collaborative structures for working with one another. The diffusion model compliments the literature on school organization and leadership, which suggests that collaborative environments are more open to innovation and conducive to change because they spread knowledge more effectively than do isolated environments (Fullan, 1999). Collaborative cultures "encourage passion and provide emotional support" and they are successful because they provide opportunities for interaction among members in a community (Fullan, 1999, p. 28).

Complexity theory is useful in understanding educational change (Fullan, 1999). Complexity theory is also known as chaos theory, which has origins in the natural sciences. Ketterer (2006) explains:

“Chaos theory” generally refers to a set of principles originally developed in the fields of physics and mathematics dealing with the structures of turbulence and the self-similar forms of fractal geometry. As it is popularly understood, chaos deals with unpredictable complex systems. Chaos theory stems, in part, from the work of Edward Lorenz of MIT, a meteorologist, who simulated weather patterns on a computer. Lorenz was working with a computer with limited memory, and after viewing a particular pattern he decided to rerun the data. He restarted the program, this time rounding the values off to 3 places instead of the original 6. He was surprised to find a completely different result. Essentially identical variables or slightly different ones at the initial condition resulted in profoundly different patterns. This accidental discovery eventually grew into the field of chaos theory, and is believed to have applications in many scientific fields and to management and organizational theory. (p. 36)

Chaos theory contradicts the Newtonian idea that everything in the world can be predicted and controlled through rationality. Instead, chaos theory suggests that there is widespread disorder and complexity in the world, and that this is necessary for the evolution of the universe (Stowe, 1996). Ketterer (2006) writes, “while chaos theory has been slow to enter the professional education literature, many books and articles have embraced it as a metaphor in the general management literature” (p. 35). Though much of the management literature draws from chaos theory, in practice, the design of management systems still largely follows the dominant scientific worldview from the past century, which in this case is the Newtonian model (Kiel, undated).

Fullan (1999) has taken these ideas for using chaos theory in a management context and has applied them to school reform. He argues that we can use this theory (which he calls “complexity theory”) to “clearly and deeply understand and cope with change” (p. 5). Organizations that are rigidly structured and don’t allow for complexity are less open to innovation and change than those which allow for learning to occur on the edge of chaos (Fullan, 1999). Learning on the “edge of

chaos” is more likely to occur in collaborative environments because they are organized, but allow for a degree of freedom. As a result, structures that allow for collaboration are more effective learning environments.

Besides helping us to understand why collaborative environments are more open to change, complexity theory is also a useful lens for considering how relationships between people and structures in an organization can facilitate or constrain innovation and change. For example, March and Olsen (1976) argue that traditional ideals about organizational learning are too rigid, because they center around the belief that individual actions are a result of organizational action. They posit that the connection between individual action and organizational action is actually quite loose. This theory allows for a diversity of responses and choices, not a linear cause-and-effect relationship. March (1976) explains:

Environmental acts frequently have to be understood in terms of relationships among events, actors, and structures in the environment, not as responses to what the organization does. As a result, the same organizational action will have different responses at different times; different organizational actions will have the same response. The world of the absurd is sometimes more relevant for our understanding of organizational phenomena than is the idea of a tight connection between action and response. (p. 17)

This theoretical framework is similar to complexity theory and is helpful when thinking about why it is so hard to effect change in schooling. If we believe that there is always a linear relationship between cause and effect in complex organizations, we are not seeing the full picture. Instead, we need to conceive of change as a web of complex dynamics in which effects do not always come from one replicable cause (Sarason, 1996; Senge, 2006). This view may feel more unstable and perhaps even frightening for those who prefer clear cut relationships, but this view allows for infinite possibilities. The act of an organization must be understood in relation to a variety of factors. In this way, it is helpful to use a systems perspective when looking at change.

The "school system" is often written about as a closed system, but as Sarason (1996) points out, this implies that the school system operates independently from its surroundings. In fact, it makes more sense to think about school systems as part of a much larger system that includes the political, social, and economic systems that surround it. Viewed in this way, in order for the school system to change, many other systems need to change as well (Sarason, 1996). In addition, when looking at change within a system it is important to examine the dynamics of relationships with that system. Senge (2000) explains:

Organizations work the way they work because of the ways that people work. Policies and rules did not create the problems in classrooms or schools today, nor will they eliminate them. The difficulties faced by schools (as in all organizations) are always deeply influenced by the kind of mental models and relationships at large in the system. (p. 19)

Thus, when looking to initiate change within a system, it is important to first note "ways that people think and interact with each other" before rules and policies are changed; otherwise, "the organization will revert, over time, to the way it was before" (Senge et al., 2000, p. 19).

Intensification in the Lives of Teachers

Though teachers have had little voice in education policy, they are often the first group to be blamed for its failure. Blaming teachers "assumes that most teachers are free to adopt changes, if they merely chose to" (Cuban, 1993, p. 263). This belief is key constraint for teacher learning. The literature I explore in this section aims to paint a picture of the incredible demands and challenges that urban teachers face in the context of school reform, and illustrate why studies on the discourse of teachers are essential. As Rousmaniere (1997) writes, "teachers have been talking about why schools don't work for generations. Our obligation is to listen to what they say" (p. 133).

In his book *How Teachers Taught: Constancy and Change in American*

Classrooms: 1880-1999, Larry Cuban quotes high school teacher James Herndon:

If a teacher comes into his room, who decides that there are going to be 35 chairs in that room?...Who decided 35 kids are going to come in there? Who decided that there would be 35 textbooks in there? Who decided that they are going to go to school from 9:25 to 3:30 or whatever it is, and that periods are going to be so and so many minutes long? Who decided that fourth graders in one state learn about South America whereas they learn about South America in the fifth grade in another school? (p. 263)

This quote is a powerful testament to how many teachers feel – powerless. Many teachers feel they work in an environment over which they have little control. Yet in many schools, teachers do have control over what goes on in their rooms. They develop routines and a set practice over time. The more experience a teacher has, the more he may be resistant to change. This is primarily because change requires teachers to invest time, physical and emotional energy, and plenty of hard work—none of which the school structure enables (Cuban, 1993; Miles, 1967; Stigler & Hiebert, 1999). Thus, the very structure of school constrains teacher learning.

For urban teachers, the situation is further compounded because they face many problems that teachers in rural or suburban schools do not. A recent report published by The National Commission on Teaching and America's Future (NCTAF) states that "one out of every two new teachers has left the classroom by the end of the fifth year" (Fulton et al., 2005, p. 1), and the large, urban school districts face the most severe teacher shortages (Howard, 2003). In addition, urban schools often have higher numbers of uncertified and inexperienced teachers than do their suburban counterparts (Darling-Hammond, 1998, as cited in Patterson et al., 2004). All of these factors contribute to the feeling of stress among urban teachers (Patterson et al., 2004). Thus, teacher attrition and stress in urban schools are in a vicious circle. Teachers cite many reasons for leaving, but school climate and working conditions are always high on the list (Fulton et al., 2005, p. 1). In fact, the empirical research on school climate suggests that positive school climate is

associated with higher teacher retention rates (Cohen, McCabe, Michelli, & Pickeral, 2009).

There are several key features of schools (particularly urban schools) which not only make it difficult to implement policies which change teachers practice, but also lead teachers to become ineffective or leave the system entirely. Fullan (1999) explains that in schools "the sheer presence of problems and multiple unconnected solutions are overwhelming" (p. 27). First, teachers tend to work in isolation. Miles (1967) explains that this

...makes a system much more difficult to alter, since if changes occur in one part (e.g., in one teacher's practices), there are no meaningful channels or linkages by which they can travel to other parts of the system. This state of affairs may lead to internal integration problems centering around teacher morale: feelings of isolation, depression, and nonconfirmation by peers. (p. 12)

Second, teachers struggle with the number of demands that they must meet in a short amount of time, and education reform has done little to alter this situation (Lortie, 1975; Rousmaniere, 1997). Schools have children who need to be looked after, and their schedules are designed so that they have "little or no time during the day for peer work, personal development, teaching preparation, or rest" (Miles, 1967, p. 13). Unfortunately, more and more of the teacher's daily life is becoming filled with duties and responsibilities. Apple (1989) writes "teachers' work is increasingly becoming what students of the labor process call *intensified*" (p. 164). In other words, "more and more needs to be done; less and less time is available to do it" (Apple, 1989, p. 164). Third, teachers do not have much control or power over their situations. One of the major problems schools face in adapting to change is that people inside the school, especially teachers, "feel that demands, criticism, and control can come into the system at any point." (Miles, 1967, p. 14) They are given little time to collaborate and work on their curriculum, and in urban schools

they are often mandated to use scripted curricula, leaving teachers with little control over what they teach (Apple, 1989).

This lack of control over the structure and surroundings of school can lead teachers to feel disempowered. Watson (1967) explains:

The classroom...is a part of larger social systems which design the curriculum, the building, the working schedules, the assignment of pupils, the pay scales, the equipment, the forms of reporting, and many other factors conditioning the teaching process. The teacher commonly feels helpless to influence these larger social systems. (p. 107)

Teachers can become exhausted and disenfranchised as a result of the foregoing factors. The isolation and lack of control can lead to what is known as teacher "burn-out" (Apple, 1989, p. 113). Patterson, Collins, and Abbott (2004) report that "burnout can result in isolation and caring less about the students and other aspects of teacher's work or it may lead to working harder, sometimes mechanically, to the point of exhaustion" (p. 4). Not surprisingly, school reform can itself contribute to teacher burnout (Patterson et al., 2004, p. 4). Hence, when teachers suffer from burnout, they either cease to be effective teachers or they leave the system.

Spaces of Freedom in the Lives of Teachers

Embedded, teacher-driven professional development models such as lesson study may facilitate teacher learning because they create spaces for teachers to have opportunities for dialogue and reflection, which can increase teachers' sense of efficacy, resilience, and agency as well as improve their instructional practice (Chambers, 2003; Cohen et al., 2009; Patterson et al., 2004). It is vital that we provide teachers with these experiences not only to improve their teaching and sense of job satisfaction, but also to remedy the teacher shortages we are now facing, especially in urban schools.

If schools are to meet the goals of NCLB they must find new ways to recruit and retain teachers. Berry (2004) indicates that schools with "poor, minority, and

lower achieving children” have the highest proportions of “inexperienced, under-prepared teachers as well as higher attrition rates” (p.6). Recruitment and teacher preparation are important issues, but Howard (2003) suggests that “a more pressing issue seems to be a growing need to find ways of retaining current teachers in the classroom” (p. 145). This is a critical area of research, as it has only been recently that scholars have turned their attention from recruitment to retention (Patterson et al., 2004).

The literature on teacher retention and attrition suggests that teachers who do remain in urban schools - and also remain effective at their jobs - exhibit key qualities that help them be successful. The terms that are often used in the literature to refer to these qualities are known as teacher *resiliency*, teacher *efficacy*, and teacher *agency*. I will briefly summarize each of these terms and highlight key findings.

According to a study by Patterson, Collins, and Abbott (2004), the quality of resiliency is marked by several factors including the ability to stay focused on their students, the desire to do whatever it takes to help their students be successful, and the ability to seek out friends, colleagues, and mentors to support them. Teachers who exhibit qualities of resilience “place a high premium on professional development and find ways to get it” while they also provide mentoring to others (p. 5).

Teacher efficacy “refers to a specific self-referent belief in a teacher’s ability to organize and execute the actions necessary to reach certain attainments” (Chambers, 2003, p. 4). Research indicates that the quality of efficacy is connected to effective classroom management, teaching practice, and student learning (Chambers, 2003, p. 4). Studies by Allinder (1994), Guskey (1988), and Stein & Wang (1988) suggest that teachers with high efficacy reflect the qualities of good teachers – they experiment with different methods and materials, they are reflective,

and they are constantly trying to improve their practice (as cited in Chambers, 2003).

The quality of *agency* refers to a person's awareness of themselves and the ability to act based on one's knowledge of the self. Bruner (1996) explains, "agency implies not only the capacity for initiating, but also for completing our acts [and] it also implies *skill* or *know-how*" (p. 36). Teachers with a sense of agency are able to "navigate the mixed messages of school reform daily and work to preserve good practice" (Niesz, 2003, p. 14).

Academic literature and research suggests that teachers who have high degrees of efficacy, agency, and resiliency often value collaborative relationships and participate in learning communities (Fulton et al., 2005; Haberman, 1995; Sagor, 2000). For example, Haberman (1995) suggests that successful urban teachers who work with students of poverty "set up networks of colleagues who are like-minded and serve as a support group" (p. 67). In addition, participation in teacher learning communities may not only help retain new teachers, but also improve the level of their instruction (Fulton et al., 2005). Research indicates that "teachers who regularly engage in collaborative practices, such as action research, develop high efficacy, a professional ethos, and their schools are marked by stronger faculty morale – most important, their students being to perform better than before" (Sagor, 2000, p. 33). Collaborative groups can be thought of as spaces of freedom which allow for what Maxine Greene calls the opening of "perspectives, with everything depending on the actions we undertake in the course of our quest, the *praxis* we learn to devise" (Greene, 1988, p. 5). Unfortunately, the increasingly controlled space of the school limits the space where teachers can step back and reflect (Apple, 1989). It is ironic that teachers are deprived of this space for dialogue and reflection, because educational philosophers have suggested for

decades that it is education itself that should allow us to reach beyond ourselves

(Dewey, 1990; Greene, 1988). Greene (1988) writes:

It is through and by means of education...that individuals can be provoked to reach beyond themselves in their intersubjective space. It is through and by means of education that they may become empowered to think about what they are doing, to become mindful, to share meanings, to conceptualize, to make varied sense of their lived worlds. It is through education that preferences may be released, languages learned, perspectives opened, possibilities disclosed" (p. 12)

It is within these spaces of freedom that valuable learning can occur, because teachers can step back and reflect on the connections between theory and practice (Haberman, 1995; Schon, 1983). Schon (1983) suggests that reflection is what allows professionals to make connections between theory and practice. He explains that "when a practitioner reflects in and on his practice, the possible objects of his reflection are as varied as the kinds of phenomena before him and the systems of knowing-in-practice which he brings to them" (1983, p. 62). Teachers who reflect upon their students' learning and their own practice are often more effective in the classroom (Sagor, 2000). Stronge (2002) lists several findings on the importance of reflective practices:

- Effective teachers may reflect on their work formally or informally...Regardless of the mode, the key is reflection
- Teachers whose students have high achievement rates continually mention reflection on their work as an important part of improving their teaching
- Belief in one's efficacy and maintaining high expectations for students are common among teachers who reflect. (p. 21)

Providing teachers with opportunities to reflect upon their teaching in meaningful ways helps support reform by allowing teachers to engage in dialogue and dissent, which are keys to learning (Elmore, 2004; Fullan, 1999). Britzman (1991) suggests that "practice, time, dialogue, and creativity are the ingredients for becoming a teacher and the sources of revitalization for remaining one" (p. 184).

Lave and Wenger (1991) explain, "language is part of practice, and it is in practice that people learn...talk is a central medium of transformation" (p. 85). Yet the daily lives of teachers are so busy that they rarely have time to learn, process, and implement new practices (Wilhelm, 2007). Historically, teachers have not been encouraged to have dialogue about their practice, nor have they been given the time or support to collaborate with each other (Elmore, 2004; Wilhelm, 2007). Thus, having space for dialogue and experimentation is essential for creating and retaining teachers who are resilient and effective.

Though dialogue and reflection are vital factors in facilitating teacher learning, the structures of schooling do not enable time and space for such work to occur (Stigler & Hiebert, 1999). As Elmore (2004) explains, reformers have seemed "to assume that teachers, given the existence of clearly superior content, would simply use the new curricula and learn what was needed in order to teach differently" (p. 37).

What Defines a "Quality" Teacher?

NCLB requires states to have highly qualified teachers in every classroom; however, there is much debate about what pathway into teaching creates the most effective teachers and there are diverse perspectives on what constitutes a *qualified* teacher. According to NCLB, a "highly qualified" teacher has a bachelor's degree and has obtained (or is in the process of attaining) full state certification. However, depending on when a teacher was hired on what grade she teaches, there may be other factors in determining qualification according to NCLB. For example, elementary school teachers must pass a "rigorous" subject-matter test. In 1987 the Interstate New Teacher Assessment and Support Consortium (INTASC), founded as "a consortium of state education agencies and national educational organizations dedicated to the reform of the preparation, licensing, and on-going professional

development of teachers," holds the belief that "an effective teacher must be able to integrate content knowledge with the specific strengths and needs of students to assure that all students learn and perform at high levels" (www.ccsso.org). Though the Department of Education reports that the numbers of "highly qualified" teachers are on the rise, "it is unclear how much this increase corresponds to any actual increase in teaching effectiveness" (Gordon et al., 2006).

A *qualified* teacher is not necessarily an indication of an *effective* teacher, and there is conflicting evidence on whether certification correlates with good teaching (Grossman & Loeb, 2008). Some studies show a clear correlation between certification and student achievement, while others show that there are few differences in student achievement between the students of certified and uncertified teachers (Goldhaber & Anthony, 2003; Grossman & Loeb, 2008). According to Goldhaber & Anthony (2003), the one clear indicator of teacher quality appears to be teachers' academic proficiency. There have been several studies which indicate that teachers who perform well on tests of "verbal ability, teacher licensure, or college entrance exams, and the selectivity of the undergraduate institutions" often positively affect student outcomes (Goldhaber & Anthony, 2003, p.4). Yet at the same time, there have also been studies that contradict this. In *Alternative Routes to Teaching*, Ing and Loeb (2008) present the discrepancies between research on teacher preparation and teacher quality, and indicate that the research on alternatively certified teachers is inconclusive.

Teacher education programs identify *quality* teachers as having a combination of "pedagogical knowledge, subject area content knowledge, skills, and attitudes necessary for effective teaching, strong understanding of human growth and child development, effective communication skills, strong sense of ethics, and capacity for renewal and ongoing learning" (Cobb, 1999, p. 2). Each state sets standards for teacher education, and "approximately 32 states have joined together to develop

model standards for beginning teachers that are compatible with emerging standards for advanced certification" (Cobb, 1999, p. 2). Yet Goldhaber and Anthony (2003) report that "there is no strong consensus about the value of pedagogical preparation for teachers...because the quality and content of teacher training programs vary greatly, the impact is not always clear" (p. 2).

At the same time, there is evidence that suggests teacher training programs do matter. The National Commission on Teaching and America's Future reviewed many studies since 1970 and found that "fully prepared and certified teachers are better rated generally, and more successful with students, than teachers who lack either subject matter or teaching knowledge" (Darling-Hammond, as cited in *Two Paths to Quality Teaching*, 2000, p. 5). In addition, there were "significant gains in student achievement and teacher ratings when teachers have access to knowledge about teaching and learning – more often and with larger effect sizes even than knowledge of subject matter" (Darling-Hammond, as cited in *Two Paths to Quality Teaching*, 2000, p. 5).

Research indicates that attrition is higher with untrained teachers, while prepared teachers from extended programs tend to stay in the field longer. Most uncertified teachers are "gone within three years" (Darling-Hammond, as cited in *Two Paths to Quality Teaching*, 2000, p. 13). Grissom (2008) reports that teachers who enter teaching through alternative certification programs are slightly more likely to leave after one year than traditional teachers; however, this may be due to the working conditions these teachers endure, since they are more likely to work in more challenging schools, and not the preparation (or lack thereof) that they received in alternative certification programs (Grissom, 2008).

Though training may matter in some areas of teacher quality, there are many additional factors that can influence the success of teachers in the classroom. The Teacher Pathways Project summarizes recent studies:

Recent research has documented the importance of teachers to student achievement (see, for example, Rivkin, Hanushek, and Kain, 2005; Rockoff, 2004; Sanders and Horn, 1994; and Sanders and Rivers, 1996). Each of these studies documents the improvement of student achievement with increases in teacher experience during the first three to five years of experience, with virtually no additional gains for experience beyond five years. Many other factors, including teachers' verbal ability and subject matter preparation, contribute to teacher effectiveness (Ehrenberg and Brewer 1995; Monk, 1994). Schools may also affect teacher effectiveness through, for examples, resources, administrative leadership, and/or curriculum. There is some evidence that professional education can improve teachers' abilities in the classroom (National Research Council, 2001; Brown and Borko, 1992; Garet et al., 2001; Loucks-Horsley and Matsumoto, 1999; Monk, 1994). (Boyd et al., 2005, p.1)

Thus, though there is agreement that teachers do matter, there is no consensus on how to best create the most effective teachers.

Creating Quality Teachers

Research shows that in the first two years, teachers learn how to improve their craft largely by teaching in the classroom; however after the first few years, teachers do not gain in their learning from just teaching in their classrooms (Boyd et al., 2005; Kane, Rockoff, & Staiger, 2006). This has many implications for teacher retention and helping them continue to grow in their practice. Today, schools and districts all over the country use professional development as a strategy to improve teaching (Elmore, 2004).

The phrase "professional development" is now one that every teacher is familiar with in this country; it is part of being a teacher. In fact "ninety-nine percent of American public school teachers participate in professional development" (Lewis et al., 2002, as cited in Berg, Donaldson, & Johnson, 2005). However, the term "professional development" can refer to a wide variety of activities; there are many different forms of professional development. Professional development that is job-embedded may have the best results in terms of teacher retention and satisfaction (Berg et al., 2005). Teachers are more likely to engage in professional

development if they believe it is working; they need to believe that it improves their practice and helps their students (Parsad, Lewis, & Farris, 2001). Collaborative professional development models such as lesson study have been shown to facilitate teachers' effectiveness in the classroom (Rock & Wilson, 2005; Fairbanks & LaGrone, 2006; Marble, 2006; Brendefur & Stewart, 2005).

Since the 1990s, educational research has largely favored the collaborative professional development models instead of the traditional type (Rebora, 2004). Though there is consensus that collaborative, school-embedded professional development is the most effective in changing teacher practice, in the United States many teachers "still appear to receive the bulk of their professional development through some form of the one-shot workshop" where a teacher is taken out of the school for the day and sent to training with by expert in a particular pedagogic technique or subject area (Rebora, 2004, para. 4).

Recent reports stress the importance of professional development being collaborative, school-based, focused on student learning, continuous, and embedded in teachers' daily work (Fulton et al., 2005). These qualities are more likely to facilitate teacher learning, rather than the one-day, out-of-school workshop model. Elmore (2004) explains that there is a broad consensus on what constitutes effective professional development: "effective professional development is focused on the improvement of student learning through the improvement of the skill and knowledge of educators" (p. 94-95). Professional development that is rooted in a constructivist framework, such as action research, can improve teachers' practice and give them a sense of empowerment (Kincheloe, 2003; Myers & Rust, 2003; Sagor, 2000). In addition, there is much agreement that collaborative professional development models are beneficial for teachers (Elmore, 2004). Advocates for collaborative professional development subscribe to the theory that "educators learn more powerfully in concert with others who are struggling with the same problems"

(Elmore, 2004, p. 96). Lesson study is one such model that aligns with this consensus view (Lewis, 2002b).

Lesson Study as Facilitator

Lesson study is currently being used at hundreds of schools across the United States and is gaining in popularity (Brown & Wiburg, 2007). However, it has only been in the past ten years that lesson study has gained significant interest from educators and researchers in the United States. In 1999, Stigler and Hiebert's book *The Teaching Gap: Best Ideas from the World's Teachers for Improving Education in the Classroom* brought lesson study to the forefront. In this book they describe the practice and goals of lesson study, and make an argument for why American schools should adopt this form of training and development for teachers. Since then, several schools, districts, and regions have experimented with using lesson study in American schools. From 2000-2001, lesson study was "the focus of several state, national and international conferences of classroom educators" (Lewis, 2002a, p. 5). In Japan, the origins of lesson study dates back to the early 1900s; ironically, it was heavily influenced by ideas in the United States.

In Japanese, the word for lesson study is "Jugyokenkyu," which means "lesson research." Makoto Yoshida, a well-known authority on lesson study, coined the term *lesson study*. In Japan, pre-service teachers are often involved in lesson study during their student teaching, while experienced educators, education professors, university mentors, and other educators may be involved as well (Fernandez & Yoshida, 2004). Lesson study is a form of teacher development that can help new teachers as well as veterans, and in this way creates a vital learning community for its members (Brown & Wiburg, 2007). Lesson study can be implemented with teachers from different schools who teach the same content area

and grade level, but the most popular venue for lesson study in Japan is within each school.

Structurally, lesson study requires a group of teachers to collaboratively plan and write a lesson around an agreed goal, and then watch one of their members teach it. After the first teaching, the group can make changes to the lesson, and then observe another teacher implement it with a new group of students. After the second teaching, the teachers will usually meet and debrief the lesson, commenting on what was successful about the lesson and what they would change if they were to teach it again, and sharing other observations. Though this is the basic framework for lesson study, it does not encompass its essence (Fernandez & Yoshida, 2004).

The academic literature and research on lesson study points to several structural and experiential features of lesson study which appear to facilitate teacher learning. For example, lesson study places a heightened emphasis on goals that are linked to a larger purpose beyond just one lesson (Lewis, 2002b). At the beginning of lesson study, the participants often choose a school-wide goal. They ponder the mission of their school, and use lesson study as a vehicle for fostering desired qualities in their students. Fernandez and Yoshida (2004) explain that in Japan:

Every school has a mission statement, which generally outlines goals for children's academic, moral and physical development. These statements represent the core values that are to guide both the teaching and the management of the school. (p. 11)

The teachers discuss the "gaps they perceive between their aspirations and the outcomes they are seeing in their students" (Fernandez & Yoshida, 2004, p. 11). Instead of focusing on specific academic skills, Japanese lesson study focuses on broader ideas, though these ideas are usually explored in a specific subject area. This may be the goal of the study group for several years – "this prolonged focus is meant to provide enough time for the school to make significant progress in moving

closer to attaining its chosen goal" (Fernandez & Yoshida, 2004, p. 13), and is a key feature that facilitates teacher learning.

The size and organization of a lesson study group is also significant. A common teacher group size for working on the project is usually about four to six people. In Japan there is often a promotional committee that helps organize the lesson study and commit to helping it stay on track. This usually does not include administrators (Fernandez & Yoshida, 2004, p. 13). The small group size and support of a committee help facilitate teacher learning. One of the most vital aspects of lesson study, which also facilitates teacher learning, is that it is led and run by teachers. The fact that the teachers control the process gives them a sense of empowerment and confidence (Brown & Wiburg, 2007). Though the support of administrators is important, it is the teachers that drive and direct the lesson study. In addition, lesson study provides a job-embedded professional development experience for its participants. Rock and Wilson (2005) report in their study of elementary school teachers engaged in lesson study that the teachers felt the ongoing, sustained nature of lesson study offered them long term value.

Lesson study asks teachers to closely examine the evidence of student learning, and recognize if their intentions and goals were met (Lewis, 2002b). Argyris's theory of learning is helpful in framing how this is a potential power of lesson study. He explains:

Learning occurs when we detect and correct error. Error is any mismatch between what we intend an action to produce and what actually happens when we implement that action. It is a mismatch between intentions and results. (p. 3)

Lesson study provides this experience of allowing teachers to see a "mismatch" between the intentions of a lesson plan and the results students produce. Building a step further, lesson study is likely to be most useful when it is used for long periods of time, where teachers can see student learning improve because "learning also

occurs when we produce a match between intentions and results for the first time (Argyris, 1993, p. 3).

In Japan, lesson study offers teachers a sense of agency and professionalism (Fernandez & Yoshida, 2004). Research shows that "lesson study is extremely popular and highly valued by Japanese teachers, especially at the elementary school level" (Stigler & Hiebert, 1999, p. 111). At the end of a lesson study in Japan, it is common for the teachers to produce a written report on their findings. Teachers' findings are considered important, and they in turn can be used to shape policy. Teachers may also participate in a public research lesson. During public research lessons thousands of educators may come to watch a lesson being taught using new and innovative educational approaches. Research lessons are used when new curriculum is developed, and they can also shape policy by reporting findings to national curriculum committees. Outside commentators will often be invited to research lessons and will share their observations with policymakers, principals, and other teachers. Hence, the high esteem that lesson study is held in by educators in Japan from all levels of schooling helps facilitate teacher learning. In addition, writing a report helps teachers process what they learned and creates a permanent document of their work.

Like action research, which educational researchers laud for improving teachers' practice and giving them a sense of empowerment, (Kincheloe, 2003; Myers & Rust, 2003; Sagor, 2000) lesson study is rooted in a constructivist framework. The theoretical principal of constructivism is that students learn through social interaction and sharing rather than in individual isolation. Villegas and Lucas (2002) explain that constructivism is:

...an active process by which students give meaning to new input based on their preexisting knowledge and experience. While each student must construct his or her understanding of new ideas and experience in his or her own mind, the new conceptions originate in social interactions within a given

learning community. Students are seen as builders or constructors of knowledge. (p. 69)

Constructivists believe that knowledge alone has limited value – it is what individuals do with the knowledge that is significant and meaningful. In this framework of learning, students are asked to solve problems, test theories, and actively process knowledge to construct meaning (Michelli & Keiser, 2005, p. 14).

Lesson study offers a constructivist learning experience for both teachers and students. Teachers engage in a dialogue about their practice and make choices about what they will teach, and through social interaction, discourse, and reflection they refine their pedagogical skills. This involves hours of discussion and planning, and even though only one lesson plan emerges, the discourse develops their thinking and, in turn, they learn more than working alone. Thus, concept formation “is a creative, not a mechanical passive, process” (Vygotsky, 1962, p. 54). In addition, since lesson study requires teachers to focus on a concept or skill they would like to develop, the teachers are forced to deal with a “problem” in learning, which develops conceptual understanding in a way memorizing or listening to lecture cannot (Vygotsky, 1962).

Lesson study is rooted in constructivism in terms of the way it helps teachers learn, but it also requires teachers to have an understanding of constructivism and a dedication to it in their own practice with their students. Modern Japanese lesson study is “grounded in inquiry learning and the creation of opportunities for students to engage in problem solving and discussion” (Brown & Wiburg, 2007, p. 84). The work the teachers produce is based on these beliefs, which, though they are not always practiced, fit in with American beliefs historically about schools and learning. In fact, writings on lesson study clearly show the influence of John Dewey’s work. Lesson study works against teachers using traditional conceptions of teaching, such as the “banking” model of education that Freire discredits, and instead works

towards Dewey's theory that "the start must come from the child" (Dewey, 1990, p. 129). Thus, the theoretical underpinnings of lesson study can help both teachers and students cross the bridge from imitation to understanding.

Because the U.S. school system differs greatly from Japan's in the way our schools are controlled, in the way our curricula are created, and in the diversity of our teaching staff and students, lesson study is often not replicated in the United States exactly as it is used in Japan. Lewis (2002a) calls for more research to be done to understand "which adaptations are successful and which are not" (p. 32). Most likely, lesson study is most successful where there are "supporting conditions in place for lesson study, including tradition of collaboration, an interest in teachers' inquiry, a shared curriculum, and administrative support for teacher-led learning" (Lewis, 2002a, p. 33). Though lesson study is growing in popularity, "since deep knowledge about lesson study is rare in the United States, it is likely that some of these groups have an incomplete understanding of Japanese practice" (Chokshi & Fernandez, 2004, p. 1). There is, however, a growing body of literature on the subject of lesson study in the United States (Lewis, 2002b).

Lesson Study's Benefits and Obstacles

The academic literature and research on lesson study in the United States describes many of the benefits and obstacles that lesson study faces in its implementation in American schools. In sites where lesson study is implemented successfully, lesson study appears to support professional growth (Brown & Wiburg, 2007; Lewis, 2002b; Rock & Wilson, 2005). At the same time, there are common constraints that lesson study faces in the United States, largely because the culture of schooling is different from Japan (Stigler & Hiebert, 1999).

Lesson study can offer teachers valuable learning experiences which they can apply to their own teaching practice. For example, Boss (2002) reports that lesson

study helped teachers understand how students learn and how to assess learning. Similarly, Brown and Wiburg (2007) report that nearly all the teachers they interviewed indicated that “in every lesson they teach now, they think about what the kids need to know, what the students think, and how they can help them.” (p.22) Lewis suggests that lesson study can help educators notice “gaps in their own understanding, and provide a meaningful, motivating context for seeking a deeper understanding (Lewis, 2002a, p. 17). In addition, there is evidence that lesson study can directly improve teaching instruction. Rock and Wilson (2005) report that the teachers they studied, as a result of lesson study, improved in instructional vocabulary, differentiated instruction, manipulative math instruction, knowledge of math learning stages, and establishing high student expectations. Pesick’s (2005) report on a group of American history teachers in Oakland, California who were engaged in lesson study states that “over $\frac{3}{4}$ [of participants] reported that they actually learned something new about their teaching – something that was revealed to them through lesson study process” (p. 4).

Lesson study can also provide experiences which help teachers feel more confident in their work. Rock and Wilson (2005) show in their study that teachers felt empowered and felt more confident in experimenting with new teaching techniques and content with their classes as a result of participating in lesson study. The teachers and principals that Boss (2002) interviewed reported that they were more likely to do interdisciplinary work and felt more creative and confident in planning lessons as a result of lesson study.

One of the most obvious outcomes from lesson study is increased positive collaborative relationship between teachers. The teachers Rock and Wilson (2005) examined said they learned a great amount from each other. Boss’s (2002) interviews show that teachers who may have been nervous at first became comfortable observing each other and giving feedback. This collaborative work

helped the teachers improve on anticipating student responses to questions. Pesick's (2005) report indicates that teachers benefited from sharing ideas. Prior to participating in lesson study, 71% said they discussed teaching history with other teachers, but only 24% met on an ongoing basis. After the lesson study project was complete, all 71% said that lesson study was more structured than their previous collaboration, and this structure was beneficial because it provided a framework for evaluation of the teaching (Pesick, 2005).

The research and literature on lesson study in the United States also explores the challenges lesson study faces in the United States. Stigler and Hiebert (1999) suggest that the most significant obstacle to the implementation of lesson study in the United State is that the culture of schools. Japanese school culture is quite different from American school culture. Lewis (2002b) highlights some of the major aspects of Japanese school culture and pedagogical beliefs that make it conducive to lesson study: a shared, frugal curriculum; established collaboration; a belief that teaching can be improved through collective effort; stability of educational policy; instructional improvement time focused on instruction; self-critical reflection (known as "hansei"); and a focus on the whole child.

Because Japan has a national curriculum, and it is much sparser than the typical school curriculum in the United States, the teachers have a common starting place. The school system in the U.S. is much larger, and we have many more schools of education. Lewis (2002a) explains that in Japan:

The content taught to other grade levels is likely to be content relevant to all teachers, because they have taught it or will teach it in the future. In contrast, many US teachers teach a single grade level repeatedly, and even teachers within the school may not share a curriculum. Along with the fact that US teachers cannot teach everything in their broad curriculum, these conditions reduce the likelihood that US teachers will teach the same content. (p. 23)

As a result, there are major differences in teaching and pedagogical beliefs among and even within schools in the U.S. Chokshi and Fernandez (2004) warn that teachers in the U.S. may be “arbitrarily creative” in planning their lessons (p. 3). Thus, the individual styles of teachers and lack of coherence across content areas may present major obstacles for schools in the U.S.

Brown and Wiburg (2007) explain that “providing teachers the time needed to work with other teachers to design and evaluate lessons is another factor deeply embedded in the culture of schooling in Japan” (p. 3). Teachers new to lesson study may have the misconception that Japanese teachers teach less, or have more prep periods than American teachers do. In actuality, this is not the case; however, professional development activities may be supported to a greater extent in Japan than in the U.S. (Lewis & Tsuchida, 1998). In the United States, the lack of time for collaboration and scheduling conflicts can lead to frustration in implementing lesson study. Chokshi and Fernandez (2004) state that teachers and educators in the U.S. often fear there is not enough time to do projects such as lesson study.

In the U.S., classroom time is not treated as sacredly as it is in Japanese schools (Stigler & Hiebert, 1999). Another obstacle is the competitive nature of our schools. Rock and Wilson (2005) noted that many teachers were nervous about giving feedback at the start of the study; they had a difficult time getting used to the idea that it was good to critique the lessons and ideas presented. Chokshi and Fernandez (2004) cite this cultural difference as well. Whereas Japanese teachers are comfortable sharing ideas and feedback, U.S. practitioners tend to be overly polite and don’t give constructive criticism.

Proponents of lesson study say that in order for it to be successful it should be teacher-driven. In the U.S., many district leaders and principals may have issues with teachers having control over their own professional development. Boss (2002) interviewed several teachers and principals who have used lesson study and found

that some common obstacles are dictator-like principals as well as principals who are fearful and skeptical that it won't work. Lesson study appears to be most successful in sites where principals do become actively involved in supporting the group (Brown & Wiburg, 2007). However, even if administrators offer their support, teachers may be nervous. Rock and Wilson (2005) explain that initially some teachers were worried about critiquing the lesson because it would be seen as negativity towards other teachers, which in turn could lead to negative evaluations from administrators.

Research suggests that it is important that administrators or teachers in the school become experts before embarking on the project, or invite in a knowledgeable other to initiate the group (Chokshi & Fernandez, 2004). Even if lesson study is teacher led, it doesn't necessarily mean it will be meaningful. The failure of lesson study in a school could lead skeptical administrators to be wary of using it again. Chokshi and Fernandez (2004) report: "The lack of a common professional knowledge base and the dearth of U.S. experience with lesson study highlight the need for outside support experts and knowledgeable advisors" (p. 5).

Thus, the literature on lesson study points to much agreement on the benefits from and obstacles to implementing lesson study in U.S. schools. However, the question of how research on lesson study can contribute to instructional improvement has been raised by Lewis, Perry, and Murata (2006), three leading scholars on lesson study in the United States. This important question will be explored in more detail in chapter three.

CHAPTER 3

Research Design and Process

It is through sharing true stories of practice, supported by data, that teachers' voices will become part of the policy discussion. It is incumbent upon the education community to make the link between policy and what actually happens in classroom. This is a start. When all of us raise our voices together, then we will create real school reform.

- Meyers and Rust, 2003, p. 160

Introduction

From the moment I took my first class as a doctoral student, I was already preoccupied with the lives of urban schoolteachers. Though this interest was largely a result of my own experience as a New York City public school teacher, my fascination with teachers began when I was a young girl.

As a child, I had a small easel with a blue chalkboard in my bedroom. My parents bought me a packet of chalk, but it never seemed to write as smoothly as my second grade teacher Ms. Entewistle's did. So on numerous occasions, I would sneak over to the chalkboard when Ms. Entewistle was busy with other students and drop silky white pieces of chalk into my pockets. Then, I would carry the pieces home with me so I could use them to write on my own chalkboard, pretending to be Ms. Entewistle. This preoccupation with teachers continued throughout my teenage and college years, but I never thought of teaching as a career path until I was given a copy of Jonathan Kozol's *Savage Inequalities* by a friend's mother a year after I had graduated from college. After reading that book, I realized I wanted to be not just a teacher, but an urban school teacher. I entered a master's program in English Education and then went on to teach for seven years in the New York City public school system, enrolling in a doctoral program in Urban Education during my fourth year of teaching. During the course of this two-year study, I moved from being a full-time teacher to a part-time literacy coach. Thus, the last year I was teaching was my first year of data collection.

The reason I am contextualizing teaching with my own experiences is that this study, and more specifically my research design, was greatly influenced by my own experiences as a teacher and a student. I have noticed that though teachers are among the most watched people on the planet, they are rarely asked to give their own opinions on the current state of education. In her study on female Jewish teachers in New York City in the early part of the 20th Century, Ruth Jacknow

Markowitz writes:

The typical research on teachers has concentrated on learning, rather than teaching, and has generally employed models and techniques at some distance removed from the realities of the classroom, leaving us with severely limited evidence about what teachers have actually done in their classrooms, and little about their perceptions. (1993, p. 4)

I worry that teachers' voices are still absent from education research and policy nearly a hundred years after the women that Jacknow studied worked in New York City schools. In fact, Meyers and Rust (2003) report that in 1989 not one teacher was invited to the first National Education Summit called by President George H.W. Bush and then Governor Bill Clinton. Thus, one of the goals of this study is to bring teachers' voices into the discourse on school reform. I have chosen to focus on their stories, with the hope that my readers will listen to what they have to say.

Research Design

A qualitative design was used for data collection and analysis in this study. This design was selected in order to capture the teachers' experiences and perspectives in their own words. The central research question explored was "What are the factors that facilitate and constrain teacher learning in a lesson study group?" In order to investigate this question, this study operated on two different levels. On one level, it examined the factors *within* a lesson study group that contributed to as well as constrained teacher learning. On the second level, this study explored the factors that facilitated and constrained teacher learning *outside* of a lesson study

group. This two level design first allowed me to examine the “mechanism” of lesson study and develop theories about how it might operate to impact teachers’ instruction (Lewis et al., 2006). However, the main purpose for engaging in two levels of inquiry was to capture the dynamics within the lesson study group and to capture the larger context in which the lesson study group was situated. This two level design was rooted in complexity theory, which asserts that “the link between cause and effect is difficult to trace” and that “change (planned or otherwise) unfolds in non-linear ways” (Fullan, 1999, p. 4). Thus, this study considered teacher learning in a school as part of a complex system (Miles, 1965, 1967; Sarason, 1996; Senge et al., 2000). Taking into account that a web of factors exists in relation to change, this study was designed to examine multiple dynamics within the school over the course of two school years.

Using a qualitative approach was integral to this study in order to capture as much of the participants’ experiences as possible. The advantage of qualitative data is that “the influences of the local context are not stripped away, but are taken into account. The possibility for understanding latent, underlying, or nonobvious issues is strong” (Miles & Huberman, 1994, p. 10). The data that was collected revealed a high level of richness and contained “thick descriptions,” which helped me to understand the complexity of the experience of the participants (Creswell, 2003; Miles & Huberman, 1994; Picciano, 2004). Since my research question was inextricably tied to the experience of participants, it was important for me to examine the meanings that the participants placed on these experiences, while also connecting them to the social world around them (Miles & Huberman, 1994; van Manen, 1990). Thus, a qualitative design was the best approach for this study.

I chose to do an ethnographic case study of one lesson study group instead of a larger, more expansive study of several groups. A case-study methodology suited my inquiry because I believed it was necessary to examine in as much detail as

possible the workings of a lesson study group. Logistically, it would be impossible for me as the sole researcher on this project to collect a richness of data with more than one group. Case study also allowed me to use a wide range of data collection tools, which would help me triangulate my data (Picciano, 2004). I decided to conduct my study over the course of two years in order to document the group's work over two cycles in order to gain a more complete understanding of how lesson study operated in a local context (Lewis et al., 2006).

The benefit of ethnographic research is that it "provides rich descriptions of human behavior in natural settings and not in artificially constructed experimental settings" (Picciano, 2004, p. 33). As I spent time with these teachers in the lunchroom, during lesson study meetings, at staff events, and in the hallways, I was immersed in their daily lives. In addition, ethnographic methods allowed me to understand how teachers "give meaning to their lived worlds in light of the social and cultural forms they reflect and help produce" (Kincheloe, 2003, p. 234). Finally, ethnography offered the advantage that Sarason (1996) suggests: an ethnographic approach is "more illuminating of the school school culture and the problem of change than any other approach," and results in a "'picture' containing diverse details ordinarily not studied in relation to each other" (pp. 175-176).

In order to deal with the issue of subjectivity, I fully disclose my role as a former teacher at this school, and acknowledge my own bias in this study. Also, I was a former member of the lesson study group and a colleague of the teachers involved in this study. This situated me in a particular place – I was both participant and observer. Perl and Wilson's (1986) study reveals the benefit of being an insider and immersing oneself in the community to gain an "insider's perspective." Like Perl and Wilson, I did not seek to remove myself from the study, but rather acknowledge that my presence was part of this study; and there is no way of knowing if the teachers would behave differently if I wasn't there.

There are both advantages and disadvantages to doing research in what Glesne and Peshkin (1992) call the researcher's own "backyard" (as cited in Creswell, 2003). Because I was part of this community before my research began, I had the advantage of already having the trust of the participants. Even though I had the tape recorder on and I was taking notes throughout the group meetings, from the very beginning the participants seemed comfortable with my presence. Had I been an outsider to the group, it is possible they would have behaved differently. In this way, I think my place as part of this community helped me document authentic conversations and behavior. Despite these benefits, I was also well aware that I needed to continually monitor my relationships with the participants, taking into account any ethical issues that could arise as a result of my interaction with them (Lareau & Shultz, 1996). Readers may question the accuracy of my findings due to my position as a participant-observer, since there are many cases of how "backyard" research creates problems with reporting data that is biased (Creswell, 2003). In order to address this issue, I have employed multiple strategies in this study to reassure the reader that my data is trustworthy and credible, such as triangulation of different data sources; member-checking to determine the accuracy of findings; the use of rich, thick description to convey my findings; reflecting on my own bias in the study; and spending a considerable amount of time in the field (Creswell, 2003).

Data Sources and Data Collection

Participants

Lesson study was a part of normal practice at Manhattan Middle School¹ (MMS) and was an approved form of professional development in the school and the school district. Hence, the research required no changes to regular practices within

¹ Pseudonym

the school. All participants in the lesson study group were invited and agreed to participate in the study (n=8). All classroom teachers involved in the study (n=7) had been teaching for two or more years when the study began. Over the course of two years of my study, two participants left the school. A third participant was a guidance counselor, so I did not include her in the study since it was focused on classroom teachers. Thus, I focused on five teachers. The table below gives a brief highlight of each participant in the lesson study group. The category “number of years teaching” refers to the number of years participants had been teaching in a secondary school by the end of this study.

Lesson Study Participants²

Name	Subject Area	Grade	Number of Years teaching	Included in case study
Edward	Humanities	7th	15	Yes
Steven	Humanities	6th	5	Yes
Robyn	Math	7th	3	Yes
Genevieve	Special Education	6 th , 7 th , and 8 th	5	Yes
Sarah	CTT Teacher	7 th	6	Yes
Mary	Guidance Counselor	6 th , 7 th , and 8 th	N/A	No (not a classroom teacher)
Andrea (Facilitator)	Science	8 th	5	No (left after first year for a job in administration at another location)
Nicole	Humanities	8 th	7	No (spent second year of study out of school on maternity leave)

² Pseudonyms are used for all participants in this study.

Prior to the start of my study, four group members (Edward, Steven, Andrea, and Nicole) had participated in a lesson study group at the school the previous school year (lesson study cycle #1). In addition, I was a participant in lesson study cycle #1. Throughout this study, I will refer to the lesson study group I documented as "lesson study cycle #2," since it was the second cycle at the school.

Data sources

Van Manen (1990) writes, "there is a certain dialectic between question and method" (p. 2). With this in mind, when I began this study I thought carefully about what types of data sources would be needed to answer my question, "What are the factors that facilitate and constrain teacher learning in a lesson study group?" This was a personal choice for me, because I believe that "the method one chooses ought to maintain a certain harmony with the deep interest that makes one an educator (a parent or teacher) in the first place" (van Manen, 1990, p. 2). I decided that ethnographic methods would help me capture the richness of experiences and the voices of the teachers involved in my study. It was my deep interest to foreground the teachers' voices, and I believed these sources of data and collection procedures were the best way of honoring the teachers' voices. Weis & Fine (2000) explain that ethnographic methods can help a researcher "unearth the voices of people usually not heard" (p. 26); in this study, I have viewed the voice of teachers as a marginalized voice. I chose each data source so that I would be able to not only focus on teachers' voices, but also so that I could "describe the concrete experiences of everyday school/educational life and the social patterns, the deep structures that construct it" (Kincheloe, 2003, p. 233).

I used several tools for data collection in order to capture the experiences of the participants as accurately and richly as possible, and also to use in triangulation (Creswell, 2003; Miles & Huberman, 1994; Picciano, 2004). At the start of my

study, I administered a Likert-style survey to gain an understanding of the teachers' experience with collaboration, sense of agency and confidence as teachers, sense of professional identity, and view of the effectiveness of collaboration on their own lesson planning and teaching. The benefit of the survey was that it offered a relatively quick snapshot of the experiences; interviews with the participants would have been time consuming and presented logistical problems. The survey did offer interesting results, but due to the small sample size it offered very limited information. I was, however, able to use the results to triangulate some of my qualitative findings.

Other data sources that were used were (a) questionnaires, (b) field notes/reflections, (c) audio and video tapes, (d) teacher notes/written observations from lessons, (e) student work, (f) participant interviews, and (g) documents. The table below describes each data source.

Summary of Data Sources

DATA SOURCE AND COLLECTION TIME FRAME	DESCRIPTION OF DATA SOURCE	GOAL OF DATA SOURCE
Questionnaires and Survey February, 2007	At the start of the study, teachers were asked to answer four open-ended questions about their interest in lesson study and their experience with it, as well as ask circle responses on a Likert-style scale.	<ul style="list-style-type: none"> • To gain an understanding of the teachers' experience with collaboration, sense of agency and confidence as teachers, sense of professional identity, and view of the effectiveness of collaboration on their own lesson planning and teaching.
Field notes and Reflections February, 2007 – June, 2008	Field notes were recorded throughout the study. Notes were also made during the implementation of the lessons and the debriefings. The essence of the each conversation was recorded and, reflections were recorded on the patterns that that were emerging. Field notes were recorded on daily	<ul style="list-style-type: none"> • To notice changes participants make in instructional practice, identify common themes, and record observation notes that would be compared with the initial survey results as well as participant interviews. • To determine the impact

	<p>interactions with teachers in the school as well as observations of each teacher in his/her classroom</p> <p>Descriptive notes as well as reflective notes were recorded. Demographic information was recorded for each observation (Creswell, 2003).</p>	<p>the lesson study model has on the way teachers' view their instruction.</p> <ul style="list-style-type: none"> • To develop a more complete picture of each teacher's individual practice.
<p>Audio and Video tapes</p> <p>February, 2007 – June, 2008</p>	<p>All 14 lesson study meetings were audio taped. The two lessons and the two debriefings were videotaped. All interviews were audio taped.</p> <p>Note: If teachers or students declined to be video taped, I ensured that they did not appear on the tape.</p>	<ul style="list-style-type: none"> • To capture the lesson live as well as the teacher conversations in order to more accurately represent participants' responses.
<p>Teacher observation notes</p> <p>June, 2007</p>	<p>During each lesson, all of the teachers recorded notes in an observation template that the facilitator handed out.</p>	<ul style="list-style-type: none"> • To capture what each teacher was noticing and commenting on in the lesson as it was being taught. • To compare to responses in interviews and in lesson study group discussion in order to capture changes and growth in thinking.
<p>Student work</p> <p>June, 2007</p>	<p>Both lesson implementations yielded a considerable amount of student work in the form of worksheets. All worksheets were collected as data sources.</p> <p>Note: This data was used solely as a way of evaluating the teachers' practices and the changes they make to their pedagogy, since the teachers are the subject of this project, not the students.</p>	<ul style="list-style-type: none"> • To reveal the successes and failures of each lesson for the students. • To reveal the understandings that students exhibited in the lesson. • To compare to teacher analysis of student data.
<p>Interviews</p> <p>October, 2007– January, 2008</p>	<p>Participants were interviewed individually after engaging in the lesson study process. They responded to open-ended questions pertaining to the lesson study model (e.g. How did lesson study influence your</p>	<ul style="list-style-type: none"> • To determine the participants' overall experience and level of satisfaction with the study and impressions on what constitutes effective professional

	teaching practice? How does lesson study compare to other forms of professional development you have participated in?). Interviews were tape-recorded. The school principal was also interviewed at the end of the lesson study cycle.	development.
Documents February, 2007 – June, 2008	Various documents were collected throughout the entirety of this study, such as: Principal memos (which contained updates on staff development); e-mails between myself, participants and each other; a teaching philosophy statement was given to me by one teacher in conjunction with an interview; school calendars; and lesson plans and resources that were generated by the lesson study group.	<ul style="list-style-type: none"> • To help depict the daily experiences of teachers. • To illustrate the role of the principal in relation to the lesson study group and professional development at the school. • To document the interactions between teachers and between teachers and the researcher. • To create a more complete picture of the fabric of MMS.

Participant observation and interviews were critical pieces of this study. Both of these allowed me to understand the perspective of the participants (Lareau & Shultz, 1996). Though I was the primary researcher, the teachers recorded their own notes on their thoughts and impressions of the process, which I was able to compare to my own field notes. I triangulated the data to look for consistency during the analysis phase. Weis and Fine (2000) explain that triangulation is the “critical element in the practice of social science: ‘adding’ one layer of data to another to build a confirmatory edifice” (p. 51).

To check against bias (since I openly acknowledge that I favor the use of inquiry models as teacher professional development), I presented excerpts of transcripts and preliminary data analysis to the five teachers involved in the case study in June, 2008. I prepared a 45-minute talk and powerpoint presentation in

which I gave an overview of the themes that emerged from the data, as well as possible implications. Following my presentation, I asked the teachers to comment on the findings and share any disagreements, insights, and questions. I explained to the teachers that I wanted to insure that their verbal and written expressions were accurately interpreted and the nature of the experience was accurately captured (Rock & Wilson, 2005). This meeting became another source of data.

Data Collection

The lesson study group that I documented (lesson study cycle #2) met fourteen times from February to June, 2007. The table below gives a brief overview of each meeting.

Lesson Study Meetings

Meeting Number	Date	Meeting type
Meeting 1	Feb 28, 2007	Planning the lesson
Meeting 2	March 5, 2007	Planning the lesson
Meeting 3	March 13, 2007	Planning the lesson
Meeting 4	March 23, 2007	Planning the lesson
Meeting 5	March 28, 2007	Planning the lesson
Meeting 6	April 24, 2007	Planning the lesson
Meeting 7	April 27, 2007	Planning the lesson
Meeting 8	May 2, 2007	Planning the lesson
Meeting 9	May 9, 2007	Planning the lesson
Meeting 10	May 23, 2007	Planning the lesson
Meeting 11	May 30, 2007	Planning the lesson
Meeting 12	June 1, 2007	Planning the lesson
Meeting 13 (over 2 days)	June 3, 2007 and June 6, 2007	Debriefing #1
Meeting 14	June 12, 2007	Final debriefing

At meeting #1 the group decided collectively to focus on the 6th grade Humanities curriculum. The group also selected and planned the lesson they eventually implemented. The participants spent time brainstorming the content and process goals they wished to focus on during their study. The overall focus the group settled on was to explore how students make connections. Since they decided to focus on 6th grade, Steven (the Humanities teacher for that grade) presented on his curriculum at the second meeting. At the second meeting, the group decided to focus on how geography influenced social structure in ancient Sparta. These dual focuses (making connections and social structure in Sparta) formed the foundation of the research lesson. Over the course of ten more meetings – ranging from thirty minutes to three hours each – the group sketched out a skeleton of the lesson. By meeting #10, the group had created a detailed step-by-step lesson plan.

After the lesson was written, the facilitator went over the protocol for taking notes during the lesson implementation. Then the lesson was taught during one period during the school day. The teachers rearranged their schedules and gave up prep periods in order to be present for the lesson. Following the first teaching of the lesson, the teachers engaged in a one-hour debriefing of the lesson where they discussed the successes and pitfalls of the lesson, using the evidence they collected on student understanding. At the debriefing they also decided to make small changes to the lesson. The lesson was then taught by the same teacher, Steven, a second time. Again, the teachers arranged their own coverages with other teachers and gave up prep periods. Following the second lesson, the teachers met for an hour to have a final debriefing of the lesson.

Though I intended to document the group over the course of two lesson study cycles (cycle #2 and cycle #3), cycle #3 never occurred. In the fall of 2007, the remaining members of the group who still taught at the school spoke about the

possibility of lesson study continuing (as did the principal), but it never actually did. This required me to adjust my research question and methods, since there was no group in existence to continue documenting. In order to complete my study, I felt I had two viable choices: (1) End the study and just analyze lesson study cycle #2 or (2) Continue the study by following the five teachers through the second year, even though cycle #3 was not occurring. I decided that the second option would yield a greater richness of data, and though I would no longer be able to document the inner workings of the lesson study group, I could still document the teachers' experiences outside of the group, which would help me understand if and how teachers applied their learning outside of the group. Since my central research question was always concerned with the dynamics outside of a lesson study group, and how the school and larger context constrained and facilitated learning, I believed that the second year of data collection could be useful in exploring this phenomenon.

Data Analysis

LeCompte and Schensul (1999) explain that data analysis for ethnographers consists of three phases: analysis done in field, analysis done as soon as the study is complete (preferably while still in the field), and analysis done after time or distance from the field. Over the course of this study I engaged in all three phases of this analysis. My field notes and transcripts were the "raw data" of my study, which needed to be "cooked" into results (Goodall, 2000; LeCompte & Schensul, 1999).

While I was in the field I tried to record weekly reflections on my observations, ranging from descriptions of the context of the teachers' meetings to notes on patterns that I noticed. By the end of my two years of this study I had filled a notebook with various notes, quotes, and reflections. Once the data

collection phase ended, I began to prepare the data for analysis by transcribing the interviews, which were then coded.

Coding categories are "labels through which the data [can] be chunked up and analyzed (Weis & Fine, 2000, p. 29). Each category was given a code, such as "collaboration." Weis and Fine (2000) assert that "few coding categories are predetermined by the investigator; the data have to 'speak' to this category in order for it to be set up as one" (p. 29). Coding categories are necessary to analyze data, as it is impossible "to analyze systematically thousands of pages of field notes or interview transcripts without coding" (Weis & Fine, 2000, p. 30). Thus, I created the categories out of the data that I collected instead of entering data analysis with a set of pre-determined codes in mind. Since this study focused on the voice of teachers, and the data sources revolved around their talk, my analysis had a heightened focus on language. I followed Goodall's (2000) recommendation of using an insiders and outsiders perspective when analyzing talk; thus, I tried to code with naivety.

I moved from one piece of data to the next, developing a set of codes. Data was sometimes double or triple coded, since excerpts often fit into more than one category (Weis & Fine, 2000). I started by coding the interviews since the tapes from the lesson study meetings consisted of hours of conversations, which seemed overwhelming to transcribe and code. I read through the interview transcripts to come up with "broader themes" (Weis & Fine, 2000, p. 29), and then I came up with coding categories. Once I had completed the transcribing and coding of the interviews, I began to transcribe the lesson study meetings.

Due to the vast amount of taped conversations from the lesson study meetings, I created summaries of segments on the tapes, and transcribed only the parts that answered my research question. I followed Sarroub's recommendation (2004) of making a "running catalogue" of the contents of tapes, noting places that stand out. I explored and recorded the contents of the tape first, then reviewed

them for a preliminary analysis that focused on noting analytic categories which might be useful, recognizing any changes in my initial questions or impressions, thinking about how someone else might catalogue the tape differently, and then determined which parts to revisit for coding (Sarroub, 2004). After exploring the tapes, I was able to identify which portions addressed my research questions and then transcribe them. I sorted them into folders by theme, and data was copied so it could be placed in multiple folders. After transcribing and coding the interviews and excerpts from the lesson study meetings, I went back to the other data sources I had collected and coded the sections that fit in with the codes that emerged from the interviews. Finally, I transcribed and coded five of the meetings in full. This allowed me count the number of times each participant spoke, which was a very useful source of data that I used to triangulate my findings on level of participation by group members. In addition, I was able to look for any negative or discrepant information in the transcripts that may have contradicted my findings (Creswell, 2003). After coding interviews and meeting transcriptions, I then coded the other qualitative data sources in the same way.

I entered the data from the surveys into SPSS and did some simple descriptive statistical procedures to “become familiar with the data, identify missing or incorrect data, and provide an introductory description of the data” (Picciano, 2004, p. 109). Due to the limited sample size, I felt a frequency distribution (a “systematic arrangement of numeric values from the lowest to the highest or the highest to the lowest – with a count of the number of times each value was obtained”) offered the most useful picture of the data (Picciano, 2004, p. 109). I combined the results of the survey questions together and grouped them into three themes: collaboration, confidence, and sense of value. These three themes were selected to address the research questions. I then created tables using Excel to show the results.

Once my data was coded, I developed a framework for looking at the factors that facilitated and constrained learning in a lesson study group. This framework emerged out of the data. After my coding was complete, categories such as school culture, administration, and features of lesson study emerged. I physically moved these categories around and grouped similar categories together to develop a larger framework. The resulting framework consisted of:

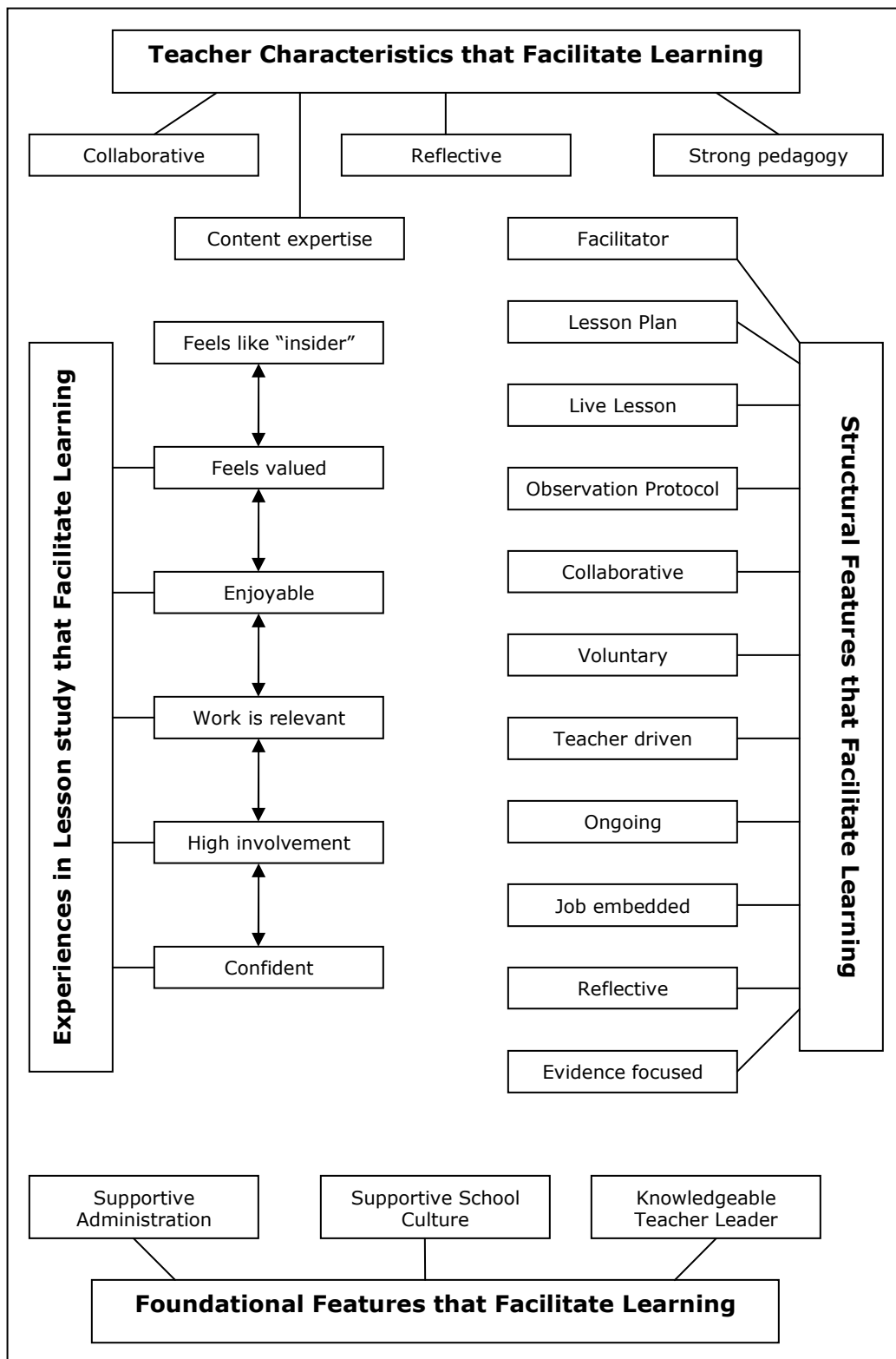
1. **FOUNDATIONAL FEATURES:** This category encompassed the elements and structures that existed outside of the lesson study group, such as MMS and the larger school system.
2. **TEACHER CHARACTERISTICS:** This category focused on the individual beliefs, values, behaviors, and other attributes of the teachers who joined the lesson study group. This included characteristics such as educational background, content expertise, pedagogical knowledge, and beliefs about collaboration.
3. **STRUCTURAL FEATURES:** This category was comprised of the structural features of lesson study, such as the focus on creating one lesson plan, the observation of a live lesson, and collaborative meetings.
4. **EXPERIENCES IN LESSON STUDY:** This category included the experiences teachers had working within the group. This category privileged relationships, interactions, group dynamics, and communications within the group.

This framework was helpful in thinking about change in teacher practice because it allowed me to consider not only the mechanism by which lesson study operates to support teacher learning, but it also allowed me to consider the factors

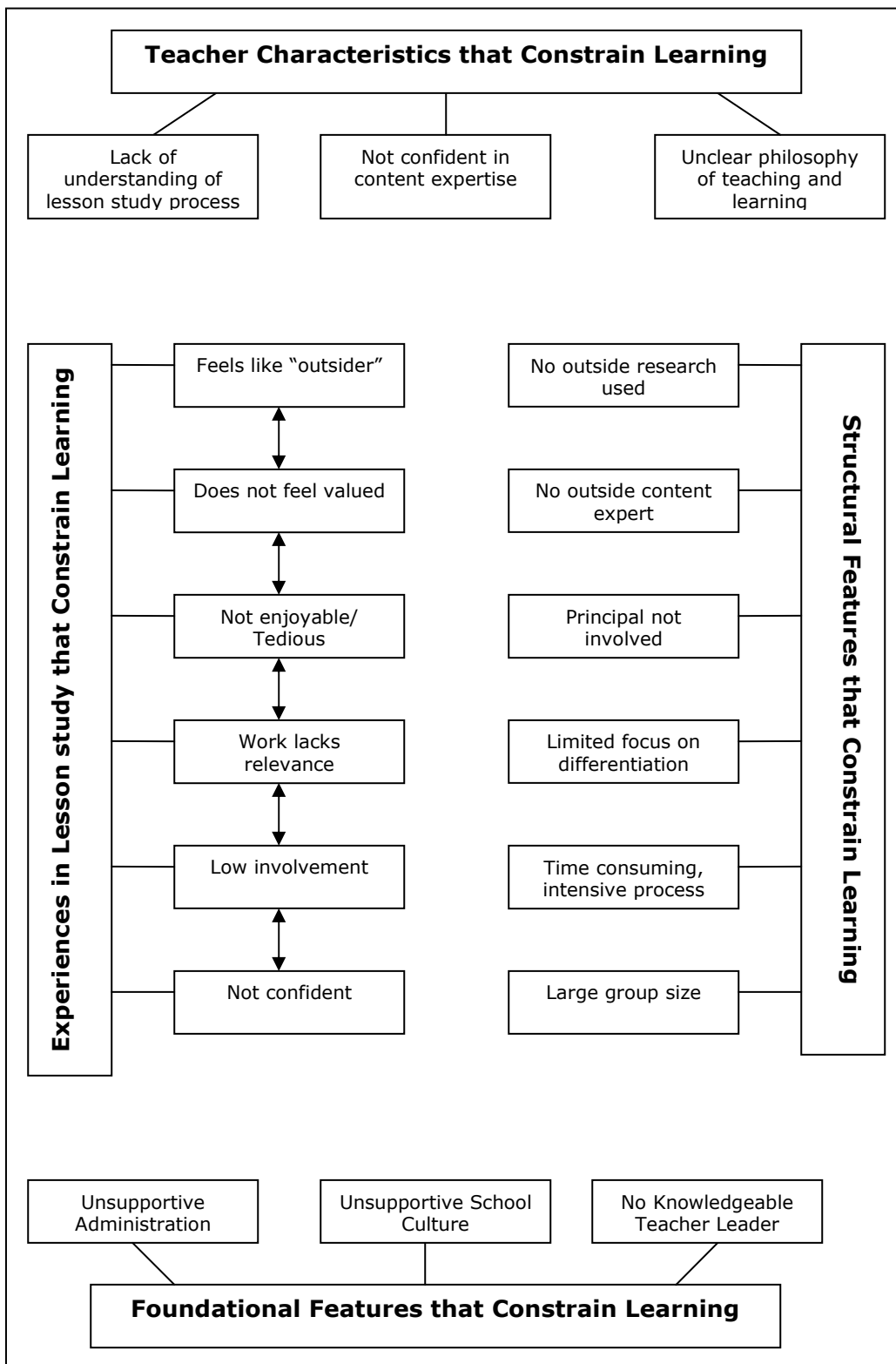
that operated outside of the group as facilitators of this learning. In considering the constraints on teacher learning, the framework proved equally as useful. On the next two pages you will find this framework, which will be discussed in more detail in later chapters. It was this framework that allowed me to build a theory around my research question. Thus, I followed an inductive process (Creswell, 2003) which consisted of:

1. Gathering information (data)
2. Forming this information into categories/themes
3. Developing themes into a theory
4. Comparing the theory with existing literature

FACILITATORS IN TEACHER LEARNING



CONSTRAINERS IN TEACHER LEARNING



Chapter 4 Context

Introduction

I chose to conduct this study in the school where I not only taught for five years, but was teaching at during the first year of this study. This site was partially chosen because I had access to it and it was convenient for me, but also because my relationship to the school allowed me to have insight into the multiple dynamics at work within the school. Because I had worked at the school for nearly five years at the start of this study, I believed that my knowledge of the school would allow me a deep perspective on the school, as well as earn the trust of the participants and the principal. In addition, MMS is located in a high performing school district in Manhattan, and it offers many of the supporting conditions that Lewis (2002) indicates are needed for lesson study to be successful.

MMS is small school (approximately 350 students total) that runs from grades six through eight. Many parents live in the affluent neighborhood surrounding the school and fit into high-income brackets. The school has a fairly strong and active PTA, a supportive administration, and a positive reputation in the community. Approximately 15% of the students receive free lunch and the attendance rate is 97%.³ The student body is somewhat diverse; the total population of students is as follows (figures are rounded to two decimals):

56.60% White	40.98% Male
13.08% Black	59.01% Female
15.11% Asian/Pacific Islander	
12.79% Hispanic	
2.32% American Indian/Alaskan	

³ Statistics used to describe the school were given to me by the school principal during the school year of 2006-2007, the first year data was collected. From year to year the student body and attendance rate may fluctuate, but usually only slightly.

MMS differs from a typical New York City school in terms of its demographics because they are able to select a portion of their students through interviews, test scores, report card marks, teacher comments, attendance and lateness records, a math quiz and a writing sample. For each incoming 6th grade class, the school also receives between five to ten students who have no school placement after the entire selection process is done. According to the principal, the selection process was originally created to get more ethnic and socio-economic diversity in schools on the Upper East Side (since the demography of this area is largely white and upper class).

According to the school principal and staff, the selection system has many benefits for the students and teachers. First, the school is exempt from following the chancellor's curriculum mandates. Teachers are encouraged by the principal to create an rigorous curriculum due to the fact their students tend to score well, occasionally the best in the district, in Math and English Language Arts. Teachers report that they are able to focus our attention on their curriculum in ways they would not be able to if the school was focused on test prep most of the year. The school has been listed as one of the top middle schools in New York City, and Insideschools.org reports that "the staff is cohesive, the kids seem happy and the atmosphere combines hard work and fun."

Despite these advantages, the staff said that MMS does face several challenges. They have to share a building with an elementary school, and space is very tight. MMS teachers, students, and office staff are crammed into one corner of the 4th floor and 5th floor of the building. This means classrooms are often used during teacher prep periods, and there is limited extra space for teachers to work and plan together. Students have to use a small gym most of the time (while the elementary school gets to use the larger one because they are a bigger school), and

they don't have learning spaces such as a library, computer lab, science lab, or auditorium. At present, a new building is underway for the school, which they hope to relocate to within the next year.

In the year prior to start of this study the school introduced a Collaborative Team Teaching (CTT) class, which is a class where “about forty percent of the kids have individualized education plans that state that the child needs to be in a CTT class environment...a class with two teachers: a content specialist, and a special education teacher” (quote from principal Charles Rensen). The principal reported that the CTT class necessitated hiring additional staff as well as requiring the teachers to revise their curriculum to accommodate students with more diverse needs. During this study the school grew to having CTT classes in both 7th and 8th grades.

MMS also has block periods of Humanities classes. This structure was created during Charles Rensen’s first year as a principal at the school. Instead of having one English Language Arts teacher and one Social Studies teacher for each grade, MMS has two teachers that teach both subjects for each grade. Charles believed the advantage of this was that teachers would only see sixty Humanities students instead of one-hundred and twenty, for ninety minutes a day instead of forty-five minutes. Thus, each grade has two Humanities teachers (which each have half of the grade), one math teacher, and one science teacher.

Students also have Art, Drama, Model UN, Gym, and Spanish. They participate in additional programs at the school such as an advisory program for 6th graders and a book club program for 7th and 8th graders. Once a week all students take an elective course based on their interests such as baseball, yoga, film, cheerleading, knitting, or magic.

The Beginning of Lesson Study at MMS

I first learned about lesson study during my fifth year of teaching, which was my third year teaching at MMS. During this time an 8th grade science teacher at MMS, Andrea, became involved with lesson study through her work with the Regional Instructional Supervisor for Science (RIS). In informal conversations, Andrea told me how it had made a great impact on her teaching.

We spoke about lesson study often that year, and Andrea brought Principal Charles Rensen into the conversation. Charles had been doing his own reading on lesson study and was intrigued by it, and was enthusiastic about Andrea starting a lesson study group at the school. According to Charles, the main draw for him was that lesson study was a collaborative model, and he believed that any opportunity for teachers to collaborate with each other would benefit the school. The following year he explained to me:

Anytime teachers get to go over their craft with other teachers you have the makings of a great school. What they are actually doing is secondary to the actual act of being with each other and feeling purposeful. Of course you can talk to each other but doesn't mean accomplish anything. But a group of teachers wanted to do this, and I thought I'd be crazy to stand in the way of teachers wanting to collaborate.

As the principal, he explained, he was "trying to support a teacher directed movement that was designed to improve their craft."

Despite this interest from Charles and Andrea, the implementation of lesson study was tabled for the school year of 2004-2005 due to time and scheduling constraints. But it wasn't abandoned – soon into the school year of 2005-2006, Andrea was a facilitator for lesson study at the regional level and she had gained support and interest from myself and other teachers at the school who wanted to participate in a school-based group.

At this point I would like to reflect on my own bias as the researcher of the lesson study group. Creswell (2003) explains that researchers should reflect on their

identities when engaging in qualitative inquiries, and recognize how their own backgrounds shape their studies. I was a former participant in lesson study at MMS, and I had my own motivations and reasons for joining. Thus, I wish to be transparent about my role in the origins of lesson study at MMS, as well as my own experiences with it.

I originally joined the lesson study group because I thought it might help me improve my teaching. I had a great deal of respect for Andrea and the other teachers who wanted to join, and I thought I might learn something from them. Also, my own background and experiences as a teacher shaped my path into lesson study. I entered teaching through a traditional route – I majored in English in college, obtained my degree, and then went on to a one-year English education master’s program at an education graduate school in New York City. When I started teaching in a designated “high-need” school in Brooklyn, I felt I was fairly well prepared to survive. I knew I wasn’t the best teacher in the world, but I was young, eager, and felt confident enough in my content knowledge to start teaching. Classroom management was difficult, but not impossible. In short, I felt I still had much to learn, but I would get better every year. And I did. Until about four years into teaching, when I realized that I wasn’t moving forward⁴. I switched to MMS and felt I was a decent teacher, but not a great one. I wondered when I would feel like I had unlocked the mystery of what it means to be a good teacher. I knew that some activities, assignments, and even entire units worked well with my students, but I still wasn’t sure why. When working with my student teachers, I found myself struggling to explain my rationale for certain assignments and projects that I did with my students. I could spout off my essential questions, my final projects for students, and the assessments I would give along the way. Yet I still felt like I was

⁴ Recent research has also indicated that teacher growth levels off after the first few years of teaching (Boyd et al., 2005; Kane, Rockoff, & Staiger, 2006).

missing a piece. I couldn't figure out why some lessons and activities worked while others didn't. I realized that I still had a lot to learn.

Unfortunately, my own experience with professional development within the New York City public school system was unsatisfying, and it led me to feel that I was not developing as a teacher. This experience is not uncommon: "professional development is often ineffective because teachers are not involved in its planning and implementation, and because funding is inadequate, time is limited, and sustained support is lacking" (*Ensuring Teacher Quality*, 2001, p. 5). In addition, over my several years teaching in the New York City public school system I noticed that the number of professional development days allotted each year by the New York City Department of Education had declined. So the idea of participating in a teacher-driven professional development group that was embedded into my life at school was incredibly appealing because it was unlike anything I'd ever participated in.

In the fall of 2005, Andrea passed around a sign-up sheet to survey who would be interested in joining the group; I rushed to put my name on the sheet, and so did many others. In fact, Andrea received many more signatures than she expected. Andrea explained that since all but one Humanities teacher signed up, she thought it would be easy to start with a Humanities lesson study group. Because there were two Humanities teachers for each grade, this also would allow for two different implementers for the same subject and the same grade. Thus, the first cycle of lesson study ran from the fall of 2005 to the spring of 2006.

Following the end of this first lesson study cycle, all of the teachers in the group decided they wanted to continue the lesson study program again the following year (with the exception of one teacher who was going to be out for the year on maternity leave). To support this work, Principal Rensen agreed to allot six hours of paid per session time for twelve teachers in his budget for lesson study for the

following year. At this point, I decided that doing a case study on the lesson study group would be an interesting focus for my dissertation. I spent the summer writing my proposal and securing IRB clearance so I could begin a study of the group in the fall of 2006, which I planned to continue through the spring of 2008. I believed it was crucial for me to follow the group over the course of two lesson study cycles (instead of just one) in order to document changes in teaching practice over time (Lewis et al., 2006, p. 3). Hence, the following school year (2006-2007), I decided to remove myself from participating with the group so that I could focus on data collection.

During the school year of 2006-2007, I collected data on the eight participants involved in the group (lesson study cycle #2) as they constructed and implemented their lesson. The group consisted of all the teachers who were part of cycle #1 (except the teacher who was out on maternity leave), plus the addition of a math teacher, a CTT teacher, a special education teacher, and a guidance counselor. As I was conducting my research, the New York City school system underwent the most dramatic organizational restructuring in its history. The school joined the "empowerment zone," and the principal had more control over his budget than ever before. The lesson study cycle came to a close in June, and the teachers decided they would talk in the fall of 2007 about starting a new cycle.

The End of Lesson Study at MMS

When the fall of 2007 came, I spoke with Charles about the future of lesson study at MMS. He explained that for the school year 2007-2008 there would be a lot of staff development in the school because they were allotted a significantly higher school budget than in previous years. The money was given to him in August, and he had to make some quick decisions about what to do with it, so he funneled the money into professional development that would provide teachers with help in what

he described as “different craft techniques.” Though he was quick to mention that the MMS teachers are already good at what they do, he explained “these craft things will help them even better and more reflective, especially TC [Teachers College] and Schools Attuned.” As part of his contract with TC, a staff developer would come in thirteen days during the school year to work with the Humanities teachers, science teachers, and the CTT teachers. In addition, there would be another person from TC coming in for three days. Mel Levine’s Schools Attuned program was contracted to do forty-five hours of staff development for the CTT teachers, as well as come in on Election Day to lead a workshop the whole school. Finally, because Smartboards had been installed in every classroom and the teachers had minimal training on how to use them, he arranged for Smartboard trainings during after school times.

Even though Charles had arranged for these professional development opportunities, he said that he still put aside money to pay teachers for participation in lesson study. However, he explained, it was the teachers who would decide whether to continue the group or not. If the teachers wanted to do it again he would support it, but he “wouldn’t push for it and definitely wouldn’t impose it on anybody.” In discussing the future of lesson study at MMS, Charles mentioned several challenges. He said he didn’t know of any schools that sustained lesson study for more than a few years, and he attributed this to the fact that it is “such a big undertaking.” When I asked him what made it so challenging, he mentioned that since MMS is a small school, it is hard to schedule the coverages for the teachers to watch the lessons. He believed that it also required a significant amount of time and energy from the participants. He felt that during the school year of 2007-2008 it would be a challenge specifically because the whole 8th grade team (besides one teacher) was new. He explained that at a school where people already work hard, lesson study asks them to “work even harder for longer hours.” He wondered how sustainable lesson study would be at MMS. He remarked, “do people have the

energy to do it if they are doing the other initiatives, such as going to class at night, doing CTT, etc?" He offered, "maybe next year we pick it up again in the spring, but it has to be something where the teachers are driving it." He concluded:

If we don't do lesson study again this year I won't be heartbroken, but I won't be trashing it. It's just a matter of do we phase things in and phase things out? We're not getting rid of our core beliefs by dropping it.

And it was dropped, which created a problem for me as the researcher. I was supposed to follow the group through another cycle of lesson study, but the group disbanded. There were a variety of reasons for the dissolving of the group, which I will explore in chapters seven and eight, but this did create a complication for me in terms of my research. How could I document a group that wasn't even going to exist? I made the decision to follow five teachers from the lesson study group (since the other two classroom teachers were no longer at the school) through the year 2007-2008 as they participated in the other professional development programs that the principal had coordinated.

Participants

Throughout my study, I saw echoes of myself in each participant. I was inspired, amazed, and continually struck by how each teacher is part artist, scientist, psychologist, writer, director, facilitator, investigator, historian, lawyer, therapist, counselor, anthropologist – and much more – in his or her classroom each day. As I observed the teachers in their own classrooms, I noticed how each teacher's own individual identity shaped everything in his or her room – what is on the walls, the way the seats are arranged, and the books they have on their shelves were all particular to each teacher. On one level, each teacher seemed to be the same at their core – they all valued their students, were dedicated to the profession, and exhibited characteristics of life-long learners – but their teaching personalities were also quite different.

One of the goals of this study was to focus on the voices of teachers and place them at the center of the study, so here I present a portrait of each teacher, largely in their own words. I have tried to find stories in my data to “tell of teaching in its own terms” (Perl & Wilson, 1986, p. 248). I have written a brief biographical narrative of each teacher involved in the study in order to capture the complexity of teaching (Perl & Wilson, 1986), quoting largely from their own words in order to capture their voices.

Steven

I pride myself in not being the stereotypical teacher that I grew up having; The teacher who is so overwhelmed by having to think critically about their own practice or can't handle it, or just thinks that they work so hard that they shouldn't have to, or [thinks] that the kids don't need it. I love to be in this constant state of “What can I improve on? How can I have people help me to think differently about what I do, what the kids need, how they learn and what is the evidence of their learning?” It's about being a better professional and improving on my practice.

-Interview with Steven, December 2007

Steven is a young and energetic teacher, and at the start of this study he was in his 4th year teaching. He told me that he was at the point in his career where he was beginning to draw boundaries on his time – like many young teachers, he found it was easy to become overwhelmed. When I asked him how long he would stay in teaching he said he had about five years left in the classroom, after which he hoped to become a principal.

I introduce Steven first among the teachers because I think he clearly captures the work ethic of most teachers at MMS. Over and over again during this study, it became obvious to me that these teachers believed that their work extends far beyond the walls of their classroom and the clock of the school day. As a result of this, throughout this study, I felt that many of the participants were struggling to catch their breath. I often felt guilty about asking them to give up their time to devote to interviews and discussions with me, since I knew they had so many

obligations during and beyond the school day. Steven wasn't unique in this respect, and he is a prime example of how the life of a teacher consists of so much more than what happens in the classroom. A clear illustration of this is revealed in an e-mail Steven sent to me. At the beginning of the lesson study cycle, I asked each teacher a series of questions on a questionnaire regarding their interest in lesson study as well as their goals for it. Steven sent me his responses via email several weeks later with a short note. He wrote:

sorry it took so long to get this to you. coaching just ended and I feel like I can breathe again. see you tom. [sic]

This short mention of being able to "breathe" again struck me as a great image for what I had observed. When I interviewed him, I asked Steven to give me some examples of the things that occupy his time outside of teaching time. Similar to the other teachers I interviewed, his response was not short. For example, Steven explained that he spends much of his time planning and revising his lesson and unit plans. Like two other participants in this study, he teaches a CTT class, which added an additional layer of complexity to his lesson planning and teaching. He and his co-teacher (a learning specialist) plan all of the Humanities lessons together and co-teach a daily basis. This requires countless hours of developing, implementing, and improving lessons.

As a Humanities teacher, Steven has the additional responsibility of teaching two core subjects: English and History. In his interview he spoke of the memoir project that takes up a considerable amount of time at the start of the school year, and when I visited his classroom I noticed that his students spend time studying current events as well as ancient civilizations. Photos of the presidential election candidates lined the top of a long closet at the side of his room. At the front of the room there was a big map of Ancient Greece, while at the back there was a large classroom library with five shelves of books, organized by genre. On the floor of the

room there were strips of blue tape, which he explained to me represented an outline of Ancient Greece; this was used for game where students get to claim territory as they learn about the risks and benefits of different geographies. His room captured a wide range of topics, and I imagined this must be quite a juggling act, balancing the variety of content and skills he must cover.

Steven reported that he spends a significant amount of time communicating with parents, grading, and taking care of administrative responsibilities. After the school day is over he often needs to contact the parents of his students via phone or email. In addition, he said, "grading is an enormous amount of time!" He described:

Getting [students] back the second drafts of these memoirs and the final drafts of these memoirs, and preparing the excel spreadsheets that we do for the progress reports...the hours and hours and hours and hours...and then the report cards that were due yesterday...the website that I do...

These are all things that Steven considers to be part of his job, but he must spend time on them outside of the school day. Like many teachers at MMS, his work with students goes beyond what he does in the classroom. Steven is involved in numerous other activities working with kids, including supervising the school basketball team, running a boys' mentoring program, and being a high school tennis coach. All of these responsibilities make Steven a very busy person.

When Steven spoke about teaching, two metaphors kept reappearing: the medical profession and sports. He compared lesson study to "doctors collaborating to discuss the needs of a patient...now teachers are collaborating to discuss the needs of students and bringing in a lot of different ideas, perspectives and sets of thinking." Steven's involvement as a basketball and tennis coach filtered into his speaking about teaching, as he used the image of sports and game play. He said, "I love to work with people who motivate me, inspire me, and help me bring my 'A-game', so to speak." I saw dual images of Steven as both doctor and coach as I observed him in his classroom.

During the lesson I observed, he modeled what he wanted students to work on, then he circulated throughout the room to help individual students. My observation notes reveal Steven's practice:

Steven continues to circulate throughout the room, looking over their shoulders at the notebooks, sometimes crouching down and answering a question.

Steven [to M12]: You should fill it in on the T-chart, just like on the SmartBoard.

Steven [to M7]: I think that's pretty important fact – good! Don't you guys agree that this is important? So why is that important?"

Steven [to F14]: So this helped them be stronger soldiers?

F15: [Says something, I can't hear response].

Steven [to F15]: Great, where did you get that from?
[She remembers it from her research on Athens.]

Steven: That's something to important to remember...the Athenians only trained for two years, whereas Spartans trained for 12...think about the different in training, and what that means...the Athenians valued one type of education, Spartans valued another. But did the Athenians want to be weak?

F15: No...

Steven: Ok, so think about your reaction based on what you just learned.
[F15 begins to write and Steven moves on to the next student.]

Instead of using a teacher-centered practice, Steven had students work individually and in groups while he walked around to help them individually and prompted them with guiding questions. Like a tennis coach would model how to return a serve and have his students practice, Steven showed his students how to analyze aspects of two ancient Greek city-states and then asked them to practice on their own. He embodied the practice of "doctor" as he worked to figure out where students were struggling so that he could prescribe the proper tool for helping them improve.

Steven described himself as being open to compromise and said that he has a tendency not to let the “little things” get to him. He explained, “there are little things that drive other people crazy and destroy their days, and for me – I can let little things go and if things are bothering me I can speak up about them, I think.” On the questionnaire that I handed out Steven wrote: “I see myself as a competitive, ambitious, driven professional who loves my job, school, and boss. I am intensely critical of myself (sometimes too much) and struggle balancing my professional responsibilities with my eagerness to take on new challenges, jobs, and enjoy my social life.”

During our two-hour interview (which Steven gave up time on a Saturday afternoon for), he touched on the significance that he is a young, male teacher in a female dominated profession. He said, “I’m aware that a lot of kids don’t have young men as teachers and so (a) being a role model and (b) being excited about English as a young man” is a significant aspect of his teaching identity. He reasoned, “Growing up I did so much better in classes with men. I didn’t have a father at home. And a parent told me this at parent/teacher conferences – to see someone get so excited about teaching memoir, a *man* get so excited about it, it really helps my son.”

Genevieve

I didn’t go to school to be a teacher. I never wanted to be a teacher. So when I did go to school to be a teacher it was to be a special education teacher because that’s what I was told I had to do [by Teach for America]. And that’s the perspective I started with. I didn’t start out as “I’m going to be an English teacher” and then say “Oh, those kids are having issues.” I always kind of thought that kids learn differently, and so people need to teach in a way that makes sense for the kids – and it’s not always going to be standing in front of the room. I think it needs to be an active experience.
 –Interview with Genevieve, October 2007

When Genevieve was in college she thought anyone who went into teaching was crazy. Though she was a political science major, she had several friends who

were education majors. This sounded like a terrible career choice to Genevieve because she didn't want to be around kids for a living. After graduating, she worked for a major corporation as a field service representative in auditing, but soon she grew restless and wanted to go back to school. She decided to apply to a program at a SUNY school in education policy and nonprofit management and she was accepted. However, Genevieve had reservations about entering such a program with zero classroom experience. In her view, she would "lack some credibility" in working in policy if she didn't have any teaching experience. She also believed that having teaching experience would make her better at analyzing policy. She said, "I knew at some point I should probably go into the classroom." So she applied and was accepted into Teach for America (TFA), which required a two year teaching commitment while she worked on a master's degree. She ended up in special education because on the TFA application she checked a box that said she'd be willing to work in special education – so it happened unintentionally. She was sent to Philadelphia and began her graduate work in Special Education and Elementary Education. Her plan was for teaching to be a two year venture, but she ended up staying for much longer.

She said her first teaching experiences were "terrible" but they were also "great experiences as far as personal and professional growth." She realized quickly that teaching was tough. At the end of her two year commitment, she wasn't sure if she didn't like teaching or just teaching in the particular school that she was placed in, so she decided to teach in New York City to evaluate if she should continue a career in teaching. While she was at a New York City Department of Education career fair, she met Principal Rensen of Manhattan Middle School. He was looking for a SETTS teacher, but Genevieve's experience was working as a teacher in a self-contained classroom. But she liked the fact it was a different position in a different type of school, so, she explained, "I thought I would give it another try and see

whether or not it was teaching or the school I was in that was putting me off to the whole idea of teaching.”

In the self-contained classroom, Genevieve worked with students who were classified as developmentally delayed, emotionally disturbed, and learning disabled. Now as a SETTS teacher she serves kids who have what she described as “less severe needs.” She pushes in to classes and pulls students out, instead of teaching in a self-contained classroom. In describing the difference between these two positions, she said, “the kids don’t see me a lot, and I don’t have as many contact hours with each kid as I did in my old job.” She continued:

I also work with at-risk kids, who are kids we are trying to keep out of special education by providing them support. It’s also a much different job in that I plan with teachers, and I don’t have my own classroom. It’s a lot of one-on-one and small group.

Besides working with students, Genevieve spends a lot of her time making sure that students are receiving all their testing accommodations. She related a story to illustrate this point: “On Monday I spent all day pulling all of our IEPs and recording our testing accommodations so everyone could be clear on what they were.” Also, she said, “if there are issues with the services I try to get in touch with the people who can help us straighten them out. That takes up a lot of time because you never really get a clear answer.”

Genevieve said that though TFA did the best job they could in her summer training before she went into the classroom, she wasn’t a good teacher. After her two years of experience and completing her master’s, she was a “much better teacher” but at “MMS I think I learned a lot more...or was more aware of what I was learning from working with the teachers here at this school.”

She said that when she started at MMS she noticed right away that the school was a collaborative and reflective place. She described, “it was almost as clear as when I walked in and there was paper in the copy room (I never got paper at my old

school).” She said this change was “culture shock.” She indicated, “teachers were talking, people were having lunch together – it was part of the culture you could pick up on pretty quickly,” in comparison to her old school where most people were not collaborative or reflective. She said this was also evident in the way that people at the school “approach problems,” since they tend to talk through things in groups. She credited this with helping her become a better teacher.

Genevieve knows when she is teaching effectively largely by the kinds of questions her students ask. She explained:

Based on their questions I can tell where the confusion is coming from...basically it is a lot of student feedback and a lot of conversation, and how the kids perform in their classes.

She often talks to the teachers and students about their work to help her evaluate student understanding. She described her educational philosophy as “kids learn differently, so people need to teach in a way that makes sense to the kids” and she said it should be “an active experience.”

At the end of my interview with Genevieve I asked her to describe one thing that she believed needs to be changed about schools today. She replied, “There are so many things, but what’s really frustrating me is that they are trying to have all these tests and accountability [systems], but I think it really goes back to good teaching. How do you get good teaching?” She believes the focus should be on improving teaching through teacher preparation and education. When she did her master’s program she saw a “disconnect” because what she did in her classes didn’t always match up to what she was experiencing. She explained, “At St Joseph’s there was a disconnect between what was going on in those classrooms and my own classroom, and I felt like they were teaching to people who would go and teach in great schools. They weren’t teaching to people who were going to teach in schools where I was. Like the next day, when I’d have desks overturned.” She believes “something needs to change in the way that we train teachers, especially in the area

of special education....I think we need to incorporate more special education practices within general education.”

Sarah

I’m just sensitive to kids who have any type of disability, and my heart breaks when I see that they don’t fit in, or they can’t learn, or they are frustrated, so I feel like I can relate to them on that level and understand how humiliating this experience can be, and try to make it as easy for them as possible.

– Interview with Sarah, October 2007

When I asked Sarah to describe why she became a teacher, she began with a story about her experience in first grade. She explained that her first grade teacher, Mrs. Green, was “absolutely amazing...she was a great person with such great ideas.” Sarah remembered recording all the wonderful things Mrs. Green did in a small notebook so that when she became a teacher she could do all the same things that Mrs. Green did. Sarah still has the notebook to this day. As a first grader she even thought of her own suggestions for her own classroom, which she recorded in this notebook, such as “put M&Ms in the desk.”

Not only did Sarah know that she wanted to be a teacher from a very young age, she also knew she wanted to work with special education students. Her sister has a disability, and her cousin is severely disabled. These experiences had a large influence on Sarah’s path into teaching. When Sarah was in 9th grade she began to volunteer in classrooms. Her aunt taught students who were severely disabled, and that is what Sarah thought she would do, but instead she ended up working with students with all different types of disabilities. She obtained her undergraduate degree in special education and was certified to teach grades K-12. She went right into teaching, and said she ended up at MMS because of “luck,” since she met the school’s principal at a job fair.

Sarah has been a CTT teacher for six years, and only sees herself leaving the profession temporarily when she has children – she sees teaching as a lifelong

career. She feels that being able to work with other teachers has made her a better educator, and lamented the fact that other teachers don't get this opportunity to collaborate as much as she does.

As a CTT teacher, Sarah says her job is to focus on differentiating instruction. She modifies and differentiates lessons to "make sure that all our learners' needs are being met." She said she is confident in her teaching, but had a "lapse" during her first year at MMS, because she had to learn the Math, Science, and Humanities curriculum at the same time. Every day she has to work with teachers on three different lessons, be in the classroom to co-teach for the three main content areas, and teach a small group of students in the Wilson Reading program. Sarah explained, "most teachers have to plan one lesson a day – they get to re-teach it over and over again. I get one shot, and I have to make sure my voice is heard in all those lessons." In addition, Sarah runs extra help sessions for her students and spends a considerable amount of time on other responsibilities such as working on individualized education plans (IEPs), attending various meetings, communicating with parents, and writing recommendations for students for high schools.

In order to do well, Sarah believes it is the teacher's job to ensure that lessons are relevant and the classroom environment is conducive to learning. She said that students need a "classroom that is not intimidating" and that students need to be able "to participate without being bullied or made fun of." When I observed Sarah and Edward co-teach their 7th grade Humanities class, I was able to see how Sarah worked with students one-on-one, differentiating for their needs. During the lesson students were asked to peer edit a paper that they wrote. I noticed that Sarah was working with Thomas, a student in the class, for a large portion of the class time. After the class I asked her to tell me more about what she was doing, and she explained that she had recently been to a workshop on conferencing, and she was implementing some of the strategies in the classroom. Her goal was to

spend a few minutes with each student in the class throughout the writing process in order to give each one individualized attention. As she was conferencing, she noticed that some students were “really struggling – some students just weren’t getting it.” Thomas in particular was “completely lost – he didn’t even have a paragraph written.” During the peer editing lesson, Sarah explained that though Thomas had completed some writing, he “wasn’t confident enough to share because he wasn’t prepared” so she made the decision to work with him for a longer period of time. As she worked with him, she prompted him with questions:

You are talking about trust in this paragraph– we want to make sure that the essay shows this. Ok? You can probably tie forgiveness into here somehow. Is there a way you can do that? Tie in ‘forgiveness’? Look at your chart.

After this exchange, I saw Thomas look at his chart and talk through some of the things he wanted to add in. Sarah took notes on what he said, and then she left him to write. By the end of class, Thomas had produced nearly a whole page of new writing for his essay.

While Steven spoke in metaphors of sports and the medical field, Sarah talked about good teaching through the metaphor of performance. She said that she often feels like she is a “performer” and mentioned that she tries to “entertain” her students. At one point in the interview she described the role of a teacher as being “like a showperson even though you are not.”

When I asked Sarah to describe one thing that needs to be changed about schools today, she asked me if she could talk about salary. She touched on issues of respect and time. She explained:

It’s cliché, but kids are our future, why don’t we invest more money into our school system? And why is it that we [teachers] aren’t more appreciated? We invest so much time. And how much we get paid per hour – it’s just ridiculous.

She does not view these issues as large enough to keep her away from continuing to teach, but it frustrates her that education doesn’t have a higher priority in our

society. Another main concern for Sarah was the high emphasis on standardized testing. She believes there are better ways of assessing students, and thinks that policymakers should “listen to teachers.” She continued, “teachers have ideas – we live it. It’s our job.”

Edward

I think that learning is discovery, and I think we’re the facilitators of that discovery and helping kids to develop ways to think deeply. I think sometimes when you are not quite sure what to do, you can ask yourself are you helping kids discover how think better, how to use this, how to use that, how to apply this, how to apply that? Are you helping them discover how to connect this to that? So I think if you keep that concept in the front it helps to stay focused or helps you discover ways to do that. And I completely subscribe to the idea of immersion – and all that goes without saying. Which creates challenges, as you know, at this school. We go so deeply into something and then suddenly have three more wars to do before the year is over.

-Interview with Edward, December 2007

When I walked into Edward’s classroom one May afternoon the first thing I noticed was a clothesline through the center of the room. A wall of vocabulary words hung from the line, a colorful array of construction paper with hand-drawn pictures and written definitions, which appeared to have been done by his students. One in particular that appealed to me was the word “Freedom,” which had a drawing of a bus with a thought bubble above the person that said “No rules! Now I can drive!” Among other words, I saw inference, fact, political, social, economic, and culture. There was no doubt that this was a Humanities classroom. His desks were organized into groups, and there was a big colorful map at the front. On the wall there was an “Orbits of History” chart, which contained the words world, nation, state, city on concentric circles. There were some essential questions under an umbrella on one of the walls: *What do we need to get as close to the truth as possible? What determines the significance of a historical event? How does point of view impact history and storytelling? How does geography impact history and culture? What*

criteria determines the gravitas of your evidence (source)? Also on the walls were signs that said, "Did you remember to take out your book?" At the back of the room there was a large meeting area with chairs and a classroom library. Edward's room offered a concrete picture of the immersive, discovery-rich environment that he spoke of in his philosophy of teaching.

Edward is a rarity in the New York City public school system in that he has been teaching in it for fifteen years. Unlike Steven and Genevieve, he said that he would stay in teaching "until I'm finished working – I guess that means until I retire." He said that at times in his career he has explored the possibility into moving into an administrative track, but that "every time I do that it just affirms that the classroom is where I want to be. I pretty much can't imagine *not* being in the classroom." When I asked him why he knows that staying in the classroom is the right place for him, he replied, "well, the thing about being in the classroom is teaching. I mean the answer to the question is you get to teach." Being an administrator is not appealing to him because:

When you go on an administrative track, I don't care what anybody says, you're not teaching – you're watching teaching and you are making teachers better. It isn't a judgment on the role, it's a judgment on what I get joy from. And I don't want to stop teaching....And I'm sorry but what is more alive than that, really? As frustrating as it gets sometimes, and its' exhausting as it is all the time, there's just nothing more immediate and alive...

Like Steven, Edward finds that grading is one of the most time consuming aspects of being a teacher, as well as "revising lessons constantly." The other things that take up time for him are photocopying, communicating with parents (via phone and email) and attending meetings. When I asked him what kind of meetings take up his time, he listed several: "You meet with your discipline partner, grade team, principal, CTT teachers have to meet with us, and then other committees you are on." As the Humanities teacher for the 7th grade CTT class, Edward spends time paying particular attention to including scaffolding into his lesson plans for multiple

learning styles. He explained, "there's an extra step at least in every lesson and every mini-lesson that scaffolds; it gives the kids one more thing to step up to." Though this is a challenge, Edward believes that scaffolding and differentiation are key elements for student success.

Edward compared the role of the teacher to facilitator, and spoke about the importance of reflection and collaboration as key aspects of effective teachers. Even though he had been teaching for fifteen years, he said he always questions himself about his practice: "Does this work? Is this working? Are they really learning?" His collaboration with the other 7th grade Humanities teacher and with Sarah helps him to reflect on his lessons, and he is constantly fine-tuning and revising his work. He said he will often ask Sarah "Did that work? How can we fix that?" He believes that "being able to do that [reflect and revise] with comfort comes with experience. Because it's never done...and being ok with that comes with experience."

Since he had been teaching in the New York City public school system for over a decade, Edward has seen mayors and chancellors come and go, and along with them many attempts at reform. Edward believes the main problem the system faces is that it is too big. He suggested, "as long as the system is a system that serves 1.1 million kids it's going to be very hard to change it substantively. I think changes occur, and people work really hard and create success but they create success up against such tremendous obstacles." Edward does not claim to know the solution to this problem, but he does believe that funding for schools needs to be more equitable and there needs to be more accountability with the leadership. In addition, he offers that the "factory model" of schooling needs to be dismantled.

As for teaching as a profession, Edward longs for a "teacher career track, where teachers who stay in the classroom are recognized not just for longevity, but also [receive a] salary that would acknowledge that choice to be a career teacher."

He asked, "Why should I not be making an administrator's salary at this point?" He finished his thoughts on this topic by explaining:

One of the reasons teachers leave is because it's not designed to be a career. It's designed to be a stepping stone to something else in education. It is not designed to be a career. And how unfortunate. And it's a sacrifice, making that choice. And most people don't do what I do. Certainly if they have families it is not even an option. You just got me all worked up about that again!

Robyn

It takes a lot out of you to do a really good job. And I would never want to not give forth all of my effort and all of my energy and not do a great job as a teacher. And I feel like...even in my 3rd year I don't know that my energy level is the same as it was last year. And the same motivation and dedication – I just don't know that it's there, and I just think, over time, it's really hard to sustain that level of energy and enthusiasm.

– Interview with Robyn, December 2007

Since I have worked there, one of the most difficult positions MMS always has filling is that of Math teacher. At the time I interviewed Robyn, she was the 7th grade Math teacher – the fourth one in the five years in which I had been working at MMS. Robyn was in her second year at the school, but she was applying to go to law school for the following year. As I finished up my study, she found out that she was accepted to a school in the Midwest and moved there during the summer. When I interviewed her, Robyn spoke of teaching with a sense of enjoyment, but she also spoke of the exhaustion she felt: "I think for me right now, because I started so young I can't imagine...it's exhausting and it's tiring, and I just can't imagine doing it for another 20-25 years." Even though she was leaving, she felt she might come back to teaching someday. She said, "I really enjoy it, and my reasons for leaving aren't because I want to leave teaching, it's because I want to do other things. I'm only twenty-four." Robyn's teaching license in New York City had also run out, and she was at the point in her teaching where she had to go back to school. She had received an undergraduate degree in education in Michigan, but in order to continue teaching she had to go back to school to get permanent certification. Robyn said

that since she had to do this anyway, it made sense for her take a hiatus from teaching at this time, and she felt a law degree would be more useful in the long run than a master's in education.

Robyn wasn't sure she wanted to be a teacher when she entered college. She explained:

I didn't know what I wanted to major in. I always worked with kids, and I didn't know what I wanted to major in during my undergrad, so I applied and got into the school of education. Then I got my teaching certificate.

She graduated with an elementary education degree with a major in Mathematics and a minor in Fine Arts. She ended up in New York City because she wanted "to go somewhere else" and she had "a lot of friends coming to New York." Though her previous work was with elementary school students, Robyn decided to pursue positions in middle schools. She described, "I just like middle school kids...I don't have the same type of patience for younger children." She prefers middle school to high school because "they are still young enough in middle school that you're the teacher; you're the boss!" Robyn described why she wanted to teach math:

It's very objective, which I'm comfortable with. For the most part, there's one right answer and you get it right or don't get it right. I'm confident when I'm teaching and doing math myself – there's a conclusion that I'm supposed to arrive at and if I get there I've done it correctly, and if I don't I have to go back and rethink it.

Similar to other teachers that I interviewed, Robyn finds that lesson planning, grading, returning parent phone calls and emails, photocopying, and attending meetings take up much of her days. As a relatively new teacher, she spends "about an hour a day" preparing her lessons. She described the process of thinking out her lessons as "thinking out exactly what it is I want to say to them [the students] and what seems to be the most logical way to explain it to them." Also, she considers "where I want to end up at the end of my lesson" so that she can anticipate the questions students will have, but she also speaks about the importance of being

flexible: "often things don't go as I planned and that's what I expect. I expect things aren't going to go as I planned."

As the only 7th grade math teacher, Robyn teaches approximately one-hundred and twenty students, as compared to the Humanities teachers who teach approximately sixty students. This creates a "very draining" day for Robyn. She explained:

I deal with 120 individuals every day, so meeting their needs, while at the same time trying to teach them math, which they don't always enjoy – it's sort of fighting them; they have to learn this subject that a lot of them don't like that much. It can be draining. Fortunately, at this school I don't have any other issues – behavior issues, or anything like that. At the first school I taught at I was at it was more about dealing with behavior issues --- and if I got to the math, great! And that was just so...mentally exhausting. It was emotionally draining...I was miserable. After that first year actually, I didn't know if I wanted to stay with teaching. I was like maybe I made a mistake. And then I came over to MMS and it totally changed my perception on teaching and I enjoyed it so much.

Though she has been teaching for a much shorter time than Edward, Robyn's philosophy of teaching is similar to his. Like Edward, Robyn described learning as "discovery" and the teacher as the guide for that learning. She said:

I like students to make discoveries for themselves rather than for me to just give them information. I think if they discover it on their own, they usually process it on their own before that and they understand it better and it sticks with them longer and that's my core right there. It's helping them – I don't like giving them the answers, I don't like handing them the information. I try to help them find it out for themselves – guide them, rather than tell them, in an ideal world.

Robyn believes that the "ultimate form" of students learning is "when they can make connections and links on their own." This is something she feels standardized tests don't do a good job of assessing. She prefers to assess her students by "walking around and listening to their conversations" when students are doing group work. She said she has students do a lot of group work in her class because "for a lot of kids it is easier to verbally explain than to put words on paper, and it gives them practice doing that." In an ideal situation, she thinks individualized assessments

would give a more accurate picture of student learning, since “a lot kids have special needs and have disabilities, and success for them is very different than success for other students.” However, this is “very time consuming and difficult to compare across the board when you look at all the 7th graders in New York City,” which is why she thinks standardized tests are so popular.

Robyn thinks that there are a number of things that should be changed about schools today, but she said there are a few things that could be done now that would really help. She said, “it’s hard for a student to learn in a class with thirty other kids....kids ideally learn best one-on-one.” Though this might be impossible to achieve, she does think that making class sizes smaller would “solve so many problems...behavior issues would change, [more] attention could be given to students; you just get so much more done with fewer kids in the room.”

Leadership

During each interview I conducted, participants spoke of the role of the principal, Charles Rensen in the school and his influence on their teaching. As I began to analyze my data, Charles kept reappearing in my transcripts of the participant interviews, meetings, and in my field notes. In addition, Andrea, the facilitator for the lesson study group, appeared as a central figure in the lesson study group. Below I give a brief portrait of Charles and Andrea in order to create a more complete picture of them for my readers.

Principal Charles Rensen

Don’t teach facts so that kids can pass a test. Teach things because you’re helping kids develop the tools they can use to investigate and learn about their world.

-Interview with Charles, October 2007

When I arrived at MMS on an unusually warm October day, the Friday before Columbus Day weekend, the school secretary informed me that Charles had an emergency he had to take care of and wasn't in the building. We were scheduled to do the interview at 10:15. I decided to wait for him in the hopes that he would return shortly – I had known Charles long enough to realize that scheduling a new time to meet could prove to be difficult, as he is always extremely busy. Charles returned at 12:30, but was quickly swarmed by numerous school personnel with what seemed to be urgent matters. As soon as he saw me he apologized and said he could sit down with me in fifteen minutes. At 12:45, I stopped by his office. Charles was answering a phone call and eating his lunch at the same time. I sat down and he immediately got off the phone, closed the door, and gave me a 45-minute interview which was uninterrupted, save for the arrival of two students who wanted to get a bat and whiffle ball out of his closet for some lunchtime baseball play. At that moment, he joked around with the students, asking them if they'd let him back on the field next week (he often spends lunch on the schoolyard with the students). After the students left, Charles smiled and told me, "They are Yankees fans, but they are nice kids" – a typical example of the quick, warm humor that among his staff Charles is known for.

Charles didn't always know he wanted to be a principal. When he got out of college, he wanted to be a playwright. However, he got involved with UNICEF and part of his job was talking to students. He remembers talking to students in Queens, where every kid was from a different country. He said they were "a bunch of jewels – every kid just sparkled." This stayed with him, and built the foundation for his desire to work with students once his job ended at UNICEF. He went to graduate school for teaching taught for over eight years as a classroom teacher (grades 4-6). After working as a staff developer for the school and district, he got his administrator's license. He believes that it is his time as a staff developer that really

solidified his views on learning. He learned “how to refocus a lesson with emphasis on learning as opposed to just saying things.” He didn’t want to be an administrator, but ended up as an assistant principal (AP). After working as an AP for several years, he was offered an opportunity to become the principal of MMS. He thought it was “too good of an opportunity” to turn down. Although the school didn’t have a perfect reputation, it had many of the elements that he thought he would work well with (such as it being a small school).

Charles believes that effective schools have “a culture of collaboration and respect” as well as “smart teachers.” He told me that “kids learn best when the teacher respects them, when they are challenged, entertained, and engaged.” It is clear that he doesn’t believe in one specific style of teaching. He mentions an experience as a staff developer with a teacher who was a great storyteller, from whom he learned there is no one way to teach. In this case, the teacher talked a lot, but was really effective because he was such a great explainer. When the teacher used constructivist approaches, he actually was less effective as a teacher. This experience made Charles realize that there isn’t a single “church” of teaching – there are many ways a teacher can facilitate learning effectively.

Despite this belief, he does have a set of criteria for judging whether a teacher is teaching effectively. Two of the main things he looks for is (1) evidence of learning and (2) the engagement level of the students. In addition, he has a strong viewpoint on what the goal of a teacher should be, even though his or her methods may vary. He firmly believes that students should develop the kinds of thinking that is in line with the discipline they are studying. He called these “habits of mind” and said that “kids should be having experiences that they remember forever.” For example, he explained, “if you are studying archeology, you should learn how to think, question, and use evidence and an approach that an archeologist would use.” He sees students as being part of an “intellectual apprenticeship” and said their

learning experiences should be authentic. Charles was also quick to point out that he also believes in standards. He thinks all kids should know certain things by certain times in their lives. He said, "that also fuels what we do here. But the standards are the ones of the disciplines," which are certain concepts or facts that relate to the discipline.

During the school year of 2007-2008, when the lesson study group disbanded, I interviewed Charles. At that time he explained to me that he was being "held accountable to my numbers much more so than I have been in the past. I'm also accountable for having students show progress from year to year." He continued:

This school could ride on the coattails of our kids – the kids will perform well compared to other schools but the question we are being held to now is: Is my 8th grader showing progress from 7th grade? And is he showing progress from 6th grade? That's a valuable change, but what is not is the reduction of everything to this number -- evaluating schools based on reading and math scores. And that's a very big reform that we are just trying to grapple with.

Dealing with the new evaluation system and structural changes occupied much of Charles's time during this school year.

Participants in the study offered their own perceptions of Charles as a leader. Many painted a picture of an eager educator, always ready to talk about teaching and learning. One said, that he "gives you an article on teaching that is enlightening every few days" while another described the helpful feedback he gave her when he observed her teach. During my interviews, teachers would bring up a topic they were struggling with, or an issue they were grappling with, and casually mention that they had conversations with Charles about it to get his insights. For example, Steven's interest in the balance between challenging students while also supporting them was something he spoke about on numerous occasions with Charles. Steven described Charles's openness in discussing the issue and said "it was one of those things that resonated for him [Charles] that he's repeating in meetings, and PD, and

around the school, and it's nice but it was on my mind a lot and I thought about it a lot."

The teachers also spoke of Charles's leadership as integral part of the culture of the school – so important that one teacher mentioned that if Charles left, there would probably be a "mass exodus" of teachers. Another participant credited the high caliber of teachers at MMS to Charles. She explained, "He hires a lot of type A personalities...people who want to be the best at what they do." Sarah mentioned that she appreciated that Charles "has done his best to give us me much prep time as possible with the other content teachers."

Yet at times teachers offered another depiction of Charles as leader beyond the helpful, thoughtful, enthusiastic leader. One teacher spoke of Charles's excitement sometimes getting in the way, such as when he quickly sent a teacher on professional development workshop that he knew few details about, and it turned out to be something other than was expected, and was ultimately a disappointment. Another participant described e-mails that Charles sent around to the Humanities teachers, asking deep questions about writing and teaching that felt intimidating to many of the newer teachers at the school, as well as making teachers feel overwhelmed. One participant grew visibly upset as she described a project she had worked on for the staff – which Charles and she had spoken about on numerous occasions – but he seemed to have forgotten about and did not follow through with implementation support. During my second phase of data collection after the lesson study group disbanded, four out of the five participants voiced dissatisfaction with the direction professional development was heading in, and they blamed Charles for having what one participant described as a "schizophrenic" approach to professional development.

Despite these critiques, most of the participants spoke of Charles with respect and admiration. One participant said that if he ever becomes a school principal, he

hopes that in many ways he will be like Charles. When I asked another participant to describe her dream school, she said that it was similar to MMS, and that is largely because of Charles. She explained:

Most people don't appreciate him enough – they certainly appreciate him, but I don't think they've had other experiences at other schools. He is incredible – he sets a great tone for school, encourages collaboration, which is essential, and puts aside time for teachers to collaborate...he creates such an intimate feel in the school."

Andrea

I think lesson study empowers teachers, and it really gets at trying to define best practice instead of having somebody tell you what that would be...Even if it's based in research, I feel that teachers are reluctant, in terms of teacher development. Teachers are really protective of their craft and what it means to them, and so I think it [lesson study] provides them with an opportunity to really investigate that on their own, and reflect on that on their own. I think it makes more lasting changes in teachers, instead of just saying, "We're all into group work now so you have to put your students in groups and do group work." Then you have the teacher who lectures, and she has all the kids sitting in groups but she's still lecturing. So I just think it's the most effective, and it makes teachers feel like professionals. It's really about the intellectual aspect of teaching.

-Interview with Andrea, April 2007

During her sophomore year in college, Andrea realized that teaching was the right career path for her. She said that she loved being with kids and analyzing how they think, so when she graduated, she went straight from college into teaching. At the start of this study she was in her fifth year teaching – which also ended up being her last year as a classroom teacher.

At the start of this study, Andrea had been a lesson study facilitator for two years. During her first year at MMS as an Earth Science teacher she began her involvement with a lesson study project run through the director of science staff development for the region in which MMS is located. Then, at the start of her third year at MMS, she became a lesson study facilitator for the region, though she continued to teach her full schedule at MMS four days a week (Charles and Andrea

had arranged it so she would have one day a week off to work for the region).

During February-June of 2007, when the lesson study group was meeting, I saw her put in many hours of time after school making changes to the lesson based on the group's conversations, making copies, and preparing agendas for the meetings. It was clear that Andrea was a strong believer in the power of lesson study, and during my interview with her, Andrea explained the impact lesson study had on her teaching:

It changes how I view my classroom; how I observe kids; how I listen to their responses and comments to the lesson. I think they understand it [the material from the lesson or unit]. It's not that they memorize it for the test. They hold onto the information more than they realize. It becomes something that they know.

Interestingly, her involvement in lesson study paved the way for Andrea to leave the classroom and become an administrator, which is what happened at the end of the lesson study cycle that I studied. She found that her experience with lesson study at the region empowered her to take on a leadership role as facilitator. She said that it made her feel that she "could take on more of a leadership role." As she continued to facilitate lesson study groups, Andrea realized that she had a strong desire to work with teachers and students beyond the walls of her own classroom. She entered into a program to become an administrator because she believed that it was as an administrator, not a classroom teacher, where she could affect the most change. She said:

I want to help kids and I want to improve the system. I think ultimately our job [as teachers] is to provide instruction...even though I know I'm trying to help these kids, I just want to be able to change more – to leave and have something be different. Because in our system there are a lot of challenges, and I don't think we are really making any lasting changes. I think that really needs to happen if we are going to meet the needs of all of our students.

Thus, after two years as a lesson study facilitator, and five years as a middle school teacher, Andrea left MMS to become a Network Support Specialist for the Integrated Curriculum and Instruction in New York City. In her new position, Andrea

“collaborates with administrators and teachers, designs and facilitates professional development, analyzes and uses assessment data, and initiates and leads professional learning communities to build capacity and improve instruction.” At present, Andrea has submitted a proposal to the Department of Education to open a new middle school in New York City and take on the role of principal.

Chapter 5

Lesson Study at MMS: What was learned?

Introduction

This study was concerned with the factors that facilitate and constrain teacher learning in a lesson study group. The goal of this research was not to evaluate the importance of what was learned as a result of participation in the lesson group – rather, the intent was to explore the *factors* that facilitated and constrained teacher learning. It is important to recognize this distinction. There has been much written about the types of pedagogical growth teachers can experience from participating in lesson study, and there is a wide consensus on why these particular skills and habits are of value for teachers (Brown & Wiburg, 2007; Chokshi & Fernandez, 2004; Fernandez & Yoshida, 2004; Lewis, 2002b; Lewis & Tsuchida, 1998; Stigler & Hiebert, 1999). In addition, this study was not designed to evaluate whether lesson study “works.” Lewis et al. (2006) point out that asking if lesson study works is like asking “Does teaching work?” Instead, this study was designed as an inquiry into the processes of lesson study, which is a critical need in understanding the potential of any innovation (Lewis et al., 2006). However, before examining the factors that facilitated and constrained teacher learning, it is necessary to begin with a sub-question: What was learned as a result of participation in the lesson study group -- if anything at all? To address this question, this chapter will present the artifacts created by the lesson study group, and it will explore my findings on what the teachers and school principal believe was learned, which compliments the existing literature on the benefits of lesson study.

Since the work of a lesson study group revolves around the creation of a lesson, I will begin by summarizing the group’s design process, then I will present

portions of the lesson, and finally I will discuss what the teachers believe they learned.

The Process

The lesson study cycle #2 group consisted of eight educators who created a lesson that focused on the connection between geography and social structure in Ancient Greece. This lesson emerged out of the group's shared observation that MMS students often struggle with making connections between ideas, between prior knowledge and new concepts, and between content areas. The teachers believed that if students could develop metacognitive strategies and understand how people can work to understand new ideas, they would have more ownership over their own learning. This would help MMS students become more independent learners, they believed, and as a result students would have a wide range of strategies to draw upon to understand new information and ideas with less scaffolding from the teacher. This goal was agreed upon by the lesson study participants because they shared a similar concern for their students. The teachers believed that because MMS is a small school which offers a considerable amount of extra help to students, students would struggle when they went on to larger, less supportive New York City high schools; they worried that struggling students may be lost in high school without the extra scaffolding that MMS teachers provide. Thus, the goals of the lesson weren't simply for students to perform better in their classes, but also for students to develop skills that would help them be more successful beyond MMS. This goal is an important part of lesson study because, as Lewis (2002b) explains, "lesson study is not just about a single lesson, but about the teaching of an entire unit and subject area, and indeed, about student development more broadly" (p. 28).

The research lesson – a plan for learning that is much more detailed than the typical lesson plan – was planned over the course of twelve meetings. The research lesson is a “window into the larger lesson study process” (Brown & Wiburg, 2007, p. 83). Once the lesson plan was complete, the implementer (Steven) taught the lesson to one of his 6th grade Humanities classes. To guide his teaching, Steven followed the clearly outlined plan the teachers created collaboratively. In fact, the lesson became a script that Steven was to follow, and he was told he could not make any major changes to the lesson plan while he was teaching it since it was created by the group. It is important to note that the word “script” is used “in the sense that teachers carefully choose the problem or question they will use to promote student thinking...a basic idea underlying lesson study is that the content, wording, and presentation of a problem or activity can affect student learning” (Lewis, 2002b, p. 84). The research lesson helps the teachers focus on student learning, not individual teaching style.

The seven other participants were in the room while Steven was teaching, and their job was to collect evidence of student learning. Andrea had created an observation template for teachers to record their notes on, and she explained that as observers they were not allowed to interact with students or interfere with the lesson in any way. Brown and Wiburg (2007) explain, “The data that observers collect is an integral part of the research lesson process” (p. 102). Following the lesson, the group reconvened for a “debriefing” during which they shared and discussed the data they had collected. Andrea facilitated the discussion of the lesson using a pre-planned protocol that she had created. During the first part of the discussion, comments were geared towards what was observed during the lesson. Andrea pressed each teacher to describe what they heard and saw with minimal interpretation. Once everyone had shared observations, Andrea asked the teachers to work in small groups to brainstorm what they might change about the lesson to

improve student understanding. At the end of the first meeting, the teachers didn't have enough time to share their brainstorms so the group met again three days later. During this second part of the debriefing, the teachers shared the changes that could be made to improve the lesson. Together they decided what changes they actually *would* make, and Andrea revised the lesson based on this. Six days later, Steven taught the lesson to another 6th grade class, his CTT class. Again, the other participants observed and collected data on observation templates prepared by Andrea. Following the lesson, Andrea led the group in a final debriefing where they shared not only what they had observed, but also what they were "taking away" with them from their participation in the lesson study group.

The Lesson

As explained previously, the research lesson is a highly developed plan for teaching and learning, and contains many components that the typical lesson plan does not. The lesson study cycle #2 group worked collaboratively on the lesson, co-writing each section of the plan. I will begin by presenting the lesson plan that was prepared for the first class, and then I will highlight the changes that the teachers made between the first and second version of the lesson.

Lesson Version 1

The research lesson began with a contextualization of the lesson and a statement of its overarching goals and questions, major understandings, and rationale. Next, the lesson plan went into detail on the three assessment pieces in the lesson. Andrea explained that this was an extremely important part of the lesson, as the goal of lesson study is to really focus on evidence of student learning. The assessment pieces are the data that teachers examine to evaluate whether students met the learning goals of the lesson.

Lesson Goals

Unit Plan

In this unit students learn about how Sparta's and Athens' geographic circumstances contributed to their development as city-states and eventual rivalry. To begin, students learn about the geography of Athens and Sparta. As the unit progresses, students investigate different aspects of Athens' and Sparta's societies and continually make connections to the impact of geography. In this lesson the students will begin to investigate social structure.

Overarching Goal

This lesson moves students towards achieving a deeper understanding of how geography influences history and culture.

Overarching Question

How does geography impact the social structure of Sparta?

Major Understandings

Content

- Social structure is groups of people, the way those groups are organized, and the way those groups interact with each other.
- Geography impacts the social structure.
- Making connections makes learning new ideas easier.
- There are many strategies to make connections.

Process

- Students will make connections.

Previous Lesson

- Sparta did not possess enough fertile land for growing crops.
- Sparta was landlocked. They did not have easy access to waterways.
- Social, political, economic, geography are categories that impact each other.

Rationale

Learners make multiple connections from concepts to reality. Making connections helps you make sense of a new idea. This lesson teaches students strategies to make connections in an effort to help students become better learners and more cognizant of their own learning. This lesson uses multiple teaching and assessment strategies to meet the needs of a diverse group of learners.

Assessment Pieces

Assessment

- **Introduction group work (NY connections)** – In this lesson step, through students’ questions, comments, and answers on their worksheet, we will see how well students are able to notice how they make connections. This will allow us to assess how much progress they make as a result of the lesson.
- **Debriefing the process of making connections** – In this lesson step, through students’ contributions in the group discussion, we will see how well students understand the strategies to make connections and to what degree they are able to articulate how they make connections.
- **Application: Sparta Connections** – In this lesson step, through students’ questions, comments, and answers on worksheet, we will see how well students are able to apply what they learned about making connections to a new learning situation. The quality of students’ descriptions of Sparta’s social groups and how they connect to Sparta’s geography should be improved as a result of a stronger awareness and ability to make connections. Students should be able to use strategies effectively and be able to articulate how they used them.

The remainder of the lesson plan consisted of the lesson steps and worksheets that students were to complete in the lesson. The steps were very detailed, similar to a script, so that Steven (the implementer) knew exactly what he was to say and do for each point in the lesson. There were some small changes in the lesson steps between the first implementation and the second because the teachers decided they wanted to make some adjustments based on their first observation, and some details on the worksheets were changed (complete version of lesson plans and worksheets available in appendix). Each lesson plan was conducted in a 45-minute class period.

In the first lesson the teacher introduced the lesson by explaining the aim and setting the purpose for the lesson. Next, students worked in groups to answer the question “How does the geography of New York influence the lives of New Yorkers?” Each student received a worksheet to record his/her answers on during this time. As the students worked, Steven circulated and, as indicated in the lesson, “ask[ed]

questions and encourage[d] students to elaborate and think about how they are making connections.” In addition, he “note[d] which strategies students are using on a clipboard.” The lesson plan included specific questions that Steven could ask to facilitate group work: “How did you think of that connection? How did that help you?”

After group work was complete, Steven called the class back together and debriefed the process of making connections. A pre-made t-chart with the headings “Connections between Geography and the lives of New Yorkers” and “Strategy” was posted. For each answer students gave, Steven had to record the answer and ask each student how he/she came up with it. Following the debrief, Steven handed out a pre-made chart that the lesson study group had created with a list of strategies for making connections and read it aloud with the students. The strategies and descriptions were the result of hours of meeting time during which the teachers discussed the types of strategies people can use to make connections.

Strategies to Make Connections

<u>Strategy</u>	<u>Description of Strategy</u>
Personalize	What experiences have you had that may relate to this new idea?
Think about what you already think or know (prior knowledge)	When have you learned or heard about this idea before? What do you already know about this topic? <i>Hint: It may be helpful to write this down as a list.</i>
Listen first	What are other people saying about this idea? <i>Hint: Something they say may help you make your own connections.</i>
Put it into your own words (paraphrase)	How would you describe the idea to someone else? <i>Hint: Put the new idea into simpler language.</i>
Visualize	Imagine the situation or concept. You can use mental pictures to help you.
Use visual tools	Go to or find resources like maps and photographs.
Comparisons	Make comparisons
Ask questions	What questions can you ask about this topic? <i>Hint: Turn the new idea or what you know into a question to go deeper.</i>

For the final part of the lesson, students applied the process of making connections to Ancient Sparta, which they had been studying for several weeks in class. First, Steven gave students the definition of social structure, which the teachers agreed on was “Social structure is groups of people, the way those groups are organized, and the way those groups interact with each other.” Steven then modeled an example for students. Following the modeling, students had to work in groups to describe one social group in Sparta and how their lives were influenced by the geography of Sparta, as well as the type of connections they made and the strategies they used to make those connections. Each student received a worksheet on which they were to record their answers.

Steven stayed true to this lesson plan and implemented every step as they were described in the plan.

Lesson Version 2

Following the teaching, the participants in the lesson study group made some specific changes to the lesson based on their analysis of the evidence of learning in the first debriefing. Overall, the teachers agreed that, as Steven said, “the expectation of getting kids to notice the strategies is developmentally a little bit beyond them.” They felt the evidence revealed that students didn’t fully understand the concept of making connections through the use of the strategies, and that the lesson needed to build in more scaffolding to reach that understanding. In addition, the teachers felt the first part of the lesson (with New York) took too much time, and not much new learning was gained from it. Therefore, many of their changes focused on using the lesson time more productively to get students to make connections and notice how they were able to do that. They debated getting rid of the New York portion of the lesson completely and thought instead perhaps they should just focus on Sparta – but they ultimately decided to keep it because they felt

it was a good scaffold to understanding Sparta. This decision was influenced by Steven's observation that a student in the first lesson used an example about New York City pre and post 9/11. The student thought that airport security had changed so much since 9/11, and he attributed this to New York City's vulnerable geography. The group felt this was a good example, and realized that this could be applied to understanding how Sparta was under threat from her neighbors. Thus, in the end New York was not taken out, but several changes were made to that portion of the lesson.

The second lesson differed from the first lesson in the following ways:

1. In the new lesson the teacher would go over the **agenda** for the day at the start of the lesson. This suggestion was made by Sarah. She believed this would help students understand the purpose of the lesson more clearly. Also, the teachers felt that students would have more time to develop their understandings about making connections if there was more time for the last part of the lesson, and by going over the agenda and the aim at the start of the lesson, the group thought it would create more time in the lesson later for processing concepts.
2. The group agreed that the teacher should hand out and explain the **strategy chart** earlier in the lesson, before students worked in groups to answer, "How does the geography of New York influence the lives of New Yorkers?" This decision was made based on the teachers' concern that students needed more scaffolding to truly make connections during the Sparta portion of the lesson. By handing out the strategy chart earlier in the lesson and asking students to use it for the New York example, the teachers hoped students would get more practice in understanding how they can make connections. In addition, Edward felt (and the group agreed) that this would give students a wider range of strategies to

- draw upon for the New York portion of the lesson, since in the first part of the lesson many students just used “prior knowledge,” which in turn would deepen their understanding of the how geography influences the lives of New Yorkers.
3. The group decided that the teacher would **model** an example of how geography influences the lives of New Yorkers before students work on it in groups. Steven and Sarah felt this would help students understand the strategies better, and the group agreed this was a good idea, based on the evidence that the majority of students in the first lesson did not explain how they used their strategies to make connections in the Sparta portion of the lesson.
 4. The group agreed that the teacher should make a distinction between **historic connections** and **personal connections** during his modeling, and model one of each from one geographical feature. This change came from the teachers’ observation that several students did not make personal connections in the first lesson, as the teachers had anticipated, and this was likely because students didn’t know what it meant to make a personal connection. Making a distinction between personal and historic would provide contrast, thereby helping students understand the difference. Robyn suggested that the teacher model a personal and historical example with **one** geographical feature. The group liked this idea because they felt it would help students recognize how you can make more one than one connection with a single geographical element.
 5. As with the previous lesson, students were to work in groups to make connections and record their answers on a **worksheet**, which looked slightly different than the first lesson. The directions were changed and the arrow between the first and second column was removed, which was there originally to

let students know they could work in either direction. This change was made because the teachers noticed that students worked from left to right anyway. Another change to the worksheet was to specify "Manhattan" instead of New York, in order to eliminate confusion about what constituted New York, which the teachers had noticed was a problem in the first lesson. Finally, besides recording the historic and personal connection, students also would have to list the strategy they used to make the connection, since they now had the strategy chart to help them. This would help prepare students for the Sparta portion of the lesson because they would already be familiar with the strategies.

NY Connections Worksheet: Version 1

<u>Connections: New York's Geography AND the Lives of New Yorkers</u>	
Directions:	
1. List examples of:	
a. how the geography of New York influences the lives of New Yorkers.	
OR	
b. how the lives of New Yorkers are influenced by the geography of New York.	
<i>Hint: Think about how the lives of New Yorkers are different from the lives of people who live in other places.</i>	
2. Sign your initials next to your ideas.	
New York's Geography	Lives of New Yorkers

NY Connections Worksheet: Version 2


<u>Connections: New York's Geography AND the Lives of New Yorkers</u>		
Directions:		
1. List examples of how the geography of New York influences the lives of New Yorkers.		
<i>Hint: Think about how the lives of New Yorkers are different from the lives of people who live in other places.</i>		
2. Write the strategy that you notice that you are using.		
3. Sign your initials next to your ideas.		
Manhattan's Geography	Connection between Manhattan's Geography and Lives of New Yorkers	Notice what strategy you used

6. Steven was to ask the same prompts during the New York portion as in the first version of the lesson, but the additional statement "Tell students that to answer this question they should think about how the lives of New Yorkers are different from the lives of people who live other places" was added on. During the final part of the lesson, students were to complete the same activity in the first lesson on Sparta, but the lesson plan offered Steven additional prompts to ask students as he circulated: "Have you selected a social group? Are you thinking about how the geography influences the lives of your social group? Are you thinking about how you are making connections?" These additional prompts were not discussed

by the group during the debriefing, so they were likely added on by Andrea to support Steven.

7. As with the New York worksheet, the arrow between the first and second column was removed and directions on the Sparta worksheet were changed to reflect the removal of the arrow. Otherwise, the worksheet remained the same.

Sparta Connections Worksheet: Version 1

<u>Connections: Sparta's Geography AND Sparta's Social Groups</u>		
<u>Directions:</u> 1. List examples of: a. how the geography of Sparta influences a Spartan social group. OR b. how the lives of a Spartan social group are influenced by the geography of Sparta. 2. Name the strategy and how you used it to make the connection between Sparta's geography and a social group in Sparta. 3. Sign your initials next to your ideas.		
Name and description of a Spartan social group	Explain the connection between the social group and Sparta's geography	Name of the strategy and how we used the strategy to make the connection
		

Sparta Connections Worksheet: Version 2

<u>Connections: Sparta's Geography AND Sparta's Social Groups</u>		
<u>Directions:</u>		
<ol style="list-style-type: none"> 1. List examples of how the geography of Sparta influences a Spartan social group. 2. Name the strategy and how you used it to make the connection between Sparta's geography and a social group in Sparta. 3. Sign your initials next to your ideas. 		
Name and description of a Spartan social group	Explain the connection between the social group and Sparta's geography	Name of the strategy and how we used the strategy to make the connection

Growth Reported

One of the leading scholars on lesson study in the United States is Catherine Lewis. In her book *Lesson Study: A Handbook of Teacher-Led Instructional Change* she explains that through lesson study, teachers become reflective practitioners who develop a deeper understanding of instructional techniques that can be used throughout the curriculum. For example, teachers may learn strategies such as how to pose good questions to their students and foster the development of discussion skills. In addition, she suggests that lesson study "provides a means for teachers to develop their evidence-gathering skills and ability to see a lesson from a student's

point of view" (Lewis, 2002b, p. 36). Teachers develop strategies for observing students, and learn to ask questions such as "What is their understanding of the subject matter?" (Lewis, 2002b, p. 36). Lesson study may also provide teachers with opportunities to deepen their understanding of content and develop long and short term goals for their students. Finally, she explains, "lesson study sheds light on *how* to improve" instruction (Lewis, 2002b, p. 10).

Lewis et al. (2006) argue that we must expand the descriptive knowledge base of lesson study in both Japan and the U.S. so that "we can develop sound ideas about its central features" (p. 10). Thus, one of the goals of this study is to contribute to a growing body of research on lesson study in the United States. However, the research and literature on lesson study reveals a growing consensus on the areas of pedagogy and instruction which lesson study can help improve. (See Audette, 2004; Blum et al., 2005; Boss, 2002; Brendefur & Stewart, 2005; Brown & Wiburg, 2007; Chokshi & Fernandez, 2004; Fernandez & Yoshida, 2004; Lewis, 2002b; Stigler & Hiebert, 1999; Watanabe, 2002; Wilms, 2003). In light of this development, here I will present my findings as a compliment to what has already been described as the benefits of lesson study. In chapters six, seven, and eight I will delve into the factors that facilitated and constrained the learning of these teachers, which I believe is a more significant and pressing need in the lesson study field at present.

What was learned

Out of the five participants in this study, Robyn, Steven, Edward, and Genevieve offered many examples of what they learned from lesson study, while Sarah offered only one. Thus, in the summary below, Sarah's voice only appears once while the others appear often. In chapters six through eight, I will offer an analysis of the difference in learning between these participants, and I will suggest

reasons for why Sarah's learning was the most constrained. Though he wasn't a participant in the lesson study group, in his interview with me Charles offered some examples of what he believed teachers learned from it, so his voice is included in the findings below as well.

1. **QUESTIONING SKILLS:** Teachers reported that they gained an understanding of the importance of the types of questions they ask students, as well as how to, according to Edward, "fine-tune the way you question." The data reveals that lesson study provided an opportunity for teachers to learn that the way a question is phrased will affect the type of response a student gives. Teachers believed that this is important not only as a tool for assessing student learning, but also as a tool for driving student to think in "bigger and deeper ways" (quote from Edward). For example, Genevieve explained that now she "better at figuring out the questions to ask, and the responses to look for" because of her participation in lesson study.
2. **ASSESSMENT SKILLS:** Teachers said that lesson study helped them identify different ways to assess student learning by focusing on the evidence of learning. For example, Steven said that lesson study helped him become more "clear on what that evidence looks like, feels like, and appears to be." In addition, teachers said that they learned ways to evaluate evidence of student understanding. Genevieve described, "I think about how I would evaluate kids' responses and kids' questions prior to lesson study, and I think about how I do it now, and there's a difference."
3. **OBSERVATION SKILLS:** Teachers indicated that they developed what Catherine Lewis describes as "the eyes to see children" (2002, p. 36). For example,

Steven explained, “my observation skills are better during a lesson. I am better able to detect when something is or isn’t working with a particular student in my class.” In addition, Edward said lesson study helped him “observe the way kids learn” and evaluate “what’s effective and what’s not and how to adjust.”

4. UNDERSTANDINGS ABOUT LEARNING: Teachers reported that lesson study helped them gain a deeper understanding of the multiple ways that people learn. Edward suggested, “it helps you understand the way kids take in information.” Robyn noticed that “we all had different approaches and different thoughts about a specific idea,” which reinforced her beliefs about the multiple ways students may approach a problem or think about a particular concept. Teachers also learned about how students developed understandings that were particular to the content of the lesson that was taught. For example, Steven learned more about “how kids make connections.”
5. ABILITY TO ESTABLISH GOALS: Lesson study helped teachers crystallize lesson goals, unit goals, and yearly goals for their students. At the final cycle #2 lesson study meeting, Andrea asked the teachers to describe the goals they have for their students as a result of their participation in the group. Steven shared his thoughts at this meeting:

A couple of goals I would have for everybody is to not fear being wrong – and [right now] they all do. In fact, I think, as adults we do it all the time. It stops them for taking risks. And then a big goal to think about is how can we make them independent learners, especially with the CTT class. And in each lesson, like in this lesson – though I think we did make some progress – a lot of them were held back, or felt held back.

The group agreed with Steven and felt this was an important goal for MMS students to be moving towards in every lesson. Teachers also said participating

- in lesson study helped them be able to identify the big and small goals for each lesson in their own teaching. For example, Genevieve explained that it helped her focus on “what it is that we are really trying to get kids to learn.”
6. UNDERSTANDING HOW TO TEACH MAJOR CONCEPTS: The teachers offered several understandings they gained about how to best teach major concepts to their students. The most significant understanding for all of the teachers was that teaching students how to make connections is a year-long process and not something that can be taught in one lesson. For example, Robyn said that teaching students how to make connections is “huge” and that “you have to do that in every single class.” Edward believed that it would be better to introduce this idea “in the beginning of the year...we need to scaffold it in...and maybe by June they can do this.” Also, teachers indicated that they developed strategies for scaffolding student understanding of major concepts. For example, Steven reported that he now thinks through the concepts that he needs to teach “a little bit differently.”
7. UNDERSTANDINGS AND SKILLS IN LESSON PLANNING: The teachers believe that lesson study gave them new ideas for what process to use in creating lessons as well as new ideas and tools to use within lessons. Robyn learned that she needs to consider what is “the best way to present information” when she is teaching. She also reported that she learned “a different approach to planning a lesson.” Steven learned that “sometimes we are trying to do too much in a 45-minute class period” and that there are “many ways you can effectively teach a lesson.” Teachers stated that they developed an understanding of what kinds of questions to ask themselves when planning. For example, Steven now asks himself questions about “the effectiveness of a source” before using it in the classroom.

Based on his work with these teachers, Charles believes that lesson study helped teachers learn how to ask questions that are integral to the lesson planning process, such as “why is this kid producing this work and what are the next steps?” As a result of lesson study, the teachers indicated that their lesson plans have improved. For example, Steven said that the “lesson planning/writing I do is tighter and more reflective of their [students] learning needs than they used to be.”

8. REFLECTIVE HABITS: The teachers’ comments regarding their thinking about teaching and lesson planning suggest that they have learned how to become more reflective practitioners. For example, Edward said lesson study “makes you examine your craft; it makes you look at whether or not what you are doing is teaching.” Sarah reported that lesson study reinforced her belief that you must “constant revisit your curriculum and revise it.” Finally, Steven stated that lesson study taught him to have “a lot more respect for the planning and the researching that goes into teaching and the professional aspects of it.”

9. COLLABORATIVE ABILITIES: The teachers explained that lesson study taught them that collaboration can create more effective lesson plans and, as a result, improve student learning. In addition, lesson study gave many of the teachers the tools to make collaboration more effective. For example, the teachers and principal said they developed a common language for talking about students work. Charles stated, “It supports the CTT model...teachers can have conversations around the question “What is the evidence of student learning that we are going to create?” Second, teachers said they gained a stronger relationship with each other that allowed them to work together more effectively. Genevieve explained, “I am more comfortable going into those teachers’ rooms

and saying why don't you try X, Y, or Z? Not that I didn't do that already, but it makes it easier when you've had more conversations."

10. A SENSE OF AGENCY: Teachers believed that lesson study helped them recognize what types of professional development are most useful for them. This was most evident following the end of lesson study cycle #2, when the principal brought in new staff developers into the school and signed the school up for new professional development programs, instead of focusing on teacher-driven models such as lesson study. The majority of the teachers told me that there were dissatisfied with the direction professional development was moving in, and they realized this because of their experience in lesson study. For example, Edward explained, "we really know the value of being together on a regular basis" because of lesson study, and this contributed to his sense of dissatisfaction with the new professional development initiatives which were not based at the school. Steven echoed Edward's beliefs about the value of collaborative professional development among teachers at the school. He described:

I think that thinking outside the box with teachers in different grades within disciplines, especially in Humanities combined with all the meeting we do with [the CTT teachers and other Humanities teachers] can serve as ample staff development. No matter how bright [the TC staff developer] is, I just don't feel like I'm in the place finishing up my 5th year where I want to explain to someone where I'm at, the questions I have, and what I might need.

The teachers reported that they began to think more deeply about the types of professional development that are effective for them. For example, Genevieve said, "I think a combination of factors have shifted my focus to staff development" and one of them is "lesson study." The teachers shared these insights with each other, and began to advocate for a change in professional development. In particular, Edward started having conversations with Charles in

the year following the end of the cycle #2 lesson study group in which he suggested – and pushed – for professional development the upcoming year to be a collaboration among staff members and be more “discipline focused.”

Conclusion

Overall, participants in this study believed that lesson study provided them with significant growth in their understanding about what constitutes effective teaching and lesson planning. It appears that they honed their instructional skills, developed new and deeper understandings about their pedagogy, and experienced growth in their reflective habits and sense of agency. In this chapter I have identified ten specific types of learning that teachers developed, which are already widely recognized in the lesson study research community as benefits of lesson study: improvement in questioning skills, assessment skills, observation skills, and goal setting skills; the development of deeper understandings about learning, teaching major concepts, and lesson planning; and the development of reflective habits, the ability to collaborate more effectively, and a sense of agency.

Chapters six, seven, and eight will focus on the *mechanism* by which lesson study helped to create this growth, as well as the *factors* that facilitated and constrained teacher learning within and outside of the group.

Chapter 6

School Team and Neighborhood Court as Facilitators

Introduction

Laurel Richardson (2000) asserts that metaphor is the “backbone of social science writing” (p. 926). She explains, “theoretical schemata are always situated in complex, systematic metaphors” (Richardson, 2000, p. 927). In this chapter, I will present a metaphor for looking at what factors facilitated teacher learning in the lesson study group as a way of interpreting my findings. The metaphor is used to “make sense” of the “facts,” and thus privileges “one ordering of the ‘facts’ over others” (Richardson, 2000, p. 927). I have chosen the metaphor of two basketball courts to present my findings. I could have chosen an entirely different metaphor – a train station, the moon and the tide, or even another sport – but since the notion of two courts is the key component of this metaphor, basketball has the best alignment with my findings.

The notion of two basketball courts functions as a metaphoric structure which brings greater meaning to my findings, and it also directly connects to the framework I developed to sort and analyze my data. In chapter two, I presented this framework, which consists of four main elements: foundational features, structural features, teacher characteristics, and experiences in lesson study. It is important to recognize that in placing my data into this framework, I have made an attempt to isolate specific features; however learning doesn’t follow a linear path from experience to application (Ayrgaris, 1993; Elmore, 2004; Fullan, 1991; March & Olsen, 1976). Thus, it is the interaction of these features that created the context for learning.

To truly understand change in practice, it is my belief that we must not only examine what happened within the lesson study group, but also what happened

beyond it. As I conducted this study, there appeared to be two worlds: the world within lesson study and the world outside of lesson study. In addition, there is another layer in the story: there is the world outside of lesson study as it was taking place, and then there was the world outside of lesson study that existed once cycle #2 had ended. As I analyzed my data, I realized that these could also be thought of as two different basketball courts. One is a court that is run by the coach of school team, while the other is a neighborhood court. The purpose and nature of play on these courts are different, and this same dynamic exists between lesson study and the school structure that surrounds it.

To begin to understand this metaphor, imagine a competitive school basketball team. This team is comprised of players who have various strengths and weaknesses, though they all have a baseline level of ability that has brought them to the same team. The team is led by a coach, who is the person who ultimately controls the team. Within this team there is a captain – a player who has been selected by the coach and the team to lead it. The captain is recognized as having a higher level of skill in certain areas than other team members, which is why the captain has an elevated position among the team members.

Imagine this team practices together on a regular basis as part of their schedule. These practices are led by the coach, who is teaching them how to be the best team possible. However, most players who are on a basketball team do not just confine their learning of basketball to the court with their team and coach. We can imagine that many of the players gather with some of their teammates and friends to play on their neighborhood courts outside of team practice time.

In thinking about the difference between the neighborhood play (which is largely for fun and practice, and led by the players) and the competitive school play (which is designed to help the team win and is structured by the coach) we can better understand the factors that facilitated and constrained lesson study at MMS.

Thus, to make this metaphor work, we must think of the school team as one space where playing basketball occurs and the neighborhood court as another space.

PART I. THE SCHOOL TEAM

MMS can be thought of as a competitive school basketball team. A team consists of players, a captain, and a coach who operate within the community of the school. Because everyone on the team operates within the same context, there is a shared system of values. These elements can be thought of as *foundational* features that form a base for the team.

At MMS the players are the teachers, the captain is the lesson study facilitator, and the coach is the principal. MMS is a "community of practice" (Lave & Wenger, 1991) that consists of "informal social networks of people who share concrete ideas, values, and norms about their work" (Elmore, 2004, p. 108). This foundational feature existed before the lesson study group cycle #2 group began. Since research has shown that "the creation of social networks can have a significant on the development of new practices among experienced teachers" (Elmore, 2004, p. 109), it is probable that the shared community of practice created an environment where an innovation such as lesson study could take root. Like a school basketball team which brings a variety of players together on a court with a singular goal, MMS created a space for teachers to interact and work towards the goal of supporting student learning. Teachers had a similar value system based on an appreciation of collaboration, hard work, and care. There was a strong sense of respect among the staff, and they valued each other; they knew they were all playing on the same team.

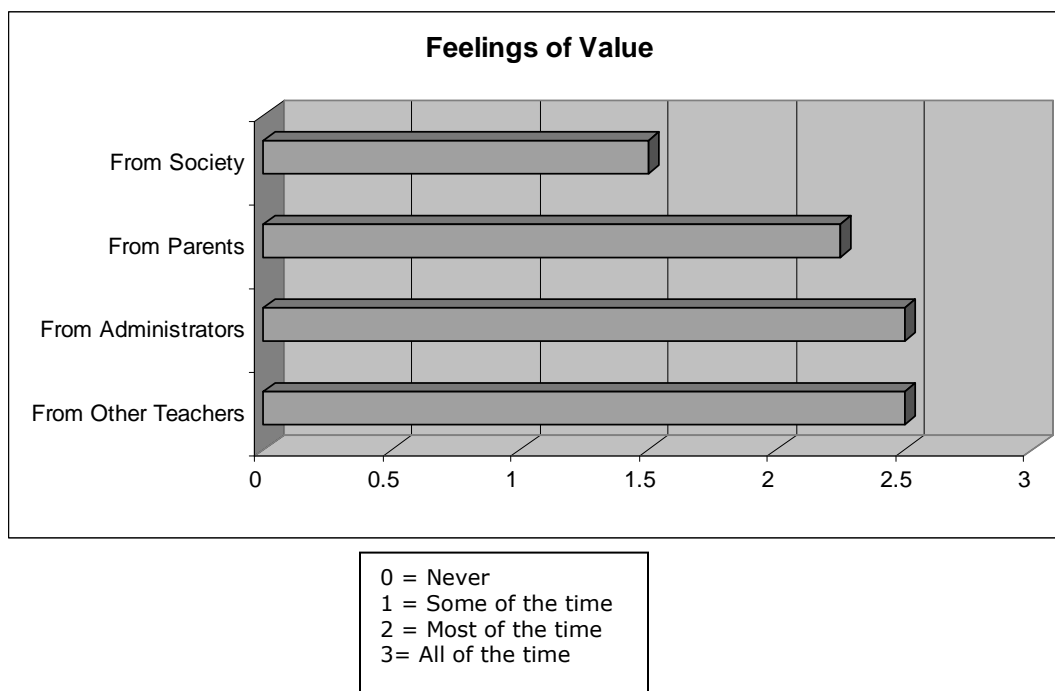
Brown and Wiburg (2007) explain that lesson study will not be successful unless a school possesses certain "threshold conditions." They articulate these as: curriculum alignment, agreement on curricular goals and processes across the

school, readiness to support new forms of professional development, and the ability of teachers to define student learning goals (p. 37). MMS possessed all of these attributes, and thus had a strong foundation for supporting the work of lesson study.

Features of Team Culture

Respect

Prior to the lesson study cycle #2 group, teachers at MMS exhibited a high degree of respect for each other and felt that they were valued members of the school community. Brown and Wiburg (2007) have cited the importance of trust among teachers in beginning and acting within a lesson study group. At MMS, the principal said teachers “demonstrate respect for each other” and Genevieve remarked, “you can observe some really good teachers here.” In addition, surveys that were distributed at the start of the lesson study cycle reveal that teachers came into the group with high sense of value from teachers, administrators, and from parents.



This sense of appreciation and respect likely allowed teachers to feel comfortable sharing their views with each other in the group. For example, Robyn explained that if she doesn't value the people she is working with, "I feel like it's a waste of time." In lesson study, she believed that she was "working with intelligent people...and it was a really great use of time. It was very beneficial to everybody." Steven said that working "with people that you respect" helps you "think about teaching in a new way."

Also, the sense of camaraderie among the staff supported the implementation of lesson study. The participants needed the support of teachers who were not involved to make the lesson study group happen, such as when they needed teachers to cover for them during the implementation of the lesson. Robyn explained, "you need the cooperation from the teachers who aren't involved – the understanding that we are doing this and I'm going to need someone to cover my class...so the logistics of it."

This culture of value and respect was based on a collaborative environment, shared beliefs about teaching and learning, and a common language, which gave MMS the capacity to implement lesson study. These qualities are instrumental in selecting and implementing innovations, as well as creating the space for teachers to "spontaneously self-organize." (Fullan, 1999, p. 29).

Collaborative Environment

One of the most obvious components of the culture at MMS was an appreciation of collaborative work. Results from the pre-lesson study cycle #2 survey on collaboration reveal that teachers already collaborated "some" or "most" of the time on their lesson plans. This is significant because collaborative cultures support innovation and risk taking, as well as create emotional support for their members (Fullan, 1991).

When I interviewed Genevieve she told me that when she came to the school it was immediately clear that this was a collaborative school. She described:

It was very clear right away. A lot of the teachers were talking, people were taking lunch together – it was part of the culture that you could pick up on pretty quickly. And working with people here and the way they approach problems, it really seems to be “let’s talk about it in a group.”

Steven said that he “can’t imagine a place being more collaborative.”

This pre-existing emphasis on collaboration cultivated a sense of unity among the lesson study group members, as well as a sense that collaboration in itself could be useful. For example, at meeting #2 the teachers focused on how they would match the content of the lesson to their overarching goals. In the excerpt below, the group is struggling with articulating the skills they will focus on in the lesson. Edward points out to the group that they haven’t decided on the content for the lesson yet, and Andrea mentions that perhaps if they decided on content first, it would be easier to decide on the skills. Previously they had decided the concept the lesson would focus on is “geography influences history and culture,” but in this excerpt the group also realizes that this is too broad for one lesson.

Edward: We are missing the content [for the lesson].

Andrea: I actually think that if we knew the *content* we’d have an easier time articulating the *skills*. I think we need to know what we are trying to teach them, and then we could discuss how the skills are going to support that.

Steven: The concept [the lesson is focusing on] is a lot more specific than “geography influenced the history and culture of Sparta.”

Andrea: I think that’s the overarching goal. That’s where they’ll get to at the end of the unit. But if we say that that’s our goal, kids should leave the room knowing that. So where do we start [to begin to reach this goal]?

Nicole: I have no idea.

Robyn: So that’s more of an overarching goal – the goal of the unit. We need to focus on a goal for one specific lesson.

Steven: Right!

Robyn: They're not going to...I mean, they'll take a *piece* of that away, but they are not going to take away that *whole* idea.

Andrea: Right.

Edward: See, Robyn, that is what I mean by LOFTY. You're already chipping away at our LOFT. [He looks at Robyn and smiles] And we need that! That's great.

Previous to this meeting, Edward had made the comment that last year's lesson study group was too "lofty" in their goals. He explained that this meant they were aiming to achieve really deep understandings in 45-minute lessons, which isn't possible. At the end of this excerpt, Edward is displaying his appreciation for Robyn's ability to keep the group grounded and focused.

Like basketball team members who are comfortable passing the ball off to each other, the teachers at MMS were acutely aware of how much they needed their fellow teachers to help them get the ball in the basket. This formed a strong foundation that prepared teachers for the collaborative nature of lesson study.

Shared pedagogy and language

Besides valuing collaboration, MMS exhibited a distinct culture that is based on experimentation, looking at classroom assessments as data, and creating learning experiences through well designed unit and lesson plans. The principal encouraged this by referring to the classroom as a "laboratory." In addition, because he encouraged teachers to focus on the "evidence of learning," and used that language with his teachers, teachers arrived at the lesson study group with a common language and a belief that looking at the evidence of learning is an important part of a teacher's job.

School communities such as MMS that share common standards and curriculum are likely to support the work of lesson study (Lewis, 2002b). Because the teachers employed a well-respected method of planning, known as

Understanding by Design (UbD), the lesson study cycle #2 group came together with a shared sense of pedagogy. Brown and Wiburg (2007) have written about how the UbD method of planning is very useful for teachers engaged in lesson study, because it helps teachers situate the research lesson in a larger curriculum context. For example, during the second meeting of the lesson study group, Steven spoke about the UbD plan for his Sparta unit. He used the language of enduring understandings, essential questions, and learning plan and passed around a packet of information that he and two other teachers had prepared for a conference they had recently presented at. Because everyone in the group had used UbD planning to create their units, Steven did not need to explain his unit design process and group members readily understood his unit. In addition, the group was prepared to understand the research lesson in the wider context of Steven's curricular unit. Hence, UbD was part of the culture of the school which supported teacher learning within the group.

This shared language and shared view on pedagogy seemed to facilitate the teachers' learning by allowing them to "zero in" on a focus for the group (Lewis, 2002b). All of the teachers felt that supporting students in making connections was an important goal and relevant across content areas. In the second meeting, after Steven shared his 6th graders struggled with matching evidence to their arguments, Robyn described a similar experience. Her 7th grade math students recently did a research project, and she reported that they gathered data relatively easily, but experienced difficulty in understanding "what to do with the data." This led the teachers to focus on the goal of helping students make connections. In a group where teachers arrive with different pedagogical beliefs, settling on a meaningful goal may have been more difficult. The focus on making connections was a rich topic, and led the teachers to new discoveries as they planned and taught the lesson. This was critical to the group, since lesson study requires teachers to focus broad, overarching goals (Brown & Wiburg, 2007; Lewis, 2002b).

Team members

This shared sense of values did not emerge accidentally – the school leader and teachers at the school worked together to cultivate this environment, just as a coach and his team members affect the dynamics on a team. Together, they created an environment of “collective learning” (Elmore, 2004). The leadership of the coach, the strengths of the players, and the efforts of the team captain produced the environment that facilitated play on the neighborhood court.

The Coach

The school leader is instrumental in creating the values and culture in a school (Elmore, 2004). In addition, “the available literature on educational change efforts points to the principal’s crucial role, especially in regard to the seriousness with which he or she redefines the role of teachers in planning and implementation” (Sarason, 1996, pp. 295-296). Similarly, a basketball coach has his own beliefs about how his players should play together and practice based on his own experiences and learning, and he cultivates this among his players. In addition, a good coach will teach his players skills they can use on other basketball courts and teams, and he supports his players. Like the coach, Charles exhibited a leadership style that helped support lesson study cycle #2 become a reality.

One likely reason why MMS was a collaborative school was because principal Charles Rensen believed it was important. He explained, “anytime teachers go over craft with other teachers, you have the makings of a great school.” Since prior findings have shown that collaborative environments can facilitate learning (Fullan, 1991) the role of Charles in this regard is significant. His belief in the importance and power of collaboration created the context for learning that occurred in the lesson study group.

The collaborative environment that existed at MMS was partially due to several initiatives that Charles enacted which created a need for teachers to work together. First, he moved the school into a Humanities model (which is an integrated social studies/English model) during his first full year as principal. When he arrived, there was a single social studies teacher and single English teacher for each grade. Now there are two Humanities teachers for each grade, and each one only teaches half the students in their grade. One of the benefits of this is that, as Charles explained, "it brought the Humanities teachers to plan together and develop curriculum together, and develop a relationship." He said, "I'm a strong believer in a collaborative environment, and this nurtures it." Second, he started a CTT program. The CTT program, Charles explained, "brings kids who are not high achieving into the classroom with the high achieving kids," and requires there to be two teachers in the classroom (one content area specialist and one learning specialist). The CTT model encouraged collaboration because the two teachers need to work together to co-teach the class. Finally, Charles promoted collaboration among his staff by, as Sarah claimed, encouraging them to "plan cross curricularly."

In addition to creating a collaborative environment, Charles supported lesson study in several direct ways. For example, he provided support for lesson study cycle #2 by providing funding, some structural support, and exhibiting a desire for the initiative. Though this is rather an obvious point, clearly no teacher could learn from lesson study if it did not occur in the first place. Brown and Wiburg (2007) suggest that lesson study is unlikely to succeed if administrators are not "on board" (p. 58).

Teachers in the lesson study group reported that prior to and during lesson study cycle #2, Charles was enthusiastic about the initiative. Charles recalled, "I read stuff that was encouraging, and I thought it was a good thing to try. The goal of lesson study was something I wanted to achieve." This was integral to lesson

study's success, because without his support lesson study may never have taken place. Robyn said that "you need a principal who thinks it is a great idea and that you should do it."

Another way Charles supported lesson study is with funding and time. Charles agreed to pay teachers per session money for a specified amount of hours. When the lesson study needed additional funds for an extra meeting in April, 2007, Charles allotted extra per session money. Also, he also allowed teachers to use two of his regularly scheduled staff development times for lesson study. Steven explained, "lesson study was an idea from the teachers...and he funded it and helped prioritize it."

The Players

On the school basketball team, the players want the team to win, and they recognize that their job is to work together to do the best they can. They have been selected to play on the team because the coach believes that they are worthy of being on the team, and though there may be some variation in strengths and weaknesses, they are all on the team because they have the same base ability level. Within the team, each individual player also wants to do his or her best because this is what gets them praise, admiration, and possible advances in life if they are very talented. Similar to the basketball team, most teachers at MMS are there because they have been carefully selected by the school's principal. The teachers tend to be collaborative, reflective, hard working, knowledgeable, and respectful. Because these teachers exhibit similar qualities, they value each other. Edward said simply, "we like each other." In chapter seven I will explain how teachers in the lesson study group who exhibited collaborative and reflective habits, strong subject area knowledge and pedagogical knowledge, and a clear educational philosophy were the ones who reported the most growth.

During my interviews the participants articulated the “typical teacher” at MMS. Genevieve explained, “I think there are two core elements to this school as far as teachers go, and it’s being collaborative and being reflective.” Teachers work hard at MMS, arriving early and staying late. As Genevieve suggested to me, this comes from the fact that “people tend not to be satisfied with their performance – they keep working to improve it.” Lesson study requires teachers to put in hours of time into one lesson, and it asks them to take a step back and look at evidence of learning instead of teaching style. Just as a player who is willing to work hard to improve his practice and recognize what he needs to improve on will be open to learning the most, these teachers were the ones who were predisposed to learning in a lesson study group.

Reflection on practice was viewed as a tool for improvement by many of the participants. Research has shown that reflective teachers are not only more effective, but they are also more open to learning (Bransford et al., 2005; Stronge, 2002). Reflective teachers are “curious about the art and science of teaching and about themselves as effective teachers” (Stronge, 2002, p. 21). At MMS, Genevieve reported that she spends time over her summers reflecting on her teaching. “That reflection definitely helps, because I don’t want to make the same mistakes again,” she said. Edward and Steven both told me that they are always revising their work. Edward explained, “I’m always questioning if it works” while Steven stated, “I’m never complacent.” Robyn exhibits qualities of reflection as well. She stated, “I get to teach the same lesson four times in a row, so my first lesson is usually very different from my last lesson of the day.” Though Sarah reported the least learning, she also described that she believes in the practice of revising curriculum. Thus, all of participants exhibited reflective qualities in their teaching before they joined the lesson study group.

Besides being reflective, MMS teachers seem to enjoy collaboration and believe in its usefulness as a tool to improve their teaching. Edward said collaboration is like an enjoyable argument – it’s a discussion about “what is the best way to make this work?” In the questionnaire I distributed at the start of my study, Robyn reported that she participated in collaborative lesson planning in her education coursework. This prior collaborative work likely helped her make the transition into the collaborative work at MMS.

It is important to recognize that these teachers value collaboration specifically with other teachers. Following my distribution of the survey, Edward stopped me to talk about the distinction between collaborating with teachers and staff developers. He explained to me that he finds collaborating with other teachers much more effective than working with staff developers. Like Edward, Genevieve believed that “it’s more useful for me to collaborate with teachers.” Steven indicated that he is “open to collaboration – that’s my personality” and said, “not teaching in isolation has been...the most influential” factor in his improvement as a teacher.

Finally, teachers at MMS exhibited a high degree of knowledge about their content areas and possessed a strong sense of pedagogy, which facilitated their learning in the lesson study group. Like players who understand the game, the teachers who reported the most growth were the ones with this strong foundation. Research on lesson study has shown that teachers need content knowledge in order to develop the lesson flow and explore student questions (Brown & Wiburg, 2007). Charles said, “here people are so smart and good [at teaching] – they know the content.” During the group meetings, it was often apparent that teachers arrived with a strong foundation for content knowledge and pedagogy. For example, at the first lesson study meeting, when Steven explained his unit, it was clear there were already conceptual learnings embedded into the unit. He explained that students would take on the role of spies as they were tasked to solve a pressing problem in

Ancient Greece. The students would investigate the situation, then make a recommendation to the Spartan Council of Elders on whether war, neutrality, or diplomacy was the best way to solve the conflict. Steven explained that students would put together an atlas of their own ancient culture to “demonstrate that they understand these major geography concepts.” During my observations of the teachers in their classrooms, each teacher exhibited accurate and deep content knowledge.

Strong content and pedagogical skills provided a foundation for the work in lesson study, as the teachers could consider more complex ideas such as teaching students metacognitive strategies, as well as giving teachers a common place to start from. If the teachers had not understood their content areas, this could have become a great obstacle to learning in the lesson study group, as lesson study requires you to focus on different layers of goals for your students. Without these skills, teachers may have struggled to find a lesson focus that was not only meaningful for all of them, but also helped them learn how to teach major concepts differently.

The Captain

The basketball team has a captain, who is a person that is valued by the coach and the team. This person is familiar with the team and has a close relationship with the players and is seen as someone with talent. The person in the position of captain garners respect, and has influence over the other team members. The lesson study group facilitator, Andrea, was a teacher at MMS who initiated the group. In this way, Andrea was like the captain of the team. Lesson study leaders are needed to “introduce and facilitate the process” as well as “ensure that teacher groups followed a defined process” (Brown & Wiburg, 2007, p. 51) Andrea’s knowledge and skills as a facilitator, as well as her relationship with the staff

members, supported teacher learning in the lesson study cycle #2 group.

She kept the group focused, understood and kept to the protocol, exhibited leadership and lent a sense of security during the planning process. In addition, group members agreed that “if there wasn’t leadership, or some sort of expertise in the mix” lesson study wouldn’t have happened (quote from Edward). Andrea also kept track of the schedule, noting the hours that were used each week and how much time was to be billed as per session.

During his interview, Edward spoke at length about the importance of Andrea’s role. He explained, “I was so appreciative of the integrity that Andrea brought to the whole thing.” In particular, Edward appreciated Andrea’s ability to stick within the confines of the lesson study protocol but also let him challenge the reasons for why things needed to be done in such a specific way. He said, “keeping us in those guidelines but also letting us have conversations about it...I thought that was really good, because not everyone has that understanding.”

II. THE NEIGHBORHOOD COURT

Lewis et al. (2006) have claimed that a key need for lesson study research is to “define lesson study productively.” Since studies have shown that lesson study is implemented differently across sites, it is critical for researchers of lesson study to “lay out both the observable features of lesson study and the intervening pathways that it is expected to build” (Lewis et al., 2006, p. 9). To address this need, this section explores the question, “How and why does lesson study as a professional development model support teacher learning?”

The metaphor of basketball continues to be helpful in interpreting my findings. To begin with, we can imagine that school basketball players may spend most of their time practicing with their coach on the school’s court; however, we can also imagine that they play on their neighborhood courts. If MMS is the school team,

then lesson study is the neighborhood court. The neighborhood court consists of several defining features that make the structure and experiences of play quite different from playing on the school team. In this section I will describe how the **structural** and **experiential** features of the neighborhood court facilitate learning about play in a different manner than play on the team.

Game Organization and Components

The neighborhood court is very different from the school court. For one, there is no “coach.” Among the players, the captain may be there, and there may be players who are more experienced. However, overall the players are equal. Certain players – such as the captain – may lead the group and organize the group into smaller teams so they can play practice games on the court, but the stakes are not as high as they are on the school competitive team. Thus, the organizational nature of the play on the court sets up a different learning experience than on the school court. In addition, there are rules for how the game will be played, and these must be followed in order for the game to be successful. Finally, there are certain elements that must be in place in order for the game to occur, such as the hoop and the ball.

My findings reveal that the organization, components, and rules of lesson study created a dynamic which facilitated teacher learning. In a lesson study cycle teachers go through the process of creating a lesson plan, observing the implementation of the lesson, and discussing the lesson. Often groups will then change the lesson, observe the lesson a second time, and discuss it again afterwards. This defined process is fundamental to lesson study. (See Brown & Wiburg, 2007; Lewis, 2002; Stigler & Hiebert, 1999). The structure of lesson study “provides a well-defined process for sustainable professional development around what teachers are teaching and students are learning” (Brown & Wiburg, 2007, p.

21). This structured process supports the ten areas of learning that were presented in chapter five:

1. Questioning skills
2. Assessment skills
3. Observation skills
4. Understandings about learning
5. Ability to establish goals
6. Understanding how to teach major concepts
7. Understandings and skills in lesson planning
8. Reflective habits
9. Collaborative abilities
10. A sense of agency

The lesson

For basketball players, a game might be able to take place in a modified form if some pieces are missing; however, it would be impossible to play without a ball. In lesson study, the ball is the lesson. It is important to remember that the lesson plan is situated and connected to the larger curricular goals and a shared long term goal for students (Brown & Wiburg, 2007; Lewis, 2002b). For each step of the lesson, teachers need to consider what understandings and skills they are trying to teach students and what will be the evidence of students' development of those skills and understandings. Thus, focusing on a lesson allows the teachers to work together collaboratively on reaching a goal while considering how to assess student understanding (Brown & Wiburg, 2007).

In lesson study cycle #2, the lesson plan was a guide for teachers to think through each step of the lesson carefully with a keen eye on assessment. At the second meeting, Andrea explained to the teachers:

Last time we decided that we're thinking of looking at how students make connections and specifically how does geography impact history and culture. Our goal today is to turn that into lesson goals. So, for example, students would understand how geography impacts history and culture, but we probably want to be more specific. Also, what's really important about this is figuring out what are the steps to get there. So before you are able to make those connections, what are you able to do first?"

This careful consideration of how to bring students through the learning was part of the lesson planning process. For the MMS lesson study cycle #2 group, the lesson plan was a vehicle for looking at how students make connections.

Robyn, Edward, Genevieve, and Steven all felt that the time spent of the creation of the lesson facilitated their learning. Edward stated that “creating a product together” was an immersive experience. Robyn said lesson study helped her learn because “we were making something, we were producing something.” Because all the work of lesson study was geared toward this goal, Genevieve explained, “it’s more in depth than just having a conversation” because you have “something we need to create, something that we need to really think about and then observe it.”

In addition, the lesson served as a guide for observing student learning during implementation. They were able to concentrate on student output, not teacher input, as they observed the live lessons. Robyn describes:

I have a better understanding of what I’m observing because of lesson study. [It’s] helpful because I take more out of the observation, because I think I could be more judgmental. Sitting and watching when I don’t understand particular decisions that have been made, I might question that and that might interfere with my observing. But in lesson study I know why Steven did what he did and the order in which he taught it and all that stuff, so I was much more focused on how the students were responding to what was going on rather than what the teacher was doing. I was able to focus on their learning.

The detailed research lesson supports observers in focusing on student learning and development. As Catherine Lewis has offered, “To say ‘It was a good lesson but the students didn’t get it’ is like saying ‘The operation was successful but the patient died’ ” (Lewis, 2002a, p. 11).

Besides being the foundation for observation, the lesson was integral to the debriefing process. For example, during the first debriefing, Andrea asked teachers to evaluate the success of the lesson by asking “To what degree are they [students] able to explain how they were thinking? Based on that, we can see whether or not

we were effective here.” This continual focus on the lesson helped the teachers recognize if their goal was met or not.

Lesson Observation

Another component that is necessary for a game of basketball is the hoop, which is composed of a rim and a net. In lesson study, the live lesson and the observation templates are these essential pieces. These structures were integral to the collection of data in lesson study cycle #2, which was used to evaluate if the lesson met the teachers’ goals (Brown & Wiburg, 2007; Lewis, 2002b). Once the lesson was complete, the teachers implemented the lesson with a class in the school. The implementer, who was a member of the team, taught the lesson while the other teachers observed and collected data.

Because the lesson was live, teachers were able see the students in action. Steven reported, “it was one of the most important things in the world to see kids learn another concept and fully grasp something.” Sarah said, “This is different from others [PDs]. We could actually see the impact on the students and the results, which is great...in other PDs they tell you what to do, [what you] should not do, but I don’t actually see it in a classroom in play.” The live lesson was a critical component because “when teachers watch a research lesson, they notice things that cannot be gathered from student tests and written work, or sometimes even from videotapes” (Lewis, 2002b, p. 44).

Teachers collected the evidence as they watched the students. The observation template was a structure that provides support for this. Directions on the observation template for the second lesson reveal the focus on the evidence of learning:

Observation Protocol

ESMS Cycle 2 Lesson Study Observation Protocol

Please use the space below to record your observations of the lesson. As much as possible record exactly what you see or hear, i.e. student quotes, excerpts from their writing etc. We will be using this data to address the following questions in the debrief:

- 1. What evidence is there that students are able to use strategies to make connections and articulate how they used them?**
- 2. What evidence is there that students' explanations of Sparta's social groups and how they are influenced by Sparta's geography are deeper as a result of their understanding of making connections?**
- 3. What evidence is there that students understand that making connections makes you a better learner and makes learning easier?**

Guidelines such as these reminded observers that their role was to collect data, and not interact with students, since "when observers help students, it's difficult to draw inferences about how well the lesson worked" (Lewis, 2002b, p. 68).

Following the observation, the teachers convened together for a debriefing of the lesson. During the debriefing, teachers shared notes from the template to discuss revisions to the lesson. The template is a support for learning in that it is a space to record notes on observations of student thinking. For example, Robyn's observation notes on what the students were saying reveal the concentration of evidence. In the excerpt below, Robyn has recorded notes on students as they try to make connections between New York's geography and the lives of New Yorkers.

Frank came up w/grid plan.
 Others agreed, but "how do we word it?
 They went with Thomas's idea.
 --Easier for traffic.
 "Kinda silly, but made ppl superstitious" (cracks in the road)
 "That could be personal"
 Asked each other around the table for opinions.
 Decided to go w/different strategies (visualize/personal). [sic]

These notes show that Robyn recorded the evidence of student thinking around making connections. A student speaks about a piece of human geography (grid plan), and then the group considers how this affects the lives of New Yorkers (it

helps traffic flow). Another student seems to suggest that because New York has paved roads and traffic, cracks emerge in the road, which have become part of New Yorkers' superstitions. The students then consider how they made that connection. They ended up deciding that they have used "visualize" and "personalize." This became evidence that Robyn could share during the debriefing as a way of assessing student understanding.

Facilitator

The facilitator was the captain of the team. She continually encouraged teachers to consider evidence as they planned the lesson, and focused the teachers on the goals. For example, at the first meeting Andrea asked the group to "start thinking about the types of learning goals" they could address together in lesson study. She asked, "What goals do we have for ourselves in terms of what we want to observe and what we want to learn about our teaching?" In this way, the facilitator was a critical component because she ensured that the teachers were "directed and systematic in their use of lesson study to examine their practice" (Fernandez & Yoshida, 2004, p. 226).

One of the main responsibilities of the facilitator was to help teachers focus on an overarching goal for their students. At first meeting, Andrea asked the group "What do we notice about our kids – and what issues come up, especially in Humanities in 7th and 8th grade? What do we want them to do by the time we leave MMS?" Another job of the facilitator is to keep participants focused on the evidence. For example, at the debriefing, when Steven began to share, he remarked that when he visited the first group he needed to "tease out" the New York connections. He wondered if this was specific to this group, or if this was true for all seven groups in the room. Andrea waited and then pressed him to tell the lesson study group what

the students were saying. At this point, Steven went back to his notes and shared the conversation that he heard.

Andrea continually kept the group focused on thinking about evidence of learning and how instructional choices created that evidence. In the excerpt below, from meeting #11, Andrea directs the participants to consider why they are making particular decisions about the lesson.

Andrea: What we need to focus on is thinking about what our purpose is in each lesson step. Does it make sense to teach the way that we are teaching it? So if there is something there needs to be changed, is it for that reason? That it is not aligned with what we are trying to do? And what do we expect to see the kids do, and what are we hoping to see? And what are we going to be looking for during the lesson? And then, based on that, should we make any changes? As always we should be thinking about if each of those steps are meeting the needs of all of the learners in the room.

As the group created the lesson plan, Andrea sometimes explicitly taught lesson planning skills. In this excerpt from meeting #2, she teaches participants the difference between process and content goals:

Steven: Andrea, you just said an awareness of the...connections we make...

Edward: Yeah, I want to write that down.

Andrea: It's...the same thing as any process. Our goals are going to fall into two categories: content and process. So you should have "students will be able to make connections" as a process goal. But the content goal is "having the awareness that making connections helps them make sense of new concepts."

Nicole: So process goal and what?

Andrea: Content.

Nicole: Ok.

Andrea: So it's an awareness of that skill, a knowledge of that skill.

Steven: An awareness that it helps you make that connection?

Andrea: Yes. So with our last year's lesson we had...our process goal was "students will decode primary sources, they will use

evidence to support their conclusions." But our content goal was "you can draw certain conclusions based on evidence, but there are some questions you need to ask to fill in the picture." So it's like they were doing that and also processing using those skills at the same time. So they have an understanding which hopefully....they can use on their own more, rather than having us need to always prompt them through by saying "think about what we learned last time, think about this..."

Edward: So the content is the awareness of the skill

Andrea: Yes, the awareness

Edward: And the process is the ability...is learning the skill?

Andrea: Right. Like showing...

Nicole: Ohhh

Andrea: Right. I can make connections, and I also understand how this is useful to me. I mean I think it's good that we chose something very challenging, but I think it is very challenging to figure out..so before kids make connections, what are the steps to get there? What do you do first? If you are a kid that is able to make connections in the classroom, how do we help them get there? How do we teach them to make connections? Without just modeling, or showing, or...that might be a strategy, but how do...without telling them to make connections...how do they develop them?

Previous research has suggested that mentoring from someone who has pedagogical or content expertise is important to the lesson study process, as it provides scaffolds for teacher learning (Brown & Wiburg, 2007). For the lesson study cycle #2 group, Andrea filled this role.

Meetings and Debriefings

A basketball game must take place on some type of court. In lesson study cycle #2, collaborative meeting time was the space where "practice" occurred. The planning of the lesson occurred during this time, and after the implementation the space in which the teachers debriefed the lesson also created a court for the teachers to share their observations and make suggestions for revisions. Studies have shown that learning communities such as these support collaborative

knowledge building and allow for teaching to be transformed through questions, exploration, action, and analysis (Fairbanks & LaGrone, 2006).

During the first debriefing, Andrea asked the teachers to share their observations from the live lesson, focusing on the evidence of learning. To start, Andrea told the teachers, "Let's write brief notes on each section, just sharing what we saw the kids doing in each stage." She held them back from suggesting changes to the lesson right away, asking teachers to begin by sharing observations of what they saw. She asked for just the "evidence of student understanding in the classroom" and then said they would move on making changes to the lesson. She said "as hard as it is for teachers not to go make changes, we want to start with observations." She asked Steven to share first, asking him to concentrate on how he felt and what he saw. She reminded him, "not what you'd *change*, just what you *saw*."

The space that was created by group debriefings allowed teachers to develop a heightened focus on evidence of learning, encouraged habits of reflection, and revealed new ideas for teaching – all critical pieces of the lesson study process (Brown & Wiburg, 2007; Fernandez & Yoshida, 2004; Lewis, 2002b). Through talk, the teachers created a space where they could challenge each other's views. Lave and Wenger have described the importance of language in communities of practice. They explain, "language is part of practice, and it is in practice that people learn" (Lave & Wenger, 1991, p. 85). An example of this is when Robyn realized that the first lesson wasn't as successful in creating student understanding as the second. She explained during her interview, "I felt like [in the first lesson]...the conclusions had to be provided for them at the end. I feel like the second was more successful." She came to this understanding through her observations and the dialogue among teachers in the debriefing. In this excerpt from the second debriefing, the lesson study teachers discuss their observations on the lessons. Steven and Edward begin

by having a conversation on whether the students were able to make connections. Ultimately, they recognized that based on the evidence, students did move towards the goal, even if they did not achieve it completely. In the passage below, Steven begins by responding to Nicole's comment that the students didn't process anything in the lesson.

Steven: [to Nicole] You said they weren't processing anything, but I think you probably mean ENOUGH – because I agree, I don't think they met our lofty expectations, but I *do* think they *did* start to process how to make connections. I think they started – some clearly more than others – but I *don't* think they processed NOTHING...and maybe other people agree or disagree, but I do think that many kids – not all – but many kids did start to use the prior knowledge as a strategy...

Edward: Yes, I think they absolutely did because we asked them to think, so they had to do something. But I don't know, in terms of our goal, in terms of getting them focused on strategies...I don't think happened because we packed so much into these other columns first [points to the worksheet] that there wasn't time. It was just overwhelming. Even if you just look at these [holds up copies of each worksheet] – that's *six* columns they had to deal with today.

Nicole: If I was going to redo it, I'd take out Sparta.

Edward: There's only 45 minutes [in the lesson].

Andrea: You know what I think is interesting? I noticed that too – I don't think they talked about the strategies, but I do think from what I saw from my kids today – the content of their conversation – whether it be quiet, or hesitant or whatever – the *content* was better than the previous lesson.

Genevieve: Yes. [Lots of murmurs and nods of agreement in the group]

Andrea: And I think that whether we saw the connections or not, they were doing it, whether or not they were aware of it. I think it *did* help them get closer. There were kids asking each other questions like, "So how is the geography connected?" and "How is the geography influenced?" And they really teased it out a lot more, talking about the geography, and how it influenced the lives of New Yorkers. And the same for Sparta, where that wasn't happening as much in the previous lesson. And so I think that might be the evidence that we were getting closer, rather than "they talked about the strategy and they were able to say how they used it" but if their answers were better then...

Nicole: My group must have been the exception.

Robyn: I was going to say, I agree [with Andrea]...And I think a lot of it [the improvement] had to do with the examples that were given at the beginning – because we used a lot of different examples and strategies [in the second lesson], they saw them modeled. And I think what could have perhaps solidified it more and made them understand them more was to see those put up. It was already a pre-written chart – but for a lot of them, to actually hear it said, and put physically onto a chart – it would have made it even more clear to them.

At the end of this excerpt, Robyn has moved into suggesting improvements for the lesson. The group continued talking, responding to Robyn's suggestions and offering other ideas for improving student understandings. As the group discussed each idea, bringing up examples from the lesson observation, they reflected on their practice and recognized that there were many ways the lesson could be changed and improved. The structure of collaborative meetings is what created the possibility for these kinds of habits to form. A "dialectical relationship" between theory and practice emerged (Fairbanks & LaGrone, 2006).

Mechanics of Play

Every game requires the players to develop a set of skills in order to play. In basketball, the skills include dribbling, passing, and shooting. In the lesson study cycle #2 group, the central mechanics were reflecting, observing, assessing, and collaborating. These skills were developed as result of the structural components of lesson study. As discussed in the previous section, the structural components and organization in lesson study required the teachers to focus on the evidence of learning as they created, observed, and debriefed the lesson. In this way, lesson study was structured so that teachers were focused on student output, not just teacher input. As teachers considered the evidence of learning throughout the process, they honed their skills of reflection, observation, and assessment. These are all critical components of not only lesson study, but also they are qualities of

effective teachers (Lewis, 2002b; Stronge, 2002). The skills were discussed in at the end of chapter five, so I will only briefly highlight them here.

During meeting #11, the teachers were tasked with determining what would qualify as a correct response on the first worksheet. In the excerpt below, teachers discuss the question, "If students choose to describe slaves as their social group, what should be the proper description?" In the following exchange, teachers consider (1) What will be considered an answer that is accepted as evidence of learning and (2) What is the best way to word the directions to get that evidence.

Steven: Ok, so what I've got – and the kids all know this – they [the slaves] outnumbered the Spartans by a ratio of 10 to 1. In terms of the description would "there were a lot of Helots or there were a lot of slaves"...is that enough?

Edward: What were they like? Like with the women, they were the strongest – "a lot" isn't exactly descriptive. It's more of a number. So what is it that you want them to know?

Steven: The key is that there is a constant threat of a revolt and they outnumber the Spartans 10 to 1, and it's 100,000 slaves to about 8,000 Spartan citizens, so they were in constant threat of a revolt by these slaves. So they went out and killed some slaves at night. They had this group of people that would do that. But I mean they felt they had to enslave them – they needed the farmland to sustain their population. That's the geography connection – so they conquered the area west to them with the richest farmland to sustain their growing population and then they enslaved them. I'm just trying to think of one sentence that we are looking for in terms of the slaves. Because the keys are the ratio and the revolt. I mean they almost destroyed Sparta in the Abyssinian war, which a lot of the kids know about.

Andrea: They could write all of that though.

Steven: Anything is good for the description then?

Andrea: Yes, as long as it is accurate.

Steven: Great.

Andrea: So they can write it any way they want, as long as they are correct, then it's fine. So it doesn't need to be one sentence, it could be a list – as long as they have it in there – the name and they know the ratio, and all the stuff you just said. And how it connects to Sparta's geography. So in that they should not just

say – it needs to say that this is the aspect of the geography. It can't just be "there's no fertile land." It has to be there's no fertile land therefore...

Edward: Then change this [points to the worksheet] to "explain."

Andrea: "Explain"? Ok.

This excerpt provides an illustration of how teachers were developing their skills in collaborating, reflecting, assessing, and observing.

First, they had to come to a decision about what would be appropriate response on the sheet. This required them to collaborate. Japanese teachers also report that collaboration is an essential element and important benefit of lesson study (Lewis, 2002b). In the lesson study cycle #2 group, Robyn recalled, "I felt like it was a team effort. The whole way along we worked together as a team and it was a group project rather than an individual assignment." Genevieve said, "it really helps to bounce ideas off of other people."

Secondly, the teachers had to determine how to assess student learning. By going through this process, they had to question themselves and reflect on what qualifies as evidence of learning, and also consider how students learn. Edward described:

One of the reasons why we batted questions around so much is because we are all different kinds of learners..it made it so evident. I just remember the question wouldn't work for Nicole, and then it would finally work for her, but we would've applied something that she said to it so it wouldn't work for somebody else...it's all about the different ways people learn and that's why different questions didn't work. In thinking about those students – [we were] using each other as representatives of those styles.

Robyn explained that this is something she has applied in her lesson planning: "We all had different approaches and different thoughts about a specific idea...and that's encouraged me to continue thinking about that in my lesson planning." Thus, teachers enacted the skills of reflection and assessment as they collaboratively planned the lesson.

Finally, because lessons were planned collaboratively and focused on evidence of student understanding, the teachers were able to develop skills of observation. Steven described, “you feel a lot more ownership in watching the lesson that you planned.” This allowed teachers to focus on student learning during the lesson instead of the teacher, as well as give observers a guide for how to observe students. As discussed in chapter five, these skills of observation were honed by the continual emphasis on data collection. Lesson study’s ability to provide “a means for teachers to develop their evidence-gathering skills and ability to see a lesson from the student’s point of view” is cited as one of the most important goals of lesson study (Lewis, 2002b, p. 36).

Context of Play

Play on the neighborhood court is practice. There are no high stakes involved, and it is driven by the participants. They experiment with different play and strategies to improve their game. Players can make connections from what they are learning on the court to what they are doing with their coach on the school court. Playing is collaborative – each team member can practice individually, but working together helps team members learn from each other. Expert players (such as the captain of the team) sometimes teach the group new things, but for the most part they are all equal in the group. Lesson study at MMS was driven by the participants, was ongoing and embedded, and gave time and space for practice. These features are fundamental structures that supported teacher learning in the lesson study group. In addition, these features have been identified as key characteristics of quality professional development (Berg et al., 2005; Fulton et al., 2005; National Staff Development Council standards, 2001). The idea of teachers “learning in the classrooms and schools in which they teach is any idea that has been

proposed for some time, yet most teachers have not realized this opportunity” (Stigler & Hiebert, 1999, p. 135).

Teacher Driven

Like basketball on a neighborhood court, lesson study was driven by the teachers’ needs and interests. This contributed to a sense of an equal playing field. The teachers reported that this was a factor in their satisfaction with the process and contributed to their learning. Genevieve explained, “I think it’s more useful for teachers when they can meet and identify their own problem and their own concern that they want to address. That way they get more out of it.” She continued, “this was about the teacher.” Because lesson study required teachers to take an active role in the work, they felt they were part of the process. Robyn explained:

It was very hands-on. We were part of the process. We were making something, we were producing something, and we were producing this lesson. And then we got to go back and critique our work, and really study it and think about it, versus being spoken to for X amount of time.

In the above excerpt, it is clear that Robyn has been to professional developments where she has little voice. This is an experience that was echoed by many of the participants. An amusing example of this was in the second lesson study meeting, when the teachers realized that they were in charge of making important decisions within the group. In the excerpt below, Andrea is guiding the group towards picking their topic for the study, and Steven and Edward have a realization as they try to pick a topic:

Steven: There’s gender and religion.

Edward: Oh yeah, all of that.

Steven: Is that somewhere we want to go?

Edward: I don’t know. Someone needs to be in charge of making that decision – I don’t know [laughs].

Andrea: You guys are in charge.

Edward: Oh gosh! [group laughter]

This excerpt embodies the fact that lesson study was a process that was geared towards the needs of its participants. As studies from Japan have shown, this aspect of lesson study allowed teachers to feel respected and empowered (Stigler & Hiebert, 1999).

Ongoing and embedded

Just as basketball players may practice on their neighborhood court during their free time during the basketball season, lesson study occurred over several months during the school year as the teachers were continuing their normal daily classroom practice. During this time, lesson study created a context where teachers were able to think about what they were learning in the group and then go back to their own rooms and apply their new understandings. Teachers were able to “reflect-in-action,” as they were able question, discuss, reflect, and act on their own teaching (Schon, 1983).

Genvieve reported that throughout the day she would think about issues such as assessment. She would be in a classroom where the teacher she was working with was not a lesson study member, and she’d “stop and think -- what is it you are really trying to do?” Similarly, Robyn said, “it was an ongoing process, so I could really think about the information as we were going along.” Steven and Edward also considered this aspect of lesson study a critical component of its success. Edward explained, “With most PD you are in and out. You go into be with somebody you hope is brilliant, who inspires you to think and add to your curriculum, but...you don’t get immersed and I think in this [lesson study] you do.” The aspects of being ongoing and embedded created the immersion Edward referred to. He continued, “I loved having the opportunity to talk about curriculum and teaching in such an

intense way over a long period of time on a regular basis it was just so rich...it becomes a part of you.” These thoughts echo the voices of Japanese teachers, who also value the immersive quality of lesson study (Fernandez & Yoshida, 2004; Lewis, 2002b; Stigler & Hiebert, 1999).

Choice and Value

As with basketball play on a neighborhood court, participation in lesson study was voluntary. This element of choice allowed teachers to feel that the time was theirs, not that of the principal. In this regard, a time and space was created for practice. In Japan, teachers also participate in lesson study on a voluntary basis; however, most teachers do belong to some type of lesson study group because they believe it is a core part of being a teacher (Lewis, 2002b). Teachers are not mandated to join, but they feel it is so valuable for them that they *want* and *choose* to participate.

At MMS, teachers felt that because their participation in lesson study was voluntary, it wasn't like their usual work time. Genevieve reported, “I don't think of it as school time...I think of it as my time.” Robyn said, “I didn't mind giving up that time...it was voluntary.” This feeling of choice contributed to the sense of ownership over the time. In addition, the dynamics of lesson study created a space with a different sense of time for teachers, which they greatly valued. As discussed in chapter five, the teachers in this study felt their school days were filled with duties and responsibilities. Lesson study was a place where time slowed down and teachers could reflect with each other. Steven suggested that lesson study “gives teachers an opportunity to get out of their own classroom to really improve practice and to improve their thinking about their practice.” He said, “you can always do more...so anytime you say STOP, I'm going to lesson study to think differently now – I think that's beneficial.”

An example of this appreciation for the time and space lesson study created can be seen in the transcript from the second meeting.

- Edward:** I have to say that we're also having the conversation now because we are actually sitting here. [Teachers nodding, giving murmurs of agreement]. And that's part of what lesson study is. Otherwise we would not be talking about it.
- Andrea:** Yes, it creates a space for it.
- Robyn:** It's also natural.
- Edward:** Like I wouldn't have seen this handout --- I wouldn't ever have asked Steven, "Can you give me your handout? [group laughter] your extremely confidential Spartan Spy handout" [more laughter]. So I can look at it and see if it is like what we're doing [in my class]. That would've never happened [more murmurs of agreement from the group]. Because we're all wearing roller skates, skating around stretched - [laughter from group] - and that's why it is so great to see this.
- Steven:** Yes.
- Edward:** Because we really spend a lot of time understanding these terms before we do anything with them.

After lesson study cycle #2 ended, the group did not continue. During an interview, Edward expressed to me that he missed having that time and space to work with his colleagues. He told me, "I think we need that more than anything else right now. Time together."

Teachers at MMS began to value lesson study because they felt it benefitted them. This parallels what Elmore (2007) has written: "the most direct incentives are those embedded in the work itself" (p. 114). Thus, teachers valued lesson study and wanted to be part of it because the work itself was rewarding. Unfortunately, most schools provide "almost no opportunity for teachers to engage in continuous and sustain learning about their practice in the setting in which they actually work, observing and being observed by their colleagues" (Elmore, 2004, p. 127). In this regard, the context of lesson study is critical.

Conclusion

This chapter introduced the metaphor of a school basketball team to illustrate how the foundational features within the school and the experiential and structural features of the lesson study group facilitated teacher learning. Part I of this chapter explored how the foundational features within the school led to a sense of growth in the participants' teaching practice, while Part II discussed how the structures of lesson study and the experience it provides created a context that supports learning.

A shared sense of value and respect at MMS created an environment in which lesson study could emerge as a professional development model. Because teachers at the school were already collaborative and shared a similar sense of pedagogy and language, they were predisposed to working together effectively in the lesson study group. The strength of leaders also contributed to teacher learning from lesson study. In particular, the principal was vital in that he created structures within the school which supported collaboration as well as directly supporting lesson study with funding and enthusiastic words. The facilitator was also a key player in that she had the knowledge, ability, and confidence to start the group, as well as the respect of her fellow teachers.

Lesson study itself was like a neighborhood basketball court, where the organization, mechanics, and context of play provided a rich, embedded experience that at its core was different than play on a competitive school court. The heightened focus on a single lesson plan, the lesson observation and collection of data, and the planning meetings and debriefings all organized the experience in a way that promoted a sense of learning. In addition, participants believed the facilitator was a key structural component because she guided the learning process. These structures required participants to engage in reflection, assessment, collaboration, and observation. Like dribbling, shooting, and passing on a basketball court, these skills became valuable to the participants and they viewed them as

necessary practices to continue in their daily teaching, as well as contributing to their sense of growth in their teaching. Finally, the context of lesson study created a space where learning could take place. It was teacher-driven, ongoing and embedded, voluntary, and carved out a time and space where teachers could engage in dialogue and reflection. This context was a central component that led participants to feel they had developed new skills and understandings.

Despite these supportive structural, foundational, and experiential features, there were variations between participants in terms of sense of growth. This difference may be related to individual teacher characteristics and the structures of the lesson study group. To address this issue, the next chapter will explore the question “Who gets the most out of neighborhood play?”

Chapter 7

Who Gets the Most out of Neighborhood Play?

Introduction

Members of a school basketball team play on two courts: one is the school's court, while the other is the neighborhood court. Play on the school court is led by the coach, whereas play on the neighborhood court is run by the players. On the neighborhood court, we can assume that everyone is there to play. This play serves as practice for the players, as they get more experience in the game. However, there will be variation in the level of enjoyment and sense of reward that the players experience. We can also assume that some players will learn more than others. The same is true for the MMS cycle #2 lesson study teachers.

Chapter six focused on the structural features of lesson study and specific foundational features within the school that facilitated teacher learning. However, people learn in different ways, and the qualities of an experience may benefit one person and not another. This is widely recognized in the field of education in terms of working with children, but is less commonly practiced with adults. Brown and Wiburg (2007) suggest that professional developers should consider Vygotsky's notion of the zone of proximal development when working with teachers. They explain, "it is important to ask what teachers can do with support and where they need to start, in order to avoid requiring teachers or students to complete tasks beyond their current levels of understanding" (Brown & Wiburg, 2007, p. 15).

In the first part of this chapter I will explore how the *individual characteristics* of teachers and the *experiences* that they had within the group facilitated and constrained their learning. In contrast to chapter six, in which I discussed how the structural aspects of lesson study facilitated learning, the second part of this chapter will focus on how the *structural* features of the lesson study group constrained teacher learning. My goal is to connect how many of the

structural features that acted as obstacles were related to individual teacher needs. Thus, individual characteristics that constrained learning were most often directly related to structural elements.

The data reveals that of all the participants, Sarah reported the least growth in her practice a result of her participation in lesson study. In fact, during her interview she couldn't give an example of something she learned from lesson study, and she reported that other professional development she has participated in has been of greater use to her. I recognize that Sarah is one person; however, it is possible that if this study was larger there would likely be many Sarahs. Though in a qualitative study of this size it is impossible to claim that Sarah's experience is generalizable to all lesson study groups, generalization can be made to "existing or new theories" of how teachers learning is constrained or facilitated by lesson study (Miles & Huberman, 1994, p. 27). In this sense, Sarah's response to lesson study is important to recognize and consider.

PART I. CONSTRAINTS IN PLAY

Player Characteristics

Some players on the neighborhood court have a deeper understanding of the game than others. In addition, they may have a stronger skill set before they play on the neighborhood court. Players with an increased understanding of the game and better skills (such as dribbling, passing, and shooting) will most likely get the ball more. Consider if you can't properly dribble, you may lose possession of the ball. If you can't ever shoot a basket, no one will probably pass to you. If you don't know how to pass well, someone will intercept the ball when you throw it and teammates will be loathe to throw the ball to you in the future. Thus, if you come with a stronger skill set, you are probably going to play more on the neighborhood court.

In chapter six, MMS teachers were noted as sharing a similar set of characteristics, including being collaborative and reflective, as well as having strong subject area and pedagogical knowledge. All five teachers within this study exhibited these qualities during the lesson study group, in their teaching, and in their interviews. However, there was some variation in the particular area of articulation of educational philosophy.

Educational Philosophy

One quality of effective teachers is that they are able to explain the “ideological underpinnings” behind what they do with students (Haberman, 1995, p. 41). Edward, Steven, Robyn, and Genevieve were the four teachers who reported the most learning from lesson study, and they were also the four teachers who could clearly articulate their educational philosophies and link it to their teaching practice.

Edward exhibited a clear philosophy focused on learning as discovery, and said he subscribed to the idea of “immersion.” This philosophy directed him in his teaching. After I interviewed Edward, he printed out a written statement of his philosophy that he had written previously, revealing the effort he has put forth to articulate his educational vision. He reported that what drives his teaching is continually asking himself the question “Are you helping students discover?” In the lesson I watched Edward teach, he had students take on the role of editors for each other’s writing. In a previous lesson, students had taken on the role of “Junior Editors” for each others’ papers. In the lesson that I observed, students were told they were now becoming “Senior Editors.” Their job was to read over the Junior Editor’s comments and the student’s essay they were assigned. Then they were to make comments on whether or not the student changed the problems that the Junior Editor had pointed out. This taking on of roles is an example of the philosophy of immersion Edward spoke of in his interview. In addition, the peer-editing framework

allowed for students to take on the role of experts as they were sent on a journey to discover problems in each other's writings.

Genevieve's philosophy was different from Edward's but she articulated it very clearly. Her philosophy revolved around the idea that "kids learn differently, so people need to teach in a way that makes sense to the kids." When I observed her teaching, I saw evidence of this philosophy. She and the Spanish teacher were co-teaching a lesson on vowels, and Genevieve had created a tool called a "slider" for students to test out their understandings. The teachers would call out a word, and students would move the strip in the center of the slider to find the correct vowel. She explained to students:

Genevieve: We're going to form words by moving up and down on the slider. Let's say I want you to make word "we swim." I slide it until I get to "NAD" on the left, but what do we use with "we"?

Student: -amos

Genevieve: Right. Do you guys understand?

Following the lesson I asked her how she came up with the sliders. She explained to me that she and the Spanish teacher met the week before, as they usually do, and the teacher told her what skill she wanted to teach. Genevieve then thought about what would be the most effective and engaging activity. She said, "We talked about what we wanted kids to know and thought about what would work, and how to modify and change [the lesson]." Based on her work in a reading intervention program, Genevieve felt the sliders would be the most effective way of teaching the skill.

Like Genevieve, Robyn found that lesson study was "very much in line with what I think teaching should be." Her philosophy is that students should "make discoveries from themselves, rather than the teacher just give them information." In the lesson I observed Robyn teach, students were playing a game to review recent

math concepts they had learned. Students were put into small groups, and Robyn projected a problem on the board. Together, students worked to solve the problem. During the lesson, Robyn and Sarah, who was co-teaching the lesson with her, did very little speaking. The majority of class time was spent on having students explore answers to problems in their groups and present their answers. This was reflective of Robyn's philosophy of having students discover answers themselves, rather than have her feed them the answers.

Finally, Steven's philosophy is about "learning through struggle...teaching kids to be independent learners and to struggle through becoming independent learners." This was evident during my observation of the lesson study group. The impetus for the lesson study goal of helping students make connections came from Steven's observation that students collect evidence to support one of the three policy options during his Sparta unit (war, peace, or neutrality), but they struggle with matching evidence to their argument. He expressed his concern about the tension between scaffolding student learning but also teaching them to be independent learners.

In contrast, the teacher that reported the least growth from lesson study was also the one with least clearly articulated philosophy. When I interviewed Sarah, she explained her philosophy as:

You have to give every kid a chance. You look at the kid like a blank slate. You know, they are ready to learn, and they are able to learn. You don't want those preconceived notions that other teachers may have – you don't have any of your own. I feel like every kid should have a fresh start. Or every day. So if a kid has a bad day one day, it's ok for the next day. They'll start fresh again. I look at every kid – it doesn't matter the learning difference – they are able to find, to cope with their learning disability and find a way – to become as independent learners as possible. My philosophy is probably about two pages long.

In contrast to the other four teachers, Sarah offers a limited picture of her instructional style. It is clear she values the needs of every student, which is similar to the other teachers – but she doesn't encapsulate her view in a way that gives a

picture of what learning might look like in her classroom. Since she indicated she had a “two page” philosophy, I asked her to further explain, and she responded:

Well, I’m looking at the kid. It’s hard to put into words. I feel like I’m doing it every day, sticking to my philosophy. I make it as relevant as possible to them. I feel like I’m a performer. I try to entertain them. Be like a showperson even though you’re not...I can follow up on that!

Unlike other participants, this vision was fragmented. In this one statement she touches on teaching as performance, making learning relevant, and then she ends by saying she will “follow up” on her philosophy later (which she didn’t). Her statement that she tries to “entertain” students and she feels like a “showperson” seems disjointed from her other comments, as well as having little relation to a philosophy of learning. Sarah also was unable to explain how this philosophy connected to specific teaching practices. This suggests that Sarah entered the space of lesson study with a less developed understanding of teaching and learning than the other participants, and it may have constrained her learning. In addition, Sarah herself indicated that there were outside factors that were obstacles to her learning from the start. She explained:

I feel like – it was poor timing when I got involved with lesson study. It was my first year here. I was trying to learn three curriculums – Math, Humanities...I feel like if I did this in a couple of years when I was familiar with my curriculum and I wasn’t under so much pressure then I would have enjoyed the lesson study more and get more out of it. I think the timing was really bad. So I wasn’t really focusing on the lesson study so much.

Experience of Play

Players who are more confident and valued tend to enjoy play on the neighborhood court than those who feel insecure and irrelevant. As a result, less confident players may play less, and they will learn less from their experience on the neighborhood court. Within the lesson study group, teachers who reported a higher sense of confidence and feeling of value in the group had a better experience in the

group. These teachers are also the ones who reported the most growth in their learning.

It is important to note that experiences don't exist in isolation. For example, a teacher that feels the most valued and confident is also the one that will find the experience more enjoyable and relevant. But which came first? That is, did the player enjoy playing, and as result play more, and then feel more confident? Or did the player play often, then feel confident, and as a result enjoy themselves? These things likely work in a web, rather than a line. In this sense, learning is a complex system in which it is important to understand "interrelationships rather than linear cause-effect chain" and "processes of change rather than snapshots" (Senge, 2006, p. 73). The findings below separate out these elements, but make no claim on "which came first" because it is my belief that these elements do create a dynamic that interacts in a circular system rather than a linear system.

Sense of Value

Though all players are on the neighborhood court because on some level they want to be there, some players will feel more confident than others. This sense of confidence may go hand in hand with their sense of value to the group. Other players feel they are not as valuable – they may believe that the group wouldn't miss them if they weren't there, and their participation makes no difference; they feel they add nothing special to the group. In this context, the players that feel the least valued may actually lose confidence within the group and feel less secure, and ultimately experience less growth because "self-confidence is central to effective action" (Argyris, 1982, p. 97). Participants that reported a high sense of value and confidence in the lesson study group indicated the most learning.

In the following excerpt from her interview, Genevieve's comments reveal that she felt valuable within the group:

At the beginning I was an observer, but around the third meeting I started participating more because a lot of the discussion was about terminology between the grade levels, and since I work with all of the grades I felt like it was hard not to jump in and make comments. Also, when we started getting to the point when we were designing the way handouts look and what should be on them, and how to phrase things, that's something I know a lot about so it made sense."

Genevieve was aware that she brought with her a specialized skill set that would be useful as well as appreciated by other group members. With the opening for her to bring in her knowledge, she moved from a place of observation to participation.

Robyn also reported a similar experience. She described:

I felt like I didn't know anything about it going into it [lesson study], and some of the people had been involved before so at first I sat back and watched as they were discussing ideas and coming up with the structure of how it was going to work, and especially because it was a Humanities lesson and I teach math, so I didn't know how much I had to contribute. But I felt like after we got started and I understood the process and how it worked I was able to give my opinion. And I think that was helpful because I brought a different perspective because I don't teach Humanities, and even though I wasn't familiar with the material that we were working on it was nice because I was somebody coming in with not much of an English or Social Studies background, so I really didn't understand – and that's good because the kids probably don't either. I think I learned a lot from it.

Robyn moved from observer to participant when she realized that she offered something important to the group.

Steven recognized his sense of value as "one of the CTT voices." In his interview he reported that he recognized that his voice was important to helping the teachers "try to really think through what would be best" for the CTT students.

Edward was also recognized as a valuable CTT voice, since he was the Humanities teacher for the 7th grade CTT class, but he was also looked to for his content knowledge expertise. In the excerpt below from meeting #3, Andrea asks Edward to define social structure.

Andrea: Can we answer those questions to come up with our goals? Edward, you said social structure is the way that...

Edward: We define it as "groups of people and the way those groups are organized and interact with each other". [the room is quiet – everyone writes down his definition].

- Andrea:** Say it again...
- Edward:** Keep it simple. Groups of people [he repeats the definition]
- Steven:** Edward, is this a specific lesson that you actually do in 7th grade?
- Edward:** Yes.
- Steven:** So we would be taking a big part of it, and you'd be building on that.
- Edward:** Yes, that's what I was getting at last time when we were talking when you came to get coffee that morning. It is sort of noticing that there are these overlaps and you know...how I can extend it or how you can add to it?
- Andrea:** So once they know that, then what's the next step? Or the next thing they understand?
- Edward:** With us, or what we want to do in this lesson or both?
- Andrea:** What we want to do in this lesson.
- Edward:** OK.
- Andrea:** So now they have an understanding of what social structure is. So is the next step the connection?
- Edward:** Well, the next step...I don't know how detailed you want me to be, but, for example, we have to figure out what this means, and then they have to come up with some examples.

In this example, it is clear that Edward is recognized for his knowledge regarding the teaching of social structure, and he responds confidently to Andrea's questions.

In contrast, Sarah felt less valued in the group. During her interview she explained how she not only felt she didn't offer anything special to the group, but also that she felt insecure in the group. She explained:

I didn't feel so confident in that group. I felt like everyone had such great ideas, and I'm like, so, I don't need to contribute. This lesson's going fine in this direction, for the most part. I didn't feel like anything that I would add would make or break the lesson. I feel like I wasn't as confident as I should have been within the lesson study group – or felt as confident.

This feeling was mostly likely a result of a combination of factors, but it is interesting that Sarah was not only the teacher that reported the least growth, but she was also the one who appears to have felt the least comfortable within the group. This suggests that a sense of value and confidence comes from, or contributes to, a sense of learning.

Sense of Enjoyment

Most players on a neighborhood court are there because play is fun. Players who find neighborhood court play tedious and boring will probably feel it is a less valuable learning experience. In the lesson study group, teachers who found meetings to be enjoyable and memorable also found the work to be more relevant to their needs.

This sense of enjoyment appears to be related to teachers' appreciation of the process of lesson study. For example, Robyn said:

I really enjoyed working with my colleagues, just getting to know the people because it was my first year at MMS, so getting to work with people in a relaxed setting and learning from them – I was really happy I participated in it. I thought it was really beneficial to me and enjoyable at the same time.

Working with colleagues was of value to Robyn. Also, she reported that she enjoyed the "process." She explained, "You are engaged in the process of learning and discovering. That makes it a much more meaningful experience...through this enjoyable experience you walk away with a better understanding of something."

Robyn's comment reveals that this sense of enjoyment was derived from the process itself. Similarly, Steven said, "I enjoy getting out of the classroom to work with people who I learn a lot from." On May 2, 2007, the group was in the planning process. Besides telling me this in their interviews, teachers also made remarks to each other that indicated their sense of enjoyment. One example is when Edward had to miss a meeting. He sent the following email:

Good morning all,
I am so sorry, but I have food poisoning and just can't be there today. I do have the copy of the work we've done so far with me, so I can work on scripting from here and share that tomorrow. Have a good meeting. I'll miss not being there.

Edward's email shows that the group was important – he took the time to write, and indicates in the last sentence that he wishes he could be there.

Within the group there was a social experience driven by the dialogue between the members. I have countless excerpts of the laughter that occurred during the group. Here is one example from a planning meeting, when Steven remembers something he wanted to bring up earlier in the meeting:

Andrea: Well, how we do it is our next step. That's our goal. Over the next however-many meetings, we'll figure out how to get there.

Steven: That third thing that was on my mind was the political, social, economic thing!

Edward: Oh, ah ha!

Steven: That is what was on my mind! [laughter] Because it was like, "do we want to go there and do that?" Do we want to teach geography and the connection to New York? Those were the three things that I was wondering...for this whole 45 minutes! Is that [the concepts] too lofty?

Edward: Well, it will be too lofty because we're *all* too lofty. We're all about loft! [Laughter]

Lesson study clearly provided an enjoyable social experience for most of the participants. My field notes are filled with moments where the teachers are clearly enjoying each other's company. Occasionally, the teachers would go out with each other after meetings to continue socializing, such as on April 27, 2007 when the teachers went out for margaritas, chips, and guacamole at a local restaurant. This data compliments theories about the importance of social spaces for learning communities (Senge, 2006).

Though there are many indications of this sense of enjoyment can be seen in my field notes, it is also evident that some members felt more of a part of the community than others. The data seems to imply that teachers who don't feel as close to the group may not enjoy lesson study as much. An example can be found in my field notes from meeting #9. In this excerpt, the teachers are sitting together on school day morning, waiting for Andrea to call the group together. The teachers socialize as they are waiting:

Field note, 8:05am: Robyn tells Genevieve that she was taking a practice test this weekend for her law school test. She was starting to lose her focus, so she stopped, closed her eyes, and counted down from five. She thought of Genevieve because this is a strategy they use with students. She thanks Genevieve for her help. Edward and Nicole are talking about two American Idol contestants. Robyn and Andrea talk about muffin flavors ("Cinnamon is a good substitute for sweetness"). Everyone here but Sarah.

8:10am: Sarah enters, doesn't sit with group. Andrea tells her to "join the group." Nicole and Andrea now talk about the muffins, as does Robyn: "Are they actually fat free?" They are not convinced. (Edward asks me if this is really what I want to be taping...)

The field note captures the sense of fun among the group, the enjoyment in having conversations and personal relationships. Sarah enters, and the field note indicates she was not "with" the group, and Andrea has to ask her to join. Her late arrival and hesitation in joining the group at the 9th meeting compliments her comment that she felt less confident in the group.

Sarah did not experience the sense of fun that the other teachers did. This was clear in my observations of her and in what she said to me. In her interview, she even asks me "Is it really necessary to plan a lesson for that long? It takes *months* to plan it? Is that what it is?" I sense she asked me because she knew I was researching lesson study, and that I had participated in a group previously. Her focus on the lesson reveals an incomplete understanding of the essence of lesson study, and also indicates she found the process tiresome. Sarah explained, "the process was a little tedious and I kept questioning myself, why am I doing this?"

She fixated on the lesson itself instead of the process, which is evident when she explained, "This is so much for one lesson, and it's not even my lesson, and I'm not even going to use this next year." The literature on lesson study cautions that if educators believe the goal of lesson study is to perfect one lesson, then they don't truly understand the purpose – it is the process of creating, reflecting, and revising that is important (Brown & Wiburg, 2007; Choksi & Fernandez, 2004; Lewis, 2002b). Because of her emphasis on the lesson itself, it is no surprise that Sarah didn't find the experience valuable.

Sense of Relevance

Players who learn something new on the neighborhood court and can apply it to their play elsewhere are the ones who are likely to feel the play is most valuable. If the skills that are practiced on the neighborhood court aren't the ones that some players need, or want to learn, they will find play less meaningful. They may even dislike the way the game is played. This can result in feeling like practice is irrelevant to them, which creates an obstacle in learning something new.

In lesson study, teachers who felt the experience was most relevant to their classrooms also reported learning the most. For example, Robyn reported that the concept of teaching connections related to her own classroom: "I do it in math over and over throughout the year. It's a really hard concept to teach." Following my observation of her teaching, Genvieve said something similar. She explained, "SETTS is a job where you teach skills and strategies, not content...so that's part of the job, to teach strategies...lesson study helped me realize how to make that transparent to kids – to make them better at being metacognitive." Beyond making connections, lesson study helped Steven think about the concepts that are at the heart of his curriculum. He said that "geography influences culture" is one of the most important concepts he teaches. Following lesson study cycle #2, he reported,

"I will plan the Spartan geography and its influence on culture a lot differently as a result of lesson study. Those two particular lessons were very much influenced by lesson study." Some teachers also gave concrete examples of how they would apply their work on lesson study to their own classrooms. In the final debriefing, Steven told the group: "I see myself putting the strategies to make connections up, and actually using it more to refer to. And to use the language of personalizing, asking questions, and making connections."

During the meetings it was evident who felt the work was most relevant by the way the teachers spoke about the lesson. In this excerpt from the last meeting, Edward speaks of what he has learned in response to Andrea's question of "What are you taking with you?" It is evident that Edward sees the work of lesson study having much greater implications for teaching beyond the content and skills being taught in this one lesson. He explained to the group:

I think [I learned] being all the more conscious of not packing things in. Maybe it's if we want them to know strategies, maybe we don't need to teach all of them. Maybe we need to pull out some of the most important ones, and focus on those. And if we want them to make connections, like I said before – first of all, they don't know what social is. So it's ok to spend some time making it clear what a concept is – like what a social group is, and breaking that down, and what it means...what are the elements of a social group? And then...I can't be too nuanced yet. But the packing in – because I do that! And I have been trying to work on that, particularly with the CTT class, and we asked JoAnne [literacy coach] to look at that too. And I was able to use this lesson, particularly today, to see that even more. So how I would use lesson study to change that is I think right now it's just being aware of the real pitfalls of packing too much in...

In contrast to these four teachers, Sarah felt lesson study was not relevant to her needs. In her interview she revealed, "I feel with my job in particular, it is unique in that I get to plan with teachers all day long." As a result of this, Sarah believed "other teachers probably got more out of it [lesson study] than me, because they are stuck in their classrooms." She said, "I'm not sure if I got anything new from it." It is not that Sarah finds professional development in itself not useful. In

fact, she gave several examples of professional development that she does enjoy and finds relevant to her classroom. She offered:

Schools Attuned is useful. It focuses on the developmental constructs of learning. It's extremely relevant. Also, anything on classroom management and how to deal with behaviors is helpful. As a special education teacher it's more useful. My job is making sure the classroom is managed, and I make sure teacher meets needs of all learners so no one is left out. Schools Attuned gives us specific strategies can use. They show a video of strategies, what specific neuro-developmental constructs look like. So if someone is having a language issue, or temporal sequential issue, you can actually see it on video and connect it to your kids.

Interestingly, Genevieve is also familiar with the Schools Attuned program but instead of saying that it is more useful than lesson study, she suggested that it would complement lesson study. She told me, "I think it would be really useful to have the Schools Attuned training on development and then do a lesson study. I think that would make a much richer discussion in lesson study – it would be amazing!" Because Sarah doesn't make this connection, lesson study seemed less relevant to her.

Sarah found the fact that she can't use the lesson to be a limitation. She said, "It was nice seeing Steven teach the lesson, to see his teaching profile. Other than that I feel like all this work for one lesson that I will not use..." In addition, she found that because she was a CTT teacher, lesson study offered limited learning for her. During the interview I asked her if the planning of the lesson helped her in any way. She replied:

I'm really focused on differentiating the instruction – and I mean – we did focus on that a bit...but I don't really, at this point in my career, or this particular job, plan the lessons...I take the lessons and modify them, and differentiate and make sure that all our learners are being – that their needs are being met. That's my focus. I would have benefited more from this in my previous job.

Clearly, in Sarah's view lesson study did not constitute effective professional development because she didn't truly understand the purpose of the group, but also it wasn't related to her needs. This is in line with research that suggests that if

teachers don't see the connection between professional development and their classrooms, then it is unlikely to benefit them (Elmore, 2004).

Participation in Play

The more involved players are on the neighborhood court, the more they tend to learn. A player's level of involvement may depend on a number of factors. In lesson study, the same was true. The first two sections of this chapter discussed the *characteristics* of teachers and *experiences* in lesson study that constrained and facilitated teacher learning. As I have suggested throughout this chapter, these elements work in a web of dynamics, not in straight line. Teachers who reported the most learning were the ones who also attended the most meetings, spoke the most in the meetings, and were involved for a longer period of time. Once again, the "which came first?" question arises. It is likely that because of high participation, teachers felt they got the most out of the experience, but it is also possible that if a teacher didn't feel like she was getting enough out of the experience, she would make less effort to attend. My findings align with theories on identity and participation, which suggest that to be a full participant, one must be "engaging with the technologies of everyday practice, as well as participating in the social relationships, production processes, and other activities of communities of practice" (Lave & Wenger, 1991 p. 101).

Level of involvement

Of the four teachers who reported the most learning, all of them either attended each meeting or missed only one. In contrast, Sarah missed two. As part of my data analysis, I transcribed five meetings: meeting #1 (all group members present), meeting #2 (all group members present), meeting #3 (all group members present), meeting #10 (Sarah absent), meeting #11 (all group members present).

After transcribing the meetings, I went through each transcript and counted up the number of times each person spoke. The table below presents my findings.

Level of Involvement

	Meeting 1	Meeting 2	Meeting 3	Meeting 10	Meeting 11	Total
Edward	33	72	53	80	24	262
Robyn	0	5	22	21	5	53
Sarah	3	0	0	Absent	1	4
Genevieve	2	1	0	24	3	30
Steven	48	51	107	48	41	295
Other members	14	32	30	43	15	134
Facilitator (Andrea)	22	49	68	81	51	271

This table shows that of all the teachers (not including facilitator), Steven and Edward had the most participation in the group, who were the members who had participated in previous years. As Steven was the implementer, it also makes sense that he would speak the most often since he was most familiar with the content. What is interesting to note is that both Genevieve and Robyn showed significantly more participation than Sarah. In addition, it appears that Genevieve and Robyn showed gains in the level of participation from the first meeting, whereas Sarah actually spoke the most in the first meeting. Though Sarah was absent for one of the meetings in this chart, my catalogs of the tapes reveal that she rarely spoke at any of the meetings. This data is significant when situated in Lave and Wenger's work (1991), which indicates that new members need to learn not *from* talk but learn *to* talk. Thus, these findings suggest that level of participation through talk and sense of growth are related.

In addition, Sarah appeared to be the least involved in discussion of the lesson plan during the meetings, and she also missed the most meetings. On one occasion, she remarked to me that she wasn't going to submit her per session sheets to get paid for her participation in the group. My field notes indicate:

May 8, 2007: Sarah she feels she shouldn't be paid because she's "not contributing" and she "feels bad."

During my interview with her the following school year I asked her if she ever did submit her sheet for payment. She told me:

I didn't. I felt like I wasn't participating. I was just observing, and I felt guilty about taking the money for that. I didn't really give any feedback. That money is still there [in the school's account].

Hence, Sarah openly acknowledged her low participation, and felt her contribution was so minimal that she shouldn't even get paid for her time.

Besides not accepting pay, missing meetings, and speaking few times within the meetings, Sarah's behaviors within the group showed her lack of commitment and involvement. Unlike Steven, when Sarah was absent she didn't inform the group directly. My field note from the meeting on May 23, 2007 is as follows:

8:05: Robyn drops off her coffee. Mary comes in. Discussion about American Idol – Blake and Jordin [two finalists on the show].

8:10: Genevieve and Steven come in. Everyone is here, except Sarah. Robyn tells group, "she can't come today."

Instead of sending the group an email, or telling the facilitator, Sarah relied on Robyn to notify the group of her absence. In addition, Sarah didn't perceive her own attendance as important, and the group in turn reinforced this. After the meeting on March 23, 2007, I wrote a reflection in my field notes on what had transpired with Sarah:

Sarah mentioned to the group that she can't meet next week and said "but that's ok." Her involvement level seems to be very low...The group didn't react to this -- the fact that she wouldn't be there didn't seem to bother them.

This was a striking moment to me, because no one in the group remarked that they would miss her, or suggested a change in time to accommodate her (which they had done for another member once before). She didn't believe that she was an integral member of the group, and the group's silence may indicate that they agreed with her. Viewing "learning and a sense of identity" as "inseparable," it makes sense that Sarah reported the least growth (Lave & Wenger, 1991, p. 115). She did not truly view herself as a participant, and thus she did not learn.

Long term involvement

The longer you play basketball, the chances are the better you will be at it. Certainly a person who has been playing for ten years will be able to play better than a newcomer who just picks up the ball. Steven and Edward were the two participants in this study who had been in lesson study cycle #1 the previous year. During cycle #2, they showed the highest level of participation among the participants and also reported a high sense of growth. This suggests that long-term involvement is connected to a greater sense of security and confidence within the group.

Edward reported that long-term involvement provided him with a sense of comfort in the group. He explained, "I was comfortable with it all the time. We had a rhythm because we worked together, all of us, already. There was a shorthand. There was a comfort zone." Similarly, Steven indicated in his questionnaire: "I have a lot more confidence having worked with most of these teachers before." Whereas Sarah reported not really understanding the point of lesson study until the end, Steven had a greater appreciation for the process having been through it before. He described, "I gained a lot of respect for the process" and said, "I think it's a nice little arc in terms of my appreciation for being part of it and what I learned through it."

Interestingly, Steven reported that his first year he wasn't as active in lesson study during cycle #1. He explained:

I didn't own it as much as I feel like [now]. I feel a lot more ownership now...with all the peers that I respect so much coming in and watching me. Personally, by having my ideas be a lot more of the process than they were the first year, and part of that is me, and part of that is not having as much experience [the first year]

Thus, participating in lesson study for more than one cycle was helpful for Steven.

Edward also indicates that long-term involvement facilitated his learning because he could apply what he learned from one year to the next with a similar group of people. He explained, "we took what happened the year before and applied it to the next year, so we really could [apply it]. There really was a continuum."

This data suggests that participating in more than one lesson study cycle may be helpful in facilitating ongoing learning. This compliments academic research and literature on professional development, which posits that professional development programs that are sustained over time and continually focused on a goal are more effective than the one-day workshop model in changing teacher practice (Elmore, 2004). Significantly, in Japan lesson study groups will focus on the same school goals (in terms of broad desired dispositions, such as "autonomy") for a period of several years (Fernandez & Yoshida, 2004).

PART II. NEIGHBORHOOD COURT AS CONSTRAINT

Play on the neighborhood court offers a **structure** and **experience** that is different than play on the school team. For some players, this creates a dynamic that is conducive to learning, while for others it creates obstacles. Similar to basketball on a neighborhood court, lesson study offered specific structural features and experiences that facilitated and constrained learning. While chapter six

described the structural and experiential features of lesson study that supported learning, this section of chapter seven will focus on how these features also offered constraints to learning.

Game Organization

Despite the many assets lesson study had in terms of its structure, there were also very clear shortcomings for individuals and the group as a whole. These structures are not particular to lesson study as a structure in general, but rather particular to the cycle #2 group. Many of these constraints arose from foundational elements within the school, which will be discussed in more detail in chapter eight.

It is important to note that lesson study varies in its implementation in Japan and the United States. Lewis et al. (2006) explain, “over the past century, lesson study has evolved in tens of thousands of sites across Japan, resulting in great variations with respect to lesson study goals, practices, norms, scheduling, and other dimensions of great practical and theoretical interest to U.S. educators” (p. 4). In addition, “early evidence suggests that U.S. lesson study practitioners may alter key features of Japanese lesson study” (Lewis et al., 2006, p. 4). However, recent literature does point to a set of common practices that are shared by effective lesson study groups (Lewis, 2002b).

The lesson study process that the MMS teachers followed was similar to that described in the literature as being effective with two notable exceptions. There was no “knowledgeable other” invited to be part of the group. In Japan, the “knowledgeable other” is essentially an outside specialist – “a teacher or researcher who is knowledgeable about the subject matter under study, how to teach it, or both” (Lewis, 2002b, p. 67). The outside specialist asks questions and brings in a new perspective, as well as suggests curricular resources. In addition, the lesson study cycle #2 group ended without creating any type of written reflection or report.

In Japan lesson study groups write and publish reports on their work, which can be purchased at neighborhood bookstores (Stigler and Hiebert, 1999, p. 123). These reports are called "Summary of the Study" or "Research Bulletins," and though they can vary widely in format, "their focus is always on providing a description of the work carried out at the school and teachers' reflections about the key lessons learned from this work" (Fernandez & Yoshida, 2004, p. 15).

Group Size

If there are too many players on a neighborhood basketball court, some will get to play more than others. The lesson study cycle #2 group was quite large and, as discussed earlier in this chapter, some participants spoke more than others during the group meetings. Because one of the core aspects of lesson study's structure is that it is a collaborative effort between teachers, it is possible that some voices will get drowned out if the group is too large.

A typical size for a lesson study group is 4-6 people (Fernandez & Yoshida, 2004; Lewis, 2002b). Even in a small-sized group, it is possible that some members will participate more than others. However, we can assume that the larger the group, the less voice each participant will have. At MMS, the group consisted of eight people, nearly double the size of a typical lesson study group. As seen in Part I of this chapter, some participants dominated the talk in the meetings. For example, Steven and Edward's voices account for the most talking time among all of the participants. In contrast, Sarah spoke the least. When I interviewed Sarah, I asked her why she didn't speak more often in the meetings. She explained that there were too many people in the group, and it became intimidating and difficult for her to participate in the meetings, especially since she was new to the group.

Andrea explained that the group was never intended to be so large. Her original intent was to have two lesson study groups, but Andrea's schedule did not

permit her to facilitate two groups. No one else at the school felt they had an expertise to run the group, so Andrea ended up having one large group to facilitate. In the end, the size of the group may have served as a learning constraint for Sarah because it hindered her participation. Thus, the structure of the group was an obstacle for Sarah's learning because she did not truly participate as a member of the team. It is possible that with a smaller group, Sarah would have engaged in the dialogue and discussion that is essential for team learning (Senge, 2006).

Scheduling

Lesson study focuses on the detailed planning of one lesson through a collaborative process, which takes time and energy. It is not a quick process, and the structure of lesson study requires that many hours be put into planning, observing, and debriefing the lesson. Chapter six described how the detailed, concentrated process of lesson study supports teacher learning. However, the data from lesson study cycle #2 also reveals that because it was so time-consuming to plan in this way, teachers were essentially trying to fit a square peg in a round hole. Like players who struggle to find time to play on a neighborhood basketball court, the teachers endeavored to create time and space for lesson study, but kept running into walls. This connects to Elmore's observation that "the design work in schools is fundamentally incompatible with the practice of improvement" (Elmore, 2004, p. 127).

The teachers' schedules were not organized in a way that would permit planning during the school day, and they all had busy schedules after school. In order to accommodate this, the lesson study group decided to spread their meetings out over a series of weeks between February and June, often meeting for only 45-minutes at a time. Many teachers referenced that the fact that the meetings were so spread out was an obstacle. Each time the group met, they had to spend a

considerable amount of time going through decisions they had made at the last meeting. Often, members would forget what had been discussed. For example, Sarah explained:

It would be nice to have a whole day of working. Not just an hour here and there. It was broken up so much, and so spaced out. By the time we had the next session, we had to recap what the last session was...I don't think we should plan it all in just one day, but it would be nice to have a few hours, a chunk of time, then follow up with another.

Sarah's observation is illustrated by notes from meeting #2, when the group struggled to remember what they had decided to focus on in the first meeting, and time was lost trying to remember what had been discussed previously. This occurred several times throughout the cycle.

Due to the fact teachers began planning a lesson in February that would be taught in June, the teachers had to anticipate where Steven's students would be in their unit by then. The group spent a considerable time of meeting #3 just trying to figure out what lesson would make sense for Steven's students on the day they knew they would all observe the lesson. In the excerpt below from meeting #3, the group tries to not only remember what they discussed in the last meeting, but Steven struggles to estimate where his students will be in June, when the lesson is set to be taught.

Andrea: We need to determine our goals and the flow of the lesson. [silence] So last time we talked about a lot of things, mainly comparing Sparta to Athens, and having students make connections to their own lives. So do we want to stick to those three or do we want narrow that down to just two? What were you guys thinking?

Steven: What three again? Connection to New York, to their own lives, and then the Sparta geography connection?

Andrea: Don't you teach Sparta and then they research Athens?

Steven: That's the structure of the unit.

Andrea: So is that what you wanted to continue with this time or at this point have they not started their research on Athens?

- Steven:** I'm totally lost because we don't start this unit until May.
- Andrea:** But at this point when this lesson is...
- Steven:** Oh, I'm sorry. So when this lesson is...where are we in the flow...[looks at his unit overview, laughing. Silence in the room, the flipping of papers]
- Andrea:** So we are waiting for Steven to let us know if at this point they've begun researching Athens.
- Steven:** No, they shouldn't have.
- Andrea:** Ok.
- Steven:** Based on the way that the unit is supposed to be taught, the geography of ancient Sparta comes first. I mean technically fifth, but what I mean in terms of going through what you just said, which is teaching Sparta and then researching Athens on their own the geography of Sparta, it goes first. There are a lot of things before that from the UbD learning plan, like the unit kickoff, setting up the notebook, the Spartan quiz, the PBS video viewing. And then we go into the geography of Sparta and Athens, and then we do like you said.
- Andrea:** So our goal is to teach them about Sparta and not necessarily have them apply it to Athens for this lesson?
- Steven:** During the class period? No.
- Andrea:** Ok. So can we start with content goals for Sparta?
- Edward:** So we are not following these questions that we finished up with last time: What is your prior knowledge? What are we applying the prior knowledge to? What skill are we deepening? Or are we introducing a new skill? Have we made those decisions?
- Steven:** I don't think so.

This is just one example among many of the teachers spent time clarifying what they had said previously and became hamstrung by the fact they had to plan a lesson that wasn't going to happen for months.

The structures of lesson study require teachers to engage in a collaborative, time-consuming process – one that the structures of their school and their personal lives did not facilitate. In this sense, the structures of lesson study and the

structures of schooling worked together to create obstacles to learning by infringing upon learning time. This correlates with Wilms's (2003) study of lesson study groups in Los Angeles. Wilms found that as teachers tried to implement lesson study, it conflicted with their school's existing systems. Like the teachers at MMS, Wilms describes how teachers had to "cobble" together bits of time to meet.

In chapter eight, I will continue to discuss in more detail how school structure functioned as an obstacle; however, the data indicates that the scheduling structure of meetings often constrained learning, which was necessitated by both **foundational** constraints within the school and the **structural** needs of lesson study. In this sense, lesson study's structures and the school's structures were incompatible. The MMS teachers found a solution so that the lesson study group could still meet, but that solution came with its own problems. This is what Senge (2006) describes as a "shifting the burden" structure.

Mechanics of Play

Like basketball on a neighborhood court hones skills of dribbling, passing and shooting, lesson study hones the skills of reflecting, assessing, collaborating, and observing. Though teachers reported growth in these areas, there was a lack of growth in areas such as subject-specific content and differentiation of instruction. In this way, the structures of lesson supported a specific type of learning while constraining others.

There were times when group members grasped at ideas and became stuck on concepts, yet they never reached out to other sources to help them. In the long term, participants may have missed valuable opportunities to enrich content understanding. For example, in his interview Steven spoke of a key piece of content that would have been helpful during the planning of the lesson. He explained that

one day in the fall of 2007, several months after lesson study cycle #2 ended, the principal came to watch his lesson, and offered a new perspective on his lesson content. Steven felt frustrated that he was missing this piece of content knowledge.

He told me:

After all those hours we spent planning around Manhattan geography and how it influences the lives of New Yorkers...he [the principal] told me it's not the island and it being surrounded by water, as much as it is the safe and protected New York Harbor that made New York so unique and attractive to the ships...and I was like, wow, I didn't even really know Manhattan geography as well as I should have....So I added it to the next day and it was fine. But you want to be perfect, especially after the hours you put into that one lesson. You want your principal to come in and say what he almost always says, which is "oh, it was wonderful!" I had so much passion in that lesson, but I didn't know something.

Though it would be impossible to know everything about a topic, I often wondered why the group never investigated Manhattan's geography and history. The group assumed that Steven had all the content knowledge, and worked off that, since none of the other teachers taught the same curriculum. This seems significant in light of the fact that Sarah felt "professional development that is specific to content" would help her grow the most as a teacher, in particular history. Thus, there were missed opportunities for exploring content area knowledge.

Though the whole lesson was focused on helping students develop the ability to make connections, the teachers used little research to help them. During the meetings, the group would tinker with ideas but never seek out additional resources or research. For example, in meeting #9, Robyn brings up the fact that the group hasn't used any outside research to inform their strategy chart:

Robyn: Can I ask a quick question? I wasn't here that Friday – the list of the 8 strategies for making connections? Did you guys come up with them?

Steven: We did. It's not final or...

Andrea: And we are thinking that's going to be the chart – whatever we are going to give them as a tool that can refer to it...with an explanation of what that strategy is. So it won't just say

“personalizing”, it will say “you personalize and you think about how things relate to you” or something like that.

Robyn: My only thought to that, was that because we just generated it ourselves, there could be something missing from it – it’s not based on any research. But only our ideas – that’s not necessarily wrong, but I just wanted to bring that up
[lots of Umm hmms]

Edward: Well, in a way this is research.

Robyn: Right, I agree, I just wanted to bring it up.

Andrea: But it is a good addition to lesson study to research – if we were focusing on content, we could research content misconceptions students have.

At this point the group shifted their focus to other topics, and no outside research or sources were ever used.

Both of these shortcomings may have been due to the absence of an outside specialist in the group. An outside specialist is “a teacher or researcher who is knowledgeable about the subject matter under study, how to teach it, or both” (Lewis, 2002b, p. 67). The outside specialist asks questions and brings in a new perspective, as well as suggests curricular resources. Lewis, Perry, Hurd, and O’Connell’s 2006 study on Highlands Elementary School in California (one of the first U.S. school’s to adopt lesson study) also found that lesson study is enhanced by the inclusion of “knowledgeable others.”

Another area which participants expressed dissatisfaction with was differentiation of instruction for special needs students. So much time was spent figuring out the goals and content of the lesson that the group only got to thinking about differentiation at the very end of the study. Sarah explained, “I don’t think we focused on differentiating enough.” Blum, McLaughlin, and Trent’s 2005 study on a lesson study group in Wyoming compliments this concern. They found that because lesson study focuses on a lesson for a whole group of students, teachers felt there wasn’t enough emphasis on differentiating instruction.

Context of Play

Lesson study is a teacher driven research group. As such, administrators are often not involved in lesson study. In this way, the structure facilitates learning, but also creates an additional obstacle. Because Principal Charles Rensen was never there, he didn't have any understanding of what his teachers were doing. Like a coach who never visits the neighborhood court, Charles was not able to observe the dynamic of learning between the teachers. Interestingly, Dennis Sparks writes "the most successful stories related to Lesson Study came from schools where the principal and vice-principals were integral members of the lesson study team" (as cited in Brown & Wiburg, 2007, p. 58).

In addition to this structural barrier to Charles participating in the group, Charles also possessed some fundamental beliefs about the nature of lesson study which further separated him from the experience of the group. Charles always believed lesson study was the teachers' responsibility, since it is teacher-driven form of professional development. He said "I wouldn't push for it and wouldn't impose it on anybody," though he said he would support it however he could. This "hands off" approach allowed him to feel that lesson study's failure or success depended only on the teachers who were participating. Though he was told by Andrea he couldn't participate in the meetings as a speaker, he was allowed to stop by anytime he wished to observe, and he also could have spoken with the teachers about their learning. Instead, Charles never attended the meetings and he spoke of it little with the teachers. When I asked him how it may have helped his teachers, he said:

I didn't see any change in Edward, Steven, or Andrea...but that doesn't mean they didn't change. They could have more wisdom. I didn't see a change in Nicole. But that's not necessarily an indication.

Charles recognized that just because he didn't see learning, it doesn't mean learning didn't occur, but it is also evident that he has little knowledge of what these teachers experienced. He explained that the collaborative nature of lesson study was a positive contribution to their school culture, but he had little sense of the thinking and work that went into the lesson, or the reflective habits that the teachers say were cultivated. Though Charles certainly could have asked the teachers what they learned, he wasn't privy to the actual learning taking place. It seems this was a combination of Charles's beliefs and habits as an administrator as well as the structure of lesson study. As I will discuss in chapter eight, Charles's view that lesson study was, in a sense, for the teachers by the teachers, may have contributed to the demise of the group entirely. However, for the purposes of this section it is significant to note that in this context, lesson study's "teacher-driven" structure led both Charles and the teachers to believe that his participation in the group was not necessary, nor did they desire it.

Conclusion

This chapter explored the question "Who gets the most out of neighborhood play?" Continuing to use basketball as a metaphor, I have presented how player characteristics, experiences during play, and level of participation in play all worked together to facilitate or constrain each teacher's learning in the lesson study group.

The data indicates that teachers who were collaborative and reflective, had a strong content and pedagogical knowledge, and had a clear educational philosophy were pre-disposed to learning in the lesson study group. Because it is difficult to identify "which came first," it is impossible to make a claim on whether this pre-disposition led to higher participation and more enjoyable experiences; however it does seem that these elements went hand-in-hand. Teachers that reported more positive experiences in the group were also the ones who felt a higher degree of

confidence and value in the group. These teachers were also the ones who felt the work of lesson study was most relevant to their own teaching.

Finally, the teachers that “got the most out of neighborhood play” were the ones who participated the most. These were teachers who had high attendance rates and engaged in active discussion during the meetings (formally and informally). Though two teachers who were not part of lesson study cycle #1 did report significant learnings, the ones who spoke the most at the meetings and exhibited a high engagement level from the start were the ones who had been involved with the lesson study cycle #1 group the previous year.

Thus, the foundational features and structural features that seemed to facilitate learning (which were presented in chapter six) cannot be looked at in isolation. The combination of teacher characteristics, experiences within the lesson study group, and level of participation are all important components in understanding how teachers experience growth in their teaching. This has several implications for changing teacher practice, which will be discussed in chapter nine. But first, chapter eight will explore how the foundational features of the school and structural features of the lesson study group also acted as obstacles to teacher learning.

Chapter 8 **Beyond the neighborhood Court**

Introduction

In using the metaphor of basketball, we have thought of MMS as a school basketball team, led by principal Charles Rensen as the “coach,” and the lesson study group itself as a neighborhood court, run by the same players and captain from the competitive school team. Each court has its own set of rules and purpose for play. Play on one court can affect play on the other positively, but there are times when the needs of the neighborhood court come into to conflict with the needs of the competitive court. Elements such as time, beliefs about learning, and notions of power all can drive a wedge between these courts, and create a situation where players must choose one court over the other. This chapter will apply this metaphor to lesson study cycle #2 and its aftermath, focusing on how the foundational elements of the principal and the structure of schooling, and the loss of the **foundational** element of the facilitator, created constraints to teacher learning. Ultimately, these barriers ended the group entirely. With the loss of the **experiential** and **structural** features of lesson study, participants felt their ability to implement changes to their curriculum and their teaching practice was constrained.

PART I. END OF THE NEIGHBORHOOD COURT

One would imagine that a basketball coach would approve of her players practicing in their *free* time on neighborhood courts, but not on the *coach’s* time. It is easy to imagine that the coach would want her players at all of her practices and games, and would not allow neighborhood court play as an option in lieu of practice with the coach. In light of this, a player would probably not skip team practice to hang out on the neighborhood court with her friends. Thus, the coach and the players know that the practices with the coach are the priority.

One would also imagine that the coach's practice sessions would dominate the players' time, and this time would be considered more important by the coach and the players. Based on this belief, the coach would rarely – if ever – give up practice time to let the players lead themselves, even though the coach may approve of them playing on their own time outside of the practice sessions. All of these conditions are based on the belief that there is limited benefit to the players playing on their own. These beliefs are shared widely, and their effect is profound.

Similar to the basketball scenario, Charles Rensen believed that lesson study occurs on the teachers' time. This belief stemmed from his desire to emphasize other collaborative programs within the school such as the CTT program, and his actions in bringing in outside staff developers to collaborate with teachers. Teachers were asked to find their own time to meeting during cycle #2 and carve out time outside of the school day for lesson study cycle #3. Ultimately, these beliefs set up the conditions which discouraged the continuation of lesson study, and cycle #3 never occurred. However, before we can consider why lesson study ended, we will first explore the question, "Does participation in a lesson study group facilitate a sense of growth in practice that stays with the participant after the group ends?"

The data reveals that though the participants articulated a sense of growth in practice once the study had ended, they also believed that there were constraints that prohibited them from retaining learning and implementing changes that they desired in their teaching. Thus, the loss of the structural and experiential features of lesson study was an obstacle.

What is Lost between Courts

As I interviewed the teachers throughout the school year following lesson study cycle #2, I was struck by what they did *not* mention in terms of their learning. During the final meetings in June of 2007, when the lesson study cycle #2 group was

coming to a close, the teachers shared with each other specific changes they would make in their curriculum and their teaching the following school year. Yet as I documented teachers that following year, it became apparent through interviews and observations of the teachers, that they were not implementing the changes they had said they would make. I decided that I would not bring these up to the teachers, so as not to influence their responses. However, at the end of my study (June, 2008) I asked the group to meet with me so I could present some of my preliminary findings. During this presentation, I shared with them excerpts from the transcripts that referenced the actions they said they would take. Below are the excerpts that I shared (names are noted as “participants” because I wanted to keep comments anonymous when I presented these to the teachers), along with brief explanations of the teachers’ reactions at the meeting in June, 2008. This first excerpt is Edward’s response to Andrea’s question, which she asked to the group at the final debriefing in June, 2007: “What are you taking away from lesson study that you can apply to your own teaching?”

Excerpt #1

Participant 3: I think that’s like what I was saying before...about the complexity about the group dynamic. I think that Andrea’s question is a very big question that we should keep in the air. I think we can’t answer it in four minutes, I think it’s a big question to take from this, and we did last year too – I’ll never forget Student Z shooting everybody else down. And the dynamics today with 2 girls – one didn’t speak, Student A tried to speak a little bit, and Student B has her issues b/c she wasn’t confident enough to know that she was onto something. And Student C was a little bossy...those observations are very rich. But figuring out what to do with them is a huge question, and it’s a question we should keep focusing on. Maybe it’s not just a question for groups that do lesson study, but a question for [the school principal] to use, for staff developers to use when they come in here and talk about group work – and keep bringing those observations to discussion to see if we can tease out what to do. Because I think your idea is good about starting with a protocol about really getting into this pattern about getting all the ideas out...you know, without any judgment.

After I presented excerpt #1 at the June, 2008 meeting, the teachers expressed disappointment that this focus was lost in the current year’s professional

development. The teachers reported that none of them had established a protocol based on what they learned in lesson study, nor did they specifically focus on group work with the professional developers they had been working with throughout the year following lesson study. The second excerpt that I presented was also from the final debriefing in June, 2007. In this excerpt, the participants discuss how they will build on the lesson they created:

Excerpt #2

- Participant 1:** In terms of building upon this lesson – I see myself putting the strategies to make connections up, and actually using it more to refer to and to use the language of personalizing, asking questions, and making connections.
- Participant 2:** I like the idea of the strategies being up too...and using them like a bit at a time. Maybe not having them all up at once, but you know, introducing them as ways to think in the beginning of the year...not ways to think in June in 45 minutes. We need to scaffold it in, just like we do everything else.
- Facilitator:** And that will make kids more cognizant of how they think and learn.
- Participant 2:** And maybe by June they can do this, as opposed to in 45 minutes.
- Participant 3:** Especially if they could see this in their different classes. It's something that can be applied to other subjects. You know, at the beginning of the year we start off with different ways to solve math problems with totally different strategies – one of them is drawing a picture, which is visualizing. [Lots of "mmhhmms" from group] We work backwards, looking for patterns
- Facilitator:** So they can see how they are all connected -- and we do that in science as well.

After presenting this excerpt at the June, 2008 meeting, I told the participants that in their interviews none of them had mentioned changes to their instruction or curriculum as a result of this strategy work on making connections. At the meeting I asked if they did actually continue with this work, and they forgot to mention it to

me in the interviews, or if they forgot to do it entirely, or if they remembered but decided it wasn't very important? Edward responded:

You know, Rebecca, I come away from this feeling a little bit frustrated...I'm sort of dog with a bone right now with Charles about having some continuity [in professional development], and not sending us out all around the city again for this and that and this and that...Because you look at this and all the work that we did, and all the things we thought about over that time and yeah, we've absorbed some of it and implemented some of it but if we had kept going – there are like three things that I would have been much more dogged about than I am. You know?

At the meeting, Edward's response was met with many sighs and nods of agreement. Steven responded to Edward by telling the group that the lesson that they created in lesson study wasn't even included in his Sparta unit this year. He felt that partially this is because the other 6th grade teachers weren't part of lesson study, and it was easy to let the lesson go because it would be really hard to explain it to them. At the same time, he felt overwhelmed. He explained:

A year for me feels like ten years. There are so many things going on [this year]. To go back to all the notes, emails, all the work we did...It's like Edward said. It's time, time, time, and lacking the continuity.

After Steven expressed this at the meeting, I asked him even if the lesson didn't make it into his unit this year, did they end up integrating some of the strategies that were talked about throughout the year, as the teachers had wanted to do? He said no, they didn't, and the other teachers reported that they did not either. Again, I asked if this was due to them feeling like it wasn't important, or was it due to them forgetting? Edward explained:

It's part of the continuity issue -- doing something like this, then having the time to process it and having the time to talk about it. You have your team meetings, but the team meetings and discipline meetings are so much about chasing after something, or catching up, or cleaning up [Lots of yes's from the group], you know, it's not about the leisure of processing, which is what it should be.

The teachers agreed that these decisions they had made – focusing on group work, coming up with protocols, and integrating strategy work into their curriculum—were

all important, and they were not ignored because they were not valuable⁵. Rather, the teachers believed that these focuses were not continued because the school had shifted its focus to other professional development, which required their time and energy, and also because the lesson study group did not continue. Added to this, the teachers reported a sense of being overwhelmed by their job responsibilities, and said that these things were just not priorities because they had no time to deal with them.

Thus, without consistency from one year to the next, the teachers forgot or willingly let go of changes they had previously wanted to implement. It seems that the loss of the structures and experiences of lesson study became a constraint to a sense of growth in pedagogy. This in line with what academic research and literature suggest about meaningful professional development:

Meaningful professional development must be sustained, ongoing, and coherent. Short-term, decontextualized professional development does not create the kind of long-term change in teaching practice that can effect meaningful improvements in student achievement. (Blum et al., 2005, p. 54)

In addition, this situation reflects what Lewis et al.'s 2006 study on Highlands Elementary School in California found about the need for lesson study cycles to be balanced and integrated. At Highlands Elementary School, teachers spent more time on creating their research lesson when they first started lesson study than "drawing out the implications of the research lesson for their future teaching" (Lewis, Perry, Hurd, & O'Connell, 2006, p. 275). In order to address this, lesson study groups at Highlands Elementary School now begin lesson study cycles by reviewing their prior lesson study work and continuing to work on problems in student learning that they

⁵ It is important to note that some of the teachers did report that they used protocols for group work in their own classrooms, but these were in place prior to the lesson study group and were not changed due to their work in lesson study. In addition, the special education and CTT teachers did work with students around strategies, but again, this was largely unchanged due to lesson study and was already in place prior to their work in lesson study.

have identified in earlier lesson study cycles. Since the MMS group did not continue to meet, they obviously had no opportunity to do this.

PART II. WHAT CAUSED THE END

Why did lesson study cycle #3 fail to occur? It appears there were three main reasons:

- 1) An administrative shift towards other professional development initiatives
- 2) The facilitator, Andrea, left the school
- 3) Teachers were overwhelmed and felt they had little time for lesson study

Though I will present each of these reasons as their own entity, as with looking at change, these three elements overlap. They operate in a dynamic system, where one relationship is connected to another (Fullan, 1991; March & Olsen, 1976; Miles, 1965; Senge, 2006).

The Role of the Coach

One can imagine that the coach believes that professional players and other coaches have valuable expertise that can help his team. Thus, if the coach has the money to hire these experts, he will. This choice stems from the coach's belief that the experts can provide valuable learning experiences for his players, and these experiences are more important than players working together on their own. In this scenario, the coach won't prohibit players from practicing on the neighborhood court, but the players' time will be restricted even further, and as a result, they will be less likely to have time to spend on the neighborhood court. Similar to the coach, when Charles received a small windfall of money from the Department of Education prior to the start of the 2007-2008 school year, he immediately channeled it into "expert" professional development groups. Therefore, Charles moved from a facilitator to a constrictor of learning in relation to lesson study.

Situating these findings in the academic literature and research on lesson study and professional development is helpful in understanding the importance of the “coach.” For example, teachers and administrators report that support from administrator is essential in making lesson study a success, because they are the ones who have the ability to free up time for teachers to meet and make lesson study a priority (Boss, 2002). In addition, the principal is “key to creating the conditions for the continuous professional development of teachers” (Fullan, 1991, p. 331).

Spring of 2007: Lesson Study Cycle #2

Since lesson study is teacher-driven and initiated venture, and Charles believed the teachers needed to find the time after school or before school to meet. In this way, lesson study was viewed as an “extra”, and not part of the teachers’ school day. Many teachers used their prep time during the school day to meet with the literacy and math coaches that Charles had hired, and Charles dictated the schedule for the school-wide professional development times. Thus, Charles’s beliefs about professional development were partially responsible for setting the conditions on how lesson study could be scheduled.

It is important to note that though he professed to like lesson study, it does seem that Charles leaned towards a more traditional model of professional development in the ensuing year. The traditional model “assumes that a clearly defined body of skills can be transferred from trainers to teachers through a well-specified process” (Elmore, p. 102). The chart below highlights the key features of traditional professional development and lesson study.

Contrasting Views on Professional Development*

Traditional	Lesson study
<ul style="list-style-type: none"> • Begins with answer • Driven by outside "expert" • Communication flow: trainer → teachers • Hierarchical relations between trainer & learners • Research informs practice 	<ul style="list-style-type: none"> • Begins with question • Driven by participants • Communication flow: among teachers • Reciprocal relations among learners • Practice <i>is</i> research

*By Lynn Liptak, one of the first US principals to implement lesson study (as presented in Lewis, 2002b, p. 12)

Though there is widespread consensus in the academic literature and research on professional development that the traditional model of professional development is not as effective as collaborative, job-embedded models such as lesson study, most school districts continue to rely on the traditional model (Elmore, 2004). (As I referenced in chapter four, I had only experienced traditional forms of professional development until I joined a lesson study group.) Thus, it is clear that the traditional model continues to maintain a hold on teachers' professional development.

These beliefs had a significant impact on the lesson study group at MMS. There are several examples that illustrate how Charles's belief about professional development constrained the work of the lesson study group. During the lesson study cycle #2 cycle, Charles would occasionally let the lesson study group use the regularly scheduled staff meeting time to meet. However, there were several instances when the teachers would gather to meet for lesson study, and Charles would inform them that they actually would need to attend his staff development meeting. For example, on May 2, 2007 the group was to meet from 8am-8:50am. Instead, Charles told the group they had to attend a staff meeting, and the group didn't get to meet until 8:26am. On May 30, 2007 the group gathered in Andrea's

room at 8am, but then Robyn came up and said that Charles wanted them to come down again for another staff meeting. Again, the group wasn't able to meet until close to 8:30, and they only had 20 minutes of working time. In both of these cases, Charles was addressing the restructuring efforts of Mayor Bloomberg and Chancellor Klein. During the first meeting he informed the staff they would be joining the empowerment zone, and in the second he spoke of the new school report cards. Thus, the changes within the overall structure of schooling created a situation where Charles felt he needed to take time away from the lesson study group. This is not an unusual situation, as whatever problems there might be in administration at schools are "reflected and amplified in policy leadership" (Elmore, 2004, p. 65). This situation at MMS gives possible implications for how changes to the overall school system can trickle down and affect a small group.

Yet the following school year, Charles was very protective of the time of his TC staff developers. On Oct 2, 2007, my field notes indicate he spoke to the AP about a citywide assessment they had to give the school. Charles wanted to give the assessment on another day, so that it would interfere with a visit from a TC staff developer. This provides a contrast to the way lesson study time was treated.

In addition, Charles did not ask support staff to help with lesson study. When it came time to schedule the lessons, the teachers arranged their own coverages with other teachers at the school. On the first day of lesson implementation, a teacher (who was supposed to take over a class for a teacher involved in lesson study) was absent, the school secretary became distressed. Steven came up to me after and told me he wanted to make sure I had her quote for my research:

Did you put the quote "thank god it's fucking over" in there? I'm just wondering if you heard the jubilation...you might want that for your research.

It was clear that the secretary was annoyed by the inconvenience lesson study caused her in having to deal with getting one of the teacher's classes covered.

During lesson study cycle #2, teachers were restricted in their time by their teaching responsibilities, co-planning, and other duties they had during the school day. However, most participants were not engaged in other professional development programs at the school. Besides having a staff developer come in once a week, most teachers did not have any interaction with other professional development. This appears to be significant, because during the school year where lesson study cycle #3 was to take place, Charles had contracted out a number of professional developers to work with the school.

September 2007- June 2008: The "Year Of Professional Development"

It makes sense that if the coach overwhelms the players time with training sessions, the players will have little time or desire to play on the neighborhood court. This is what happened at MMS during the school year of September 2007 – June, 2008. Charles's role continues to be significant in this regard. As Stigler and Hiebert (1999) point out:

The principal must become personally and directly involved in beginning the process and establishing it as a permanent part of the school program. The principal's involvement is one way to signal that improving teaching is the most critical part of the school's development. The principal must work closely with teachers and must nurture teacher leaders who are willing to devote considerable time and energy to the lesson-study process. Even when teachers step up to take more and more responsibility, the principal must remain active in maintaining the school's long-term commitment to the process (p. 157).

The findings during the year following lesson study cycle #2's end reveal the impact of Charles's "hands-off" approach to lesson study.

Over the course the two school years this study spanned, it was clear that Charles set the agenda for professional development at the school. For example, Charles led a "staff development" meeting every-other Wednesday morning at 8am. All of the teachers were required to attend, and Charles determined how the time would be used – be it discussing administrative issues, having an outside

professional development facilitator come in, or having a staff member lead the group through a professional development activity (which happened occasionally). However, at the start of the school year of 2007-2008, the principal made it clear that, in his words "this is the year of staff development for our school." In the first principal memo of the year, he explained:

Within the next few weeks, we will have a schedule of staff development that will involve School's Attuned's work with differentiated instruction; Teachers College Reading and Writing Institute; and Smart Board Training. We will also be involved in a bit of internal staff development....I expect this will be a significant year of learning for all of us.

It was clear from his memos that the staff development was a school wide endeavor. Contrast this with Charles's view of the lesson study cycle # 2 group: the group was seen as a select group of staff, and were largely left on their own. In October, another memo from Charles gives a clear window into his beliefs about staff development. He wrote:

For the past four years, MMS has been a largely self-sufficient institution. We taught ourselves then taught each other. Occasionally, a brave one of us would venture out, learn something new, and then bring it back to the den to share. And because you are a smart, curious dedicated lot, we learned and improved our craft. This year, however, we have found ourselves in the unusual position of having some lose cash about and the opportunity to become students again. We are receiving Smartboard training; Wilson training; Schools Attuned training; The Reading and Writing Workshop training; PBIS (Science) training; and hopefully, if all goes well, training from Joel Haber's Bully Coach organization. In addition, I am more comfortable bringing outside people to look around and help bring other perspectives on what we are doing.

This memo is significant not for just what it says, but for what it leaves out. In mentioning previous staff development, lesson study is conspicuously absent. Thus, Charles was clear about his goals for professional development: it should (and would) be run by experts who were not part of the school community, and it would cover the topics that he, the principal, had deemed worthwhile. In his interview, Charles openly acknowledged these were his decisions and took responsibility for

them. He explained that these were his "initiatives...things I'm bringing to the school where someone is teaching you something, as opposed to teachers working together to develop something." His reasoning? He explained, "we have a lot of staff development because we have the money." Like many school leaders, Charles saw professional development as his domain, and he didn't seem to think of it in terms of the overall school development (Fullan, 1991).

The participants in this study recognized that Charles was making these choices for them, and many of them were unhappy about it. Genevieve explained with frustration that he "assigned teachers to professional activities around New York City. He informed teachers of the developments they were expected to attend." Edward expressed concern that he wasn't getting a choice in what activities he wanted to participate in. For the entirety of the school year, each week a principal memo detailed exactly what was happening with the many staff developments, and who was visiting. Again, contrast this with the lesson study cycle #2 group, who was rarely referenced in the weekly memo. Significantly, the backbone of the lesson study group for cycle #2 was Humanities teachers, who were now scheduled for weekly professional development meetings during their preps with Teachers College coaches, as well as being pulled out of the school for day-long workshops at Teachers College.

Participants saw this push to other professional development as Charles's idea, and as the year progressed the participants expressed dismay at the lack of vision for professional development at MMS, as well as the difficult conditions this new set of programs was creating. Edward explained that Charles "had such an agenda about getting us out...there wasn't any real focus." In addition, participants indicated that the disjointed nature of professional development at MMS contributed to a sense of confusion and being overwhelmed. One of the teachers, who requested I keep this anonymous, said:

The whole PD thing is never an organized, linear, thematic, consistent thing. Consistent – that should have been my first word. It hasn't been consistent in years...It's like BOING BOING BOING! People from TC come in, and there aren't clear reasons why they are here. We figured out how to make it work, but nothing was clear between Teachers College and the school. What is going on? PD is so fractured and all over the place. JoAnn was here for two years, then she goes...then we get another staff developer, and she comes in...then she's gone. That's in the culture...This year there was a lot of money, and people have been sent out for PD. People come back and have to teach, and there's just no time for development.

When I presented my preliminary findings to the lesson study group members, Edward became agitated. He said "we just need to have some continuity and value that!" These comments are important because, as I discussed earlier, continuity in professional development for teachers does matter (Fullan, 1991). However, they are also important in light of the fact that Charles and the teachers did not seem to have a "shared" vision for the role of professional development in the school. Senge (2006) explains that a shared vision is "vital for the learning organization because it provides the focus and energy for learning" (p. 192). This is essential for professional development, since professional development should be linked to an overall strategy for school improvement (Elmore, 2004)

Charles's professional development initiatives became an obstacle for the CTT teachers because they were often out of the classroom to attend professional development sessions. During her interview, Sarah realized that she had missed the geography component of the 7th grade curriculum because she was out for Schools Attuned. Some teachers enjoyed the professional development they were scheduled for, but were not happy that it took time away from their students. For example, Genevieve liked the Schools Attuned program, but was concerned about the time it required her to be out. She explained, "I've been out for six Fridays...and it's really hard not to be in the building. I know it's worth doing, but I hate being out...it can be frustrating." Missing school days was not only hard for the teachers who were

being pulled out, but also it was a challenge for the ones who were left behind.

Steven explained:

My co-Teacher is out every Friday, just about, for Schools Attuned....she feels a lot less informed....that's negatively affected me. We have to do more work as a result to make sure she knows what's going on.

Robyn echoed this concern. She indicated:

My experience is that so many of the other teachers are out at professional development this year – at least once or twice a week. And Sarah is not in my classroom [to co-teach the CTT class]. So it's really affecting me in the way that I'm covering a lot of classes...and I feel like they are not there very often, and it really affects the kids and the teaching. It's harder to teach the special education kids when I'm by myself in the room....lesson study didn't take away from that teaching time."

This lack of vision and disjointedness cultivated in the teachers a feeling of being overwhelmed. Participants were getting so much staff development that they were unable to conceive of being able to continue with their lesson study work.

In addition to bringing in outside experts for professional development, Charles spent the morning staff developments that he led tackling a wide range of issues. My field notes indicate that morning staff developments were dominated by discussion of issues largely relating to testing and testing accommodations and modifications and the school's grading policy. Though staff development was only twice per month, other issues that were covered were report cards, assessments, parent/teacher conferences, plagiarism, and bullying. One session was devoted to viewing a Frontline movie called "Growing up Online", though there was never a discussion about it following the film. Many teachers found this schedule of different topics to be disjointed. Genevieve explained, "we have these meetings about testing, and other administrative stuff," and expressed concern that there was no real vision.

Charles himself indicated that these professional development initiatives might infringe upon the time teachers have to do lesson study, but he was

comfortable with that decision. He explained “maybe next year we pick it [lesson study] up again, or may in the spring...but it has to be something where teachers are driving it.” Ultimately, these beliefs and the push towards other PD left the teachers with no follow-through for lesson study. Thus, Charles’s desire to bring in outside professional development combined with his view that the lesson study group was a separate endeavor created the conditions where lesson study was not sustainable.

Loss of Captain

If the players don’t know how to organize themselves for play on the neighborhood court in a successful way, they may give up neighborhood court play. In lesson study, Andrea was the central player who brought everyone to the court – she was a strong foundational element. Once she left the school, the teachers felt there as a void which could not be filled by any of the other participants in the group.

In their interviews, participants described Andrea as a leading force in the lesson study group. Genevieve said that she joined the group simply because Andrea asked her to, while other teachers cited the pivotal role she played within the group. Several participants remarked that her enthusiasm for lesson study was contagious and they valued the integrity she brought to the lesson study process.

Edward explained:

I was so appreciative of the integrity that she brought to the whole thing, because of the issues I had with not being able to break out of the script occasionally, and her sort of sticking to what lesson study is supposed to do, which means you have to stick to the guidelines, and keeping us in those guidelines but also letting us have conversations about it, around those issues. Which I thought was really good. Because not everyone has that understanding. And somebody who is like me, who’s a big mouth, and loves to talk about all this stuff, and likes to challenge – because that’s how I like to learn – I so appreciate when somebody meets that challenge and doesn’t just shrink away from it. I don’t mean challenge like this, you know what I mean? Like challenging in that sort of learning about teaching thing. It’s so much richer and there’s certain security involved.

When the lesson study cycle came to a close in June of 2007, at the final meeting participants asked her if she could return to facilitate again in the fall.

Edward: When are we doing it [lesson study] again?

Steven: That's exactly what I was going to say!

Andrea: You guys can still do this!

Nicole: Have Charles hire Andrea.

Andrea: If you guys want to meet after 4 o'clock...

Edward: Well, didn't we anyway?! Well, not all the time.

Sarah: It's official? You won't be here?

Andrea: Yes.

Edward: We could meet after 4 o'clock though, if we started it early in the year, and then did the lesson late in the year – it could be an after school thing.

Andrea: I don't know that I can. I don't know where my schools are, I don't know anything. But I don't know if there is a conflict of interest involved. I think the money makes it more complicated. This is sort of my job... I don't think I can be paid for my job.

Edward: Andrea, you need to find this out!

Andrea: I'll find out, but I definitely would not be able to do it during my work day.

(June 12, 2007)

In the end, Andrea was not able to facilitate in the group in the fall of 2007 because of conflicts with her new job. The group was without a leader, and though each teacher (even Sarah) said they would be interested in participating in another lesson study group, none of them stepped forward to lead the group or find a leader to come in from outside of the school. The loss of Andrea speaks to the power of teacher leaders in lesson study, and why it is so important to retain such people within schools. The literature and research on lesson study indicates that lesson study will not succeed if there are not leaders who truly understand the nature of

lesson study and can effectively implement it (Brown & Wiburg, 2007; Chokshi & Fernandez, 2004; Stigler & Hiebert, 1999). The loss of Andrea also speaks to the diffusion of responsibility in terms of who was in charge of finding a new “captain.” Some school leaders believe that it is the role of administrators to bring in resources such as outside experts to help facilitate lesson study (Boss, 2002). At MMS, Charles did not believe this was his role, nor did the teachers ask him to help find a new leader.

Beyond the Team

The previous sections of this chapter have considered how the coach might limit players’ time on the neighborhood court by requiring them to attend practice with people that are seen as “experts.” This creates an obstacle to the continuation of play on a neighborhood court. However, we must consider the larger context in which the coach and team operates to truly understand how play on the neighborhood court is constrained by multiple factors. Though lesson study may offer meaningful learning experiences, it is likely that the entire system needs to be restructured in order to create lasting change in teaching practice (Senge, 2006; Stigler & Hiebert, 1999).

Every system is composed of a set of interdependent parts (Miles, 1965; Senge, 2006). In the system of a school with a competitive basketball team, the coach is the head of the team, and the team itself is one aspect of the school. As a larger system that the team is situated within, the school itself constrains and facilitates how the team operates. For example, there are rules the team must abide by that are set by the school, and the team is funded by the school. In addition, if the team is not successful, the school can get rid of the coach. If MMS is the team, the Department of Education and larger educational system is “the school.” The conditions that teachers experience at individual schools are largely a result of the

larger educational system (Elmore, 2004; Fullan, 1991). The larger system fills teachers' lives with countless duties and responsibilities that must be taken care of outside of their teaching time (Apple, 1989; Elmore, 2004; Stigler & Hiebert, 1999). Stigler and Hiebert (1999) have suggested that in order to create true instructional change in schools we must create time during the workweek for teachers to collaborate. They explain:

If we expect teachers to play a major role in improving instruction, as they must, then we need to provide an environment in which they can do this work. Unfortunately, the vast majority of American schools are not suited to this purpose. Teachers work alone, for the most part, and they have little time to interact, much less collaborate. They arrive at school shortly before the students do and leave shortly after the students leave. While at school, teachers spend most of their time teaching (Stigler and Hiebert, 1999, p. 142-3).

As discussed in chapter six, teachers at MMS devote much of their time to planning their lessons, collaborating with each other, communicating with parents, grading, and gathering curricular materials. All of these things must be done when they are not teaching. The mandated workday for MMS teachers is 8:50am to 3:30pm, though all arrive early or leave later on certain days to fulfill other responsibilities. Twice a week all of the teachers work an additional fifty minutes before or after school with small groups of students, and twice a month their Wednesdays start at 8am for staff development with the principal. On an average day, the teachers will teach six periods of classes, have 45-minutes for lunch, and one 45-minute prep period. This means that teachers must devote time outside of the school day to fulfill all the tasks that they feel are needed to be successful at their jobs. Robyn expressed a common feeling: "The day itself is very draining."

During my interviews, I asked participants to describe the most time consuming aspects of their job. Robyn said, "lesson planning, grading, and just dealing with little things...kids need something printed out, or I have to call a parent back, sending emails...photocopies, meetings...planning my lessons." The most time

consuming tasks for Genevieve are related to her role as a special education teacher. She explained, "I spend a lot of time trying to figure out services [for special education students], doing paperwork, testing accommodations...I had two meetings today about that....I pull kids out, I push in..." As a CTT teacher, Sarah spends much of her time planning and meeting with teachers since she co-teaches all the major content areas (Science, Math, and Humanities), but said that she spends a lot of her time outside of the classroom doing paperwork for special education students. Edward said there were so many things he has to do, he would have trouble telling me all of them. He explained:

Grading, revising lessons constantly, did I mention grading? Grading! I mean there are so many things...but the things that take up the most time is lesson revision, grading, and assessing. I'd say that's 80 percent. The other big 20 percent is all the logistical stuff...Xeroxing, making phone calls, emailing, and all of the meetings.

Similar to Edward, Steven expressed that much of his time was spent grading. As he spoke, he sounded exhausted just thinking about all the things he must do:

Planning with 6th grade Humanities and CTT teacher about our goals for our units and our projects...trying to organize these enormous projects with the demands of the ELA test come up...the planning and the implementing, and then sticking to the deadlines, not rushing. There's enormous amounts of grading, particularly when they are doing big writing pieces. Grading is an enormous amount of time...then the report cards that were due yesterday, the website that I do, the emailing with parents, the phone calls, the putting out fires that seem to be all over the place..I try to be accessible, and that takes time....

Steven ended by expressing another common sentiment: "Friday after school comes, and I am as burnt out as I can imagine."

Though teachers at MMS do have one or two 45-minute prep periods each day to work on their lessons, grade papers, etc, that time is often filled with meetings. Steven reported:

Sometimes I think there is too much collaboration! Not lesson study, but in general...all the meetings, committees...I don't feel like I have the time. Sometimes I feel like it's a little too much...And I think that's one of the things

that makes our school such a great place to work in...but I think sometimes there needs to be a limit.

All of the teachers referenced the emphasis on meetings at MMS. Robyn said, "I meet three of my periods a week – with the CTT teacher, the 7th grade team, and with the Math PD person." Edward concurred: "I meet with my discipline partner, grade team, principal, CTT teachers..and then other committees." Thus, teachers at MMS are already over-extended in the amount of time they spend working together and engaging in school activities. Edward suggested, "people are pulled in so many different directions. If someone doesn't pull you down into the seat...it's crazy work, you know."

During lesson study cycle #2, it was clear teachers were dealing with feelings of being overwhelmed by their responsibilities outside of the group. At one meeting, Edward declared, "my brain is in so many places right now I can barely see straight" and described teachers as "wearing roller skates," speed-skating by each other all day trying to address a million little things. As a result, a considerable amount of time was spent during the meetings on scheduling, and over and over again I noticed that teachers would be making progress in the lesson, but then would have to leave for another meeting or to teach. At other times, the group would start late or end early to discuss when the next meeting could be scheduled. A glimpse at a piece of data from lesson study cycle #2 shows how challenging it was to even get the group to a meeting. For example, during the month of April Andrea endeavored to reschedule a meeting that Genevieve and Sarah were going to miss because the school had assigned them to grade the New York State Math Test. The emails below illustrate all of the outside factors the group had to content with. The exchange was initiated by an email from Andrea:

Genevieve and Sarah will miss our meeting on Wednesday because of grading. Can we meet on Friday morning instead?

-Andrea

Edward replied that he could, but another member couldn't. So Andrea sent out an email asking if they could meet during lunch, but then Steven said he couldn't make it during lunch. Steven responded:

Hi everybody,
Friday doesn't seem to work for a few people and I don't know how motivated we're going to be right before our much needed break. Can we just meet tomorrow morning like we originally planned? Otherwise, we'll be going three weeks between meetings. We've tried to work around the four days that Sarah and Genevieve are unfortunately away grading the Math test but I guess it's not possible this week. We can catch up with them when they get back. I was trying to find Andrea this morning after chatting with Edward about this but then I realized she [Andrea] was out today.
- Steven

This email exchange offers a clear picture of all of the obstacles the group faced in scheduling this one meeting: two participants were assigned to leave the school to grade the New York State Math Test for four school days, and they had no choice about this; other teachers had meetings during the proposed rescheduling time; as Steven suggested, it would be a challenge to focus on the day before the holiday break; and finally, if they didn't meet before the holiday, it would be three weeks by the time they had their next meeting. The group decided to go ahead with the meeting, and Sarah and Genevieve did miss it. Since Sarah felt she was – and acted as – a “non participant” anyway, it was not surprising that the group agreed that it was acceptable to meet without her. Though Genevieve was more involved than Sarah, she did not show the participation levels of Edward or Steven. The group would have preferred to have everyone at the meeting, but their choices were constrained by outside factors. Though the lesson study time was scheduled in advance, it was clear that all of these other school and teaching duties were considered to be more important. This was not an unusual circumstance, and indicates that time and scheduling were an obstacle for the teachers to contend with during cycle #2 because of the other responsibilities they had to the school. This

example also reveals that lesson study was not the primary concern for the teachers, the principal, or the school; it was considered an "extra."

Teachers were aware that the overall structure of schooling made it difficult to have time together, and they discussed this with me when I shared my preliminary findings with them in June, 2008. Genevieve said, "I don't think we set ourselves up to have time together." Edward agreed, and added "The system doesn't set us up to have that time." Sarah explained that much of collaborative work they do happens during lunch. She reported, "we don't get much prep time...mostly it's during lunch, or when passing in the hallway."

Thus, it is clear that the lesson study participants were incredibly busy at the school during lesson study cycle #2 even without factoring in the time they spent meeting in lesson study. It seems that these past experiences with scheduling difficulties combined with the new professional development programs the principal initiated following lesson study cycle #2 left the teachers with little time or energy to consider continuing the lesson study group. Though these factors emerged at MMS, they can be traced back to the larger structure of schooling. Unfortunately, as Richard Elmore states, "The work day of teachers is still designed around the expectation that teachers' work is composed exclusively of delivering content to student, not, among other things, to cultivating knowledge and skill about how to improve their work" (Elmore, 2004, p. 92).

Conclusion

This chapter examined two questions: (1) Why did the lesson study group not continue? and (2) How did the absence of the lesson study group function as a constraint to learning?

The data revealed that the ending of the lesson study group was in itself a constraint to learning. With no lesson study group in existence at the school,

participants were not able to participate in the structures and experiences that had previously supported a sense of growth in their practice. This loss of the structural and experiential element resulted in teachers forgetting what they wanted to change in their curriculum and instruction, as well as creating a feeling of inability to make those changes.

What led the lesson study group to cease meeting? Though the principal acted as a foundational feature to help set the ground for lesson study to begin, he also became a constraint. The data revealed that though the principal spoke positively about lesson study, he did not believe it should be the primary form of professional development at his school. Throughout lesson study cycle #2 and the year following its end, the principal used regularly scheduled staff development time to run his own initiatives. In addition, he prioritized the professional development he had arranged with outside "experts," which left teachers with little time to continue with the lesson study group. Hence, the principal's beliefs and actions created a context in which lesson study could not continue. As a foundational feature, he moved from operating as a facilitator to a constrainer.

Another important foundational element in starting lesson study and facilitating learning was Andrea, the facilitator. During the second school year, when the lesson study group disbanded, Andrea left the school. With the loss of this foundational element, participants were left without a leader to advocate for them and organize the process. In addition, the members lacked the confidence to run the group themselves. As a result, the missing foundational feature of Andrea proved to be a constraint.

Lastly, the larger context in which the school operated also functioned as a constraint during the time the lesson study cycle #2 group met, but also set up the foundational conditions to prevent lesson study from continuing. Because teachers were so busy with other tasks at the school, as well as teaching their own classes,

they were left with little scheduling flexibility and a sense of exhaustion. Thus, the combination of the loss of the facilitator, the beliefs and actions of the coach, and the structure of schooling created an insurmountable obstacle to the continuation of the group.

Chapter 9 Conclusion

Summary of Study

For decades educational policymakers, researchers, and politicians have been grappling with the task of urban school reform. In the past few years, attention has shifted to the work of “reformers” such as Michelle Rhee and Joel Klein, who believe that by using a corporate model we can reshape the work of schools. At the same time, President Obama has just taken office on the wings of a campaign of change. This is a time of hope and fear, change and stagnation, technological growth and economic hardship, old and new. Amid these paradoxes, our urban schools float along, crippled by deteriorating buildings, overworked teachers, large classes, few resources, and operating according to a factory model that has long been outdated.

As a former New York City school teacher, I have experienced first hand these conditions and the waves of reform that sweep over schools every few years. Throughout these years I have heard about the primacy of the teacher – that a teacher can make real differences in the lives of children, that educational improvement relies on teachers, that good teaching can positively affect student achievement. Yet at the same time, I have experienced that teachers often have little voice in educational policy, and they are also the first people blamed when change does not occur (Cuban, 1993; Elmore, 2004; Fullan, 1991; Stigler & Hiebert, 1999). Based on these experiences, I became interested in not only the role of the teacher, but also the idea of change in urban schools. Thus, this study was designed to contribute to the literature around teacher learning, but also school reform.

This purpose of this study was to explore the question “What are the factors that facilitate and constrain teacher learning in a lesson study group?” through an ethnographic case study of five teachers involved in a lesson study group at a Manhattan middle school. Lesson study is a teacher driven professional development

model that has origins in Japan but has recently grown in popularity in U.S. schools (Brown & Wiburg, 2007). Current research on lesson study indicates that because lesson study provides an ongoing, embedded experience that is based on the collaboration, reflection, and refinement of teaching, it may be able to create change in teaching practice and contribute to the overall improvement of schools (Brown & Wiburg, 2007; Lewis et al., 2006; Stigler & Hiebert, 1999). This study had two specific goals: (1) To contribute to theories on the mechanism by which lesson study leads to a sense of instructional improvement, which is considered a high priority by leading researchers in the field of lesson study (Lewis et al., 2006) and (2) To examine the larger institutional and personal factors that may contribute to or present obstacles to instructional change (Elmore, 2004; Fullan, 1991). The ultimate objective of this study was to contribute to a growing body of knowledge around not only lesson study, but also two larger umbrellas: professional development and school reform.

A qualitative research design was created with the deliberate intention to focus on the voices of teachers, as this study viewed teachers as a marginalized group within the fields of educational research and policy (Markowitz, 1993; Myers & Rust, 2003; Rousmaniere, 1997). Qualitative research offered several advantages for this study. As Creswell (2003) explains, qualitative research takes place in a natural setting, which allows for high level of detail; uses multiple methods that are interactive and humanistic; is emergent rather than tightly prefigured; allows the researcher to view social phenomena holistically; requires the researcher to systematically reflect on who she is in the inquiry; and allows the researcher to use complex reasoning that is multifaceted, iterative, and simultaneous (pp. 181-183). An ethnographic case study method was used in order to explore the experiences of one group of teachers in depth, since the goal of qualitative research is usually to study small groups of people in depth, "nested in their context," whereas

quantitative researchers “aim for larger numbers of context-stripped cases and seek statistical significance” (Miles & Huberman, 1994, p. 27).

The original research design was created with the intent to follow a group of teachers through two lesson study cycles, but due to the fact that the group disbanded after one cycle, the study design was revised. Instead, this study documented the experience of five teachers participating in a lesson study group for one complete lesson study cycle and then documented their experiences outside of the group for the full school year following the cycle’s end. The sample size was limited to five teachers because although all eight members of the lesson study group signed up to be part of the study, only five of the seven classroom teachers continued to work at the school the following year. (One participant was excluded from the study because she was the school guidance counselor.) A variety of forms of data were collected in order to document the teachers’ experiences, capture their voices, and use for triangulation during the analysis phase. Data consisted of observation notes from lesson study meetings; observation notes of teachers in their classrooms; field notes; interviews with participants and school leaders; a variety of documents, including artifacts from the lesson study group, emails, student work, and memos; audio recordings of lesson study meetings and interviews, which were transcribed, and a pre-lesson study questionnaire and survey.

In order to examine the factors inside and outside of the lesson study group that affected the learning of the participants, data was coded based on factors that *facilitated* a sense of growth and factors that *constrained* a sense of growth. A framework was developed to analyze the data on the basis that change is the result of a complex web of interactions (Fullan, 1991, 1999). This framework emerged out of the data and consisted of four main elements: structural features of lesson study, foundational features of the school and larger system of schooling, experiences

within lesson study, and teacher characteristics. Each framework component was used to consider elements that constrained and facilitated of learning.

This last chapter will synthesize and analyze the data discussed in the previous three findings chapters, as well as use my analysis to develop a theory about what helps create pedagogical change and what creates barriers to this change. This theory will answer this study's central research question. But first, I will briefly summarize my analysis for each element of the framework, as well as review my findings on what teachers reported learning as a result of their participation in the lesson study group.

A Sense of Growth

Since my study was based on the premise that teachers would – or would not – attribute a sense of growth in their teaching practice due to their participation in lesson study, I first coded and analyzed the data that could address this topic. I discovered that, overall, the participants believed that their participation in lesson study did lead to a feeling of growth in ten distinct areas: improvement in questioning skills, assessment skills, observation skills, and goal setting skills; the development of deeper understandings about learning, teaching major concepts, and lesson planning; and the development of reflective habits, the ability to collaborate more effectively, and a sense of agency. These findings compliment the existing research and academic literature on the benefits of lesson study. (See Audette, 2004; Blum et al., 2005; Boss, 2002; Brendefur & Stewart, 2005; Brown & Wiburg, 2007; Chokshi & Fernandez, 2004; Fernandez & Yoshida, 2004; Lewis, 2002b; Stigler & Hiebert, 1999; Watanabe, 2002; Wilms, 2003).

Lesson Study: Structural and Experiential Feature

Since initial data analysis indicated that the participants did in fact feel a sense of growth in their pedagogy from lesson study, I then turned my attention to looking at the structural features of lesson study that supported that learning. The data revealed that there were several structural components that facilitated the teachers' learning: the heightened focus on a single lesson plan, the lesson observation and collection of data, the collaborative planning meetings and debriefings, and the knowledgeable facilitator. These structures encouraged teachers to hone skills of reflection, assessment, collaboration, and observation. An additional structural component of lesson study that facilitated learning was its context. The data indicated that because the lesson study group was teacher-driven, ongoing, and embedded into their daily experience, it carved out a time and space where teachers could engage in dialogue and reflection. These experiences and structures led to a feeling of growth in teaching practice.

The data also revealed that the ending of the lesson study group was in itself a constraint to learning, because with no lesson study group in existence at the school, participants were not able to participate in the structures and experiences that had previously supported a sense of growth in their practice. This loss of the structural and experiential element resulted in teachers forgetting what they wanted to change in their curriculum and instruction, as well as creating a feeling of inability to make those changes.

Teacher Characteristics

The data indicated that teachers who were collaborative and reflective, had strong content and pedagogical knowledge, and had a clear educational philosophy were pre-disposed to learning in the lesson study group. Because it is difficult to identify "which came first," it is impossible to make a claim on whether this pre-

disposition led to higher participation and more enjoyable experiences, however it does seem that these elements went hand-in-hand. Teachers that reported more positive experiences in the group were also the ones who felt a higher degree of confidence and value in the group. These teachers were also the ones who felt the work of lesson study was most relevant to their own teaching. Thus, there was an individual teacher characteristic factor that facilitated or constrained a sense of pedagogical growth.

School Leaders and Culture: Foundational Features

The data from this study suggested that there were factors outside of the lesson study group which helped to facilitate and constrain teacher learning. As I coded the data, the category of “foundational features” emerged. My analysis revealed that MMS’s shared culture and school leaders contributed to the conditions that allowed teachers to feel a sense of pedagogical growth.

First, because there was a shared sense of value and respect at MMS, lesson study was able to take root as a professional development model. Teachers were willing to volunteer to work together, and they came to the first meeting with a sense of enthusiasm. Second, the shared sense of respect, collaborative environment, and similar sense of pedagogy and language supported teachers within the lesson study group, as they were required to act upon these skills and values together. Finally, the school principal and the facilitator (in a teacher leader role) also contributed to teacher learning from lesson study. The principal created structures within the school which supported collaboration as well as directly supported lesson study with funding and enthusiastic words. The facilitator was a vital foundational feature in that she had the knowledge, ability, and confidence to start the group, as well as the respect of her fellow teachers.

The school year following the end of the lesson study cycle #2 group at MMS reinforced the critical role of these two foundational features. Data analysis revealed that the loss of the facilitator was a factor in the group's demise. As a result of losing this foundational feature, the group did not continue and learning was constrained. In addition, though the principal acted as a foundational feature to help lay the ground for lesson study to begin, he also became a constraint after the group ended. Because he prioritized other forms of professional development, teachers were left with little time to continue with the lesson study group. Hence, the principal's beliefs and actions created a context in which lesson study could not continue. As a foundational feature, he moved from operating as a facilitator to a constrainer.

Institutional Structures as Obstacles

Beyond school leaders and culture, there appeared to be additional foundational features that constrained the lesson study group. In particular, the demands and requirements of teaching operated as an obstacle for the participants. The structures of their school days and the needs of their jobs created a conflict within and outside of the lesson study group, as they struggled to schedule lesson study meetings. Transcripts from the meetings revealed that time was often lost trying to figure out when the next meeting could occur based on their busy schedules, and time was lost at each meeting due to the need to re-cap things people had forgotten between meeting times. During the second year, teachers indicated that they had so many other obligations as part of their teaching (as well as participating in the new professional development initiatives), that it would be a challenge to continue lesson study with their current schedules.

Interpretation of Findings

Hiring and nurturing effective teachers is a critical part of school reform, but collaborative, teacher driven professional development groups have been cited as a vehicle for achieving school improvement (Elmore, 2004; Fullan, 1999). At the same time, studies have shown that reform in teaching practice is difficult to achieve, despite the fact that teacher quality is critical to success of students and schools (Cuban, 1993; Elmore, 2004). In this study, I have focused on a lesson study group within a Manhattan middle school as a microcosm of examining the larger issue of school reform and professional development. This study has been concerned with two critical issues: (1) How do we create instructional change? and (2) How do we create institutional change?

The findings reveal that lesson study can create a sense of growth in teaching practice, yet lesson study in itself does not always lead to instructional change. My study suggests that there are teacher characteristics, structural and experiential features of lesson study, foundational features within the school, and larger institutional factors that both facilitate and present obstacles to change in teaching practice. In addition, I have found that although teachers may have felt a sense of growth in their practice, they still may not have engaged in changing their instruction or curriculum. The implication from these findings is that lesson study alone – at least for a short period of implementation – is unlikely to create long term change in instruction. I believe this is an essential contribution to the literature on school change and research being done on professional development communities, because it suggests that focusing energy and funding on one component of a school will not lead to change. As barriers continue to exist in the larger system, small changes do not do more than ruffle the feathers of an organization. As a result, though studies that focus on professional development as a vehicle for changing practice are

important, they must not overlook the larger conditions in which they are located, and we must be cautious when embracing positive results in these studies.

The Mechanism of Lesson Study

This study has contributed to a pressing need in the field of lesson study research. Lewis et al. (2006) have been advocating for researchers to explore the mechanisms through which lesson study contributes to teacher learning. My findings suggest that like play on a neighborhood basketball court, lesson study provides the structures, experiences, and context that create a meaningful learning experience. Through the interaction of these multiple factors, lesson study supports Lewis et al.'s theory about the three pathways to instructional improvement: teacher's knowledge, teachers' commitment and community, and learning resources (Lewis et al., 2006, p. 5).

A Time and Space for Dialogue and Reflection

My findings compliment existing research and literature on why lesson study's structures and process support a sense of growth in teaching (Brown & Wiburg, 2007; Fernandez & Yoshida, 2004; Lewis, 2002b; Lewis et al, 2006, Stigler & Hiebert, 1999). However, my findings also emphasize the importance of the *context* of lesson study for teacher learning. Stigler and Hiebert (1999) suggest, "Educators have become increasingly aware of the importance of context in understanding and facilitating learning, but the arguments have been applied more often to students' learning than to teachers' learning" (p. 135). In considering how context can support teacher learning, the concept of the neighborhood court is vital to understanding lesson study's effectiveness. The neighborhood court is a context which allows for practice, testing, reflection, and refinement. These experiences allow for teachers to reflect on their learning, which is critical because, as Schon

(1983) posits, "as a practice becomes more repetitive and routine, as knowing-in-practice becomes increasingly tacit and spontaneous, the practitioner may miss important opportunities to think about what he is doing" (p. 61). The court of lesson study is therefore a space for dialogue and discussion, grounded in reflection, which Senge suggests is a vital for team learning (2006). It is this discourse that allows for the exchange of ideas and a sense of revitalization. This emancipation from what sometimes might be considered the "grind" of teaching allows the time and space for reflection to take place. It is this mechanism of reflection that allows teachers to question their assumptions and feel less uncomfortable about uncertainty. Participants in lesson study are then able to reflect-in-action, and release themselves from "the categories of established theory and technique" and "construct a new theory of the unique case" (Schon, 1983, p. 68).

Entering a Community of Practice

My research has also suggested that there are individual factors that affect the way that teachers are able to learn in a professional development group. Sarah's case is an example of how a teacher might be constrained by her own needs, experience, and training. In addition, Sarah's individual learning constraints were compounded by the fact that she never entered the community of practice. Lave and Wenger's work is helpful in understanding how newcomers to a group become part of a "community of practice." They write, "A person's intentions to learn are engaged and the meaning of learning is configured through the process of becoming a full participant in a sociocultural practice" (Lave & Wenger, 1991, p. 29). Though Sarah came with an "intention to learn," she was not engaged to become a full participant, the most obvious example being that she refused to be paid for her participation since she did not view herself as a true contributor to the group. Thus,

we must recognize the individual factors that facilitate and constrain learning in a group, and consider how this affects membership in communities of practice.

Professional Development and Instructional Change

Participants described a constant change and fluctuation in professional development at MMS, with new programs and staff developers being brought in every year – one teacher described it as a kind of “schizophrenia.” This quick adopting and discarding of lesson study was a prime example of this phenomenon. There was no coherence in the professional development program at the school, nor was there a mechanism of integration (Fullan, 1999, p. 28). This supports the theory that “collegial support and professional development in schools are unlikely to have any effect on improvement of practice and performance if they are not connected to a coherent set of goals that give direction and meaning to learning and collegiality” (Elmore, 2004, p. 60). Thus, though the teachers liked the principal and enjoyed a good relationship with him, this was not enough to support and sustain learning from lesson study. As Elmore (2004) describes, “principal collegiality with teachers affects school performance only when it is connected to activities that focus the school’s purposes and that translate those purposes into tangible activities related to teaching (Rosenholtz, 1986)” (p. 61).

As the principal asked teachers to commit more of their time to his professional development initiatives during the fall of 2007, the lesson study group ceased to continue. The principal may have been willing to let go of lesson study because it offered no “silver bullet” solution to instructional change (Fullan, 1999). Though lesson study was creating a situation where teachers felt they were developing in their practice, it was subtle and invisible to outsiders. There was no way to capture the “innovation in action” (Fullan, 1999, p. 64). The principal was not privy to the mechanism by which lesson study was giving the teachers a sense of

growth. As a result of this, MMS fell prey to the "Christmas Tree" phenomenon (Fullan, 1999). These schools jump from innovation to innovation, taking on new ideas and also getting rid of them quickly without concern. The principal felt the need for the silver bullet, the quick solution. To meet these needs he hired the "big gun" – Teachers College. This suggests that the school leader needs to be part of the vision, with clear expectations for instruction and creating experiences for teachers that will facilitate this coherent vision. In addition, it supports Fullan's theory that "Staff development will never have its intended impact as long as it is grafted onto schools in the form of discrete unconnected projects" (1991, p. 331)

The lives of teachers

Though the principal was partially responsible for the lack of vision in professional development at MMS, there are larger institutional factors at work in schools. Just like a basketball team is situated within the context of a school, MMS was situated in the context of a large, urban school system. This system is even further shaped by the educational system at large and the culture of schooling. Thus, the conditions that created a sense of being overwhelmed and having limited time were not just created by the principal, but by the demands of a much larger system. And this system is largely shaped by educational leaders, politicians, and policymakers.

The fact that teachers have little control over what goes on in schools is significant. For example, using national data from the Schools and Staffing Survey, Ingersoll (2003) presents a list of eight important school decisions. He finds that principals are at the top of the hierarchy for making most of the decisions, while teachers at the bottom. He writes, "for many key issues, principals view themselves as the most powerful of these groups within schools, and they see teachers as the least powerful within schools" (Ingersoll, 2003, p. 83). If teachers are to be key

players in reform, and be at the center of instructional improvement – which they should be – then the culture of schooling will need to change. Since teachers struggle to teach in a system that is increasingly more challenging, and that asks more and more of them (Apple, 1989), this is no easy task. The pressure of mandates such as No Child Left Behind trickle down to the level of the classroom. Thus, “Changing schools to support teachers’ learning requires changing the culture of schools” (Stigler & Hiebert, 1999, p. 109).

A Theory of Change

Finally, this study has shown that change theory “must take into account multiple priorities that continuously impinge on individuals and organizations” (Fullan, 1999, p. 66). If we simply look at lesson study and its mechanism, we might think that lesson study can create real instructional growth. However, if we open up our lens wider, we will see a more complete picture. Despite indications that lesson study can create conditions that are supportive to a change in practice, it won’t necessarily be successful if wider institutional and personal factors impinge upon it.

Therefore, the larger question that emerged from my research is: How does school structure enable teachers to grow and learn? This study indicates that not only does the structure of schools *not* support teachers in developing a sense of growth in their pedagogy, but it also actually *discourages* teachers from learning. They are kept isolated in their classrooms, their principals mandate and choose professional development for them, and they have little choice in how they learn, what they want to learn, and when they will learn it. Their lives are so intensified and occupied by various administrative issues, as well as just the sheer amount of energy teaching young people requires, that they feel exhausted and overwhelmed

much of the time. As a result, the school as an institution actually DISables teachers from learning.

As Elmore (2004) describes, “many well-intentioned reformers argue that large-scale improvement of schools can be accomplished by recruiting, rewarding, and retaining good people and releasing them from the bonds of bureaucracy to do what they know how to do...” (p. 73). I agree with Elmore that though this is an attractive way to think, attracting quality people alone will not suffice. It will always be a challenge to find people who already “embody the personal attributes and characteristics that make good practice and performance possible” (p. 73). In addition to attracting these people, schools need to nurture new people into reaching this ideal, and this can only be possible if schools are organized to support this type of learning and growth. Thus, the organizational structures need to change if we want to see real instructional improvement and student performance development. Professional development alone will not consistently suffice in changing teaching practice, nor can it alone be the impetus for widespread change, if the institutional structures remain the same.

Limitations

An Insider’s Perspective

I began this study while I was in my final year as a full-time teacher at MMS. I believed that doing research at my own school was beneficial to this study for several reasons: I already had an “insiders perspective,” which gave me a deep insight into the inner workings and personal dynamics within this community; the teachers involved in the study trusted me and seemed to be very open and honest about their impressions during the study; and because I was at the site every day, all day, I was able to collect a richness of data that might otherwise have been

impossible. However, I recognize that there were also limitations because of my position as a member of the community and also a researcher.

Because I had taught at the school for so many years, it was difficult for me to “step back” and look at the school without my own bias. I knew the principal, the facilitator, and many of the participants in the study for several years. My personal relationships and admiration for these people likely colored my impressions in a way that would have been different for someone who had just come to the site. Thus, my relationship to the school was a factor in how I have interpreted my data. I tried to account for this by sharing my data with the participants and my dissertation committee chair often in order to get feedback on my impressions, but a better way of checking my own impressions would have been to have a second researcher on this project with me, someone who was not connected to the school.

Data Collection

Another issue that is connected to my role as researcher – but not specific to myself as an insider – is the unintentional effects my presence may have had on the participants. As I explained earlier in this chapter, my study design needed to be altered after the first year of this study because the lesson study group did not continue. As I interviewed and collected data on the participants during the second year of the study, I felt that at times I acted as a catalyst for the teachers in remembering their lesson study experiences. In addition, my interview questions encouraged a type of reflection that may not have existed otherwise. At the end of my study, I wondered if my presence and interviews affected how valuable teachers perceived lesson study to be, as well as if it helped them remember what they learned. I did pose this question to the participants, and three believed that my presence was a factor.

Study Design

In looking at specifically the issue of lesson study and how it might support teacher learning, one very obvious limitation is that I was only able to follow the group for one lesson study cycle. Had the group continued, I would have been able to gather more data and do a more focused exploration of the mechanism by which lesson study might affect instructional improvement. Though my study design originally intended to follow the group for two lesson study cycles, I was unable to do so because the group disbanded.

Additionally, I chose to focus on a one small lesson study group as a case study. The fact that the number of participants is so small, and that the study occurred only at one site, can be considered a limitation in terms of generalizability. To account for this, I have situated my findings within a wider body of literature on lesson study and school reform.

Analysis

In analyzing my data, I created a specific framework for looking at the factors that facilitated and constrained teacher learning in a lesson study group. This framework was my own creation, and it affected the way I analyzed and interpreted my results. The application of a different framework might have yielded a different interpretation.

Suggestions for Future Research

The findings, interpretations, and limitations in this study suggest several implications for future research. In this section, I will discuss three critical areas: 1) Research on teachers' growth in instructional practice; 2) Applying a framework for looking at change in teaching practice; and 3) Using the schema of two basketball courts to look at professional development groups such as lesson study within wider

school contexts. All of my suggestions ask researchers to use a systems thinking perspective (Senge, 2006). The conceptual framework of systems thinking requires us to look beyond individual parts to see a larger whole.

Research on teachers' growth in instructional practice

This study focused on one case study of five teachers. Though the sample size is small, the findings on what teachers believed they learned from participating in a lesson study group compliment the existing literature. I have connected this study to Lewis et al's (2006) work, which offered conjectures on the mechanism by which lesson study may work to result in instructional improvement. There need to be more studies in this area, but my research also suggests that we must not only look at how lesson study supports teacher learning, but also how it does not.

Take the case of Sarah, who felt that lesson study wasn't so effective for her. Was it that the lesson study cycle was "flawed"? Was it that lesson study was not the appropriate professional development group for Sarah to participate in? Was it that Sarah was not able to learn in this group because of her own limitations? Though I have offered possible explanations for each of these questions, it seems that there is a greater need to look at how groups such as lesson study might not result in teacher satisfaction or support pedagogical growth. It would be useful to have studies that focus more deeply on the outliers, since most studies don't indicate that 100% of the participants were satisfied.

There has been much focus recently on how to measure improvement in teaching practice, and most of it is focused on looking at student performance (Boyd et al., 2005; Grossman & Loeb, 2008; Kane et al., 2006). The data from this study suggests that through documenting teachers experience in professional development groups, we might be able to recognize not only growth in practice, but also determine the factors that can constrain learning. It seems this would be a more

useful way of thinking about how to support teachers in improving their practice, rather than focusing solely on student test scores. Through the lens of professional development, there may be ways for researchers to gather information on instructional change.

Applying a framework for looking at change in teaching practice

In this study I have presented a framework for looking at the factors that facilitate a sense of pedagogical growth from lesson study. My framework consists of teacher factors, foundational factors, and structural factors and experiential factors of lesson study. Through the use of this framework, I have made the claim that in order to get as accurate a picture as possible what supports and constrains teacher learning, we must look beyond the professional development group and consider the larger institutional factors at play. This claim rests on existing literature which posits that innovations are unlikely to achieve similar results in different contexts (Fullan, 1999). Thus, it appears that if lesson study is successful at one site, it is likely because of the conditions that support it. Future research on lesson study – or for that matter, any type of innovation – should consider what is it about the conditions that allow the innovation to flourish. The framework that I have developed may be a useful tool for considering this dynamic, but future studies would need to be conducted to see how it works in different sites with different populations. In addition, future researchers could further build upon and refine this framework, articulating the specific features that help us look at change in instructional practice. This framework is extremely general and would benefit from trial in other studies with other researchers to help evaluate how useful it might be in looking at the factors that facilitate and constrain instructional change.

Schema of two basketball courts

In order to capture the learning dynamic within a lesson study group situated within a larger school structure, I created the schema of two basketball courts. The concept of these two courts can assist lesson study researchers in designing studies which account for factors that exist outside of a lesson study group in itself. In addition, the contrast between the "neighborhood court" and the "school team court" can be a useful construct in data analysis. Future studies might consider how different lesson study groups do or do not fit into this schema. Since a concern about lesson study is that it becomes mandated and disconnected from its original philosophy (Brown & Wiburg, 2007; Chokshi & Fernandez, 2004; Lewis et al., 2006), applying the criteria of the "neighborhood court" play can be useful in considering how authentically the lesson study is being conducted. In addition, there may be sites where this schema does not work because there do not seem to be two distinct courts. I would be helpful to recognize if this facilitates learning when these two courts are not so removed from each other.

APPENDIX

Interview Questions – Principal

Info on Principal – Background & Beliefs about the school

1. When did you start at this school – how long ago?
2. Tell me about your experiences as an educator/administrator before being principal here.
3. Tell me about your beliefs about teaching. What makes a school effective? Teachers? What helps students learn best?
4. Tell me about your vision for this school, and how that may have deepened/ changed/ grown since you started here.

School Reform and Professional Development Beliefs

5. Since you've been at this school, what reforms have been implemented – school, city, district, region – which do you feel have been most successful? (How do you view education reform?). Which have been most influential in your eyes in improving instruction?
6. What are your beliefs about professional development? What types are most successful? Are there any models that you feel particularly suit the needs of this school? Tell me about them.

Lesson Study

7. What brought lesson study to this school – where did your interest in lesson study come from? How does it fit (or not) into your vision for the school?
8. What have you learned about lesson study as a form of PD itself since it has been implemented at this school?
9. What distinguishes LS from other forms of PD? How does it compare?
10. Are there any benefits to the teachers in the school participating in LS here? Drawbacks? Tell me what you've seen in terms of the teachers or school environment, etc..
11. How do you see your role in LS development at this school? (How do you support it as principal? Who runs it/what are the roles of others in the school in helping it be successful, in your eyes)
12. Lesson study has been going on here for 2 years. Why do you think it has continued? Do you foresee it continuing this year? What factors influence LS's continuation?
13. We are in the middle of restructuring of the DOE. Does LS fit into the needs you are dealing with in terms of the testing and accountability?
14. Do you think this school has conditions that are supportive for LS? Conditions that make implementing difficult?
15. Comment on anything you wish regarding the lessons you observed as part of the LS cycle last year.

Interview Questions – Teachers

Lesson Study – Overall experience

1. In your opinion, what is lesson study?
2. Tell me about your experience with lesson study.
3. Why did you join the lesson study group?
4. Tell me about what you were expecting/hoping to get out of lesson study. Did it meet your goals?
5. Do you feel there were any benefits? Describe.
6. Were there any drawbacks/negatives? Describe.
7. If you were part of lesson study last year, how does this year compare to last?
8. Would you do it again, and (if yes) what would you hope to get out of participating again? If no, why not?
9. Would you consider lesson study to be time consuming? What else is time consuming for you as a teacher? Is lesson study worth the time? Why or why not?

Lesson Study – The effects on pedagogy

10. Has lesson study affected your teaching at all? Describe. Did the process impact your understanding of teaching and lesson planning?
11. If yes to above question, what do you expect you will do you will do differently as a teacher? If no, why do you think it hasn't affected your teaching?
12. How is lesson study different from other forms of professional development that you have been involved with? Describe. (Also describe other forms of PD and how useful they have been)
13. Is lesson study a useful form of professional development? Describe.
14. In your opinion, how is lesson study supposed to help teachers improve their practice? Do you think this is what it did for you? Describe.
15. How did (or didn't) lesson study challenge your views on teaching? How did perspective/change
16. Did you find any parts of the lesson study process to conflict with your teaching beliefs? (What is your educational philosophy? Did lesson study "mesh" with your philosophy?)

Lesson Study – effect on teacher growth and agency

17. How long have you been teaching? How long do you think you will stay in the teaching profession?
18. What factors influence your choice to stay or leave?
19. Does/Could lesson study contribute anything that connects to that choice to stay or leave?
20. In terms of your confidence, how do you feel as a teacher? For example, would you consider yourself a "beginner"? Do you feel confident in the lessons you plan and the way you teach? Describe.
21. What factors do you think have helped you improve as a teacher? What helps you feel more confident? List three things that have most helped you improve in teaching. (prioritize)
22. Has lesson study affected your sense of confidence and a teacher? Explain.
23. What conditions do you think are necessary for lesson study to be successful in a school?

24. How much time did you spend doing lesson study? Was it worth it? How much time do you spend doing other PD? How does LS compare in terms of amount of time invested and quality of outcome?

Lesson Study – Collaboration

25. What are your views on teacher collaboration? On collaborating with staff developers? How does lesson study fit into this as a form of collaborative learning?
26. Do you consider our school to be collaborative? How does lesson study contribute (or not contribute) to this?

Assessment

27. As you know, the DOE is going through a restructuring this fall. Part of the changes from Bloomberg and Klein are to put a strong focus on test scores to rate schools, in the hopes that this will increase student achievement. How do you feel about this? Do you have any fears/concerns/hopes?
28. What are your views on high stakes testing/standardized testing as a form of assessment?
29. How do you know when students are learning?
30. Did lesson study offer you any help in thinking about student assessment?
31. Another part in assessing students through standardized tests is to hold teachers and schools accountable for what the students are learning. Do you think agree with this? Describe your thoughts on this.
32. Do you think lesson study can hold teachers and schools accountable for improving student learning? If so, how?
33. How much time do you spend on preparing your students for standardized tests?
34. To what extent do these tests drive your curriculum?
35. How much teaching time would you estimate you lost due to your students taking standardized tests this year?
36. How much teaching time would you estimate you lost with your students due to participating in lesson study?
37. What do you think would help you grow as a teacher?
38. What do you think are the most important factors influencing student performance?
39. In your opinion, what are the biggest obstacles to student success?
40. What would you change about schools today? (What is the biggest problem facing schools today?)
41. Will you be making any changes to your curriculum this year due to the testing mandates? Do you think these will benefit your curriculum and student learning?
42. Will you be making any changes to your curriculum this year due to what you learned from lesson study?
43. What influences your participation in lesson study?
44. How do you define successful professional development?

Teaching

45. Tell me about how you became a teacher.
46. What influences the way you teach?
47. What helps you become a better teacher?
48. How do you know if you are teaching effectively?
49. Does lesson study help you evaluate if you are doing your job well?

MMS LESSON 1

Unit Plan

In this unit students learn about how Sparta's and Athens' geographic circumstances contributed to their development as city-states and eventual rivalry. To begin, students learn about the geography of Athens and Sparta. As the unit progresses, students investigate different aspects of Athens' and Sparta's societies and continually make connections to the impact of geography. In this lesson the students will begin to investigate social structure.

Overarching Goal

This lesson moves students towards achieving a deeper understanding of how geography influences history and culture.

Overarching Question

How does geography impact the social structure of Sparta?

Major Understandings

Content

- Social structure is groups of people, the way those groups are organized, and the way those groups interact with each other.
- Geography impacts the social structure.
- Making connections makes learning new ideas easier.
- There are many strategies to make connections.

Process

- Students will make connections.

Previous Lesson

- Sparta did not possess enough fertile land for growing crops.
- Sparta was landlocked. They did not have easy access to waterways.
- Social, political, economic, geography are categories that impact each other.

Rationale

Learners make multiple connections from concepts to reality. Making connections helps you make sense of a new idea. This lesson teaches students strategies to make connections in an effort to help students become better learners and more cognizant of their own learning. This lesson uses multiple teaching and assessment strategies to meet the needs of a diverse group of learners.

Assessment

- **Introduction group work (NY connections)** – In this lesson step, through students' questions, comments, and answers on their worksheet, we will see how students currently make connections. This will allow us to assess how much progress they make as a result of the lesson.
- **Debriefing the process of making connections** – In this lesson step, through students' contributions in the group discussion, we will see how students currently make connections and to what degree they are able to articulate how they make connections.
- **Application: Sparta Connections** – In this lesson step, through students' questions, comments, and answers on worksheet, we will see how well students

are able to apply what they learned about making connections to a new learning situation. The quality of students' descriptions of Sparta's social groups and how they connect to Sparta's geography should be improved as a result of a stronger awareness and ability to make connections. Students should be able to use strategies effectively and be able to articulate how they used them.

Lesson Steps:

I. Introduction (10 minutes)

- 1. Teacher says, "Today our aim is to make connections between Sparta and geography. Making connections is noticing the relationship between two or more things. When making connections you can use what you already know and what you have experienced to make sense of a new idea. Making connections will make learning new ideas easier. There are lots of strategies you can use to make connections to new information; we are going to talk about those today. Whenever you are learning something new you can use these strategies to help you become a better learner." (3 minutes)**

Anticipated student reactions: "What is the difference between making connections and inferencing?"

Teacher response: "A connection is a relationship between two or more things, and an inference is not."

- 2. Ask students to work in groups to answer the following question: "How does the geography of New York influence the lives of New Yorkers?" Tell students that to answer this question they should think about how the lives of New Yorkers are different from the lives of people who live other places.**
- 3. Students write answers on worksheet in groups. Students sign their initials next to ideas that they contributed. (7 minutes)**

Teaching Strategies and Questions:

The purpose of this lesson step is to provide students with the purpose of making connections so that they can begin to become more cognizant of how they learn. In addition, students have the opportunity to make connections using information that is easily accessible, so that we can use this experience to uncover process of making connections. As the students are working the teacher will circulate to ask questions and encourage students to elaborate and think about how they are making connections. The teacher will also note which strategies students are using on a clipboard.

Teacher questions to facilitate group work:

- 1. How did you think of that connection?*
- 2. How did that help you?*

II. Debriefing: Process of Making Connections (15 minutes)

- 1. Ask students to share answers. For each response teacher asks student to explain how they thought of it. Teacher labels strategies.**

Connections between Geography and lives of New Yorkers

Strategy

- 2. Have pre made chart of strategy and explanation as handout. Teacher explains strategies that students did not share and adds strategies that are not on the chart.**

Teaching Strategies and Questions:

The purpose of this lesson step is to uncover the strategies that students naturally use to make connections as well as teach them new strategies. Using connections that students have made provides a context and examples for understanding how to make connections. Students will use these strategies in the next lesson step to make sense of a new idea. The pre-made chart will serve as a resource for students.

Teacher questions to facilitate debrief:

1. *How did you think of that connection?*
2. *How did that help you?*

III. Application: Sparta Connections (20 minutes)

1. **Teacher says, "Now that you've made connections using some of these strategies, it is time to learn something new about Sparta. Just like we just made connections about New York's geography and the lives of New Yorkers we are going to make connections between Sparta's geography and the lives of Spartans. Now we are going to learn a new vocabulary word, social structure. Social structure is groups of people, the way those groups are organized, and the way those groups interact with each other." (3 minutes)**
2. **Teacher models how Sparta's military is influenced by geography using the following three strategies: (1) thinking about what you already know, (2) using visual tools (looking at map) (3) comparing - Sparta to NY (3 - 5 minutes)**
3. **Ask students to describe one social group in Sparta and how their lives were influenced by the geography of Sparta. Students work in groups to complete worksheet, students will record the connections they make as well as the strategies they use to make those connections. (10 - 12 minutes)**

Teaching Strategies and Questions:

The purpose of this lesson step is to have students apply what they have learned about making connections to make sense of a new idea. The focus of the task is not to make connections, rather to understand how to make connections to complete the task. The teacher will model how to use the strategies to make connections to make the task clearer for students. The purpose of the task is for students to use multiple strategies and explain their connections. Students should feel that they know the concept better by talking about it in this way.

Names: _____

Connections: New York's Geography AND the Lives of New Yorkers

Directions:

1. List examples of:

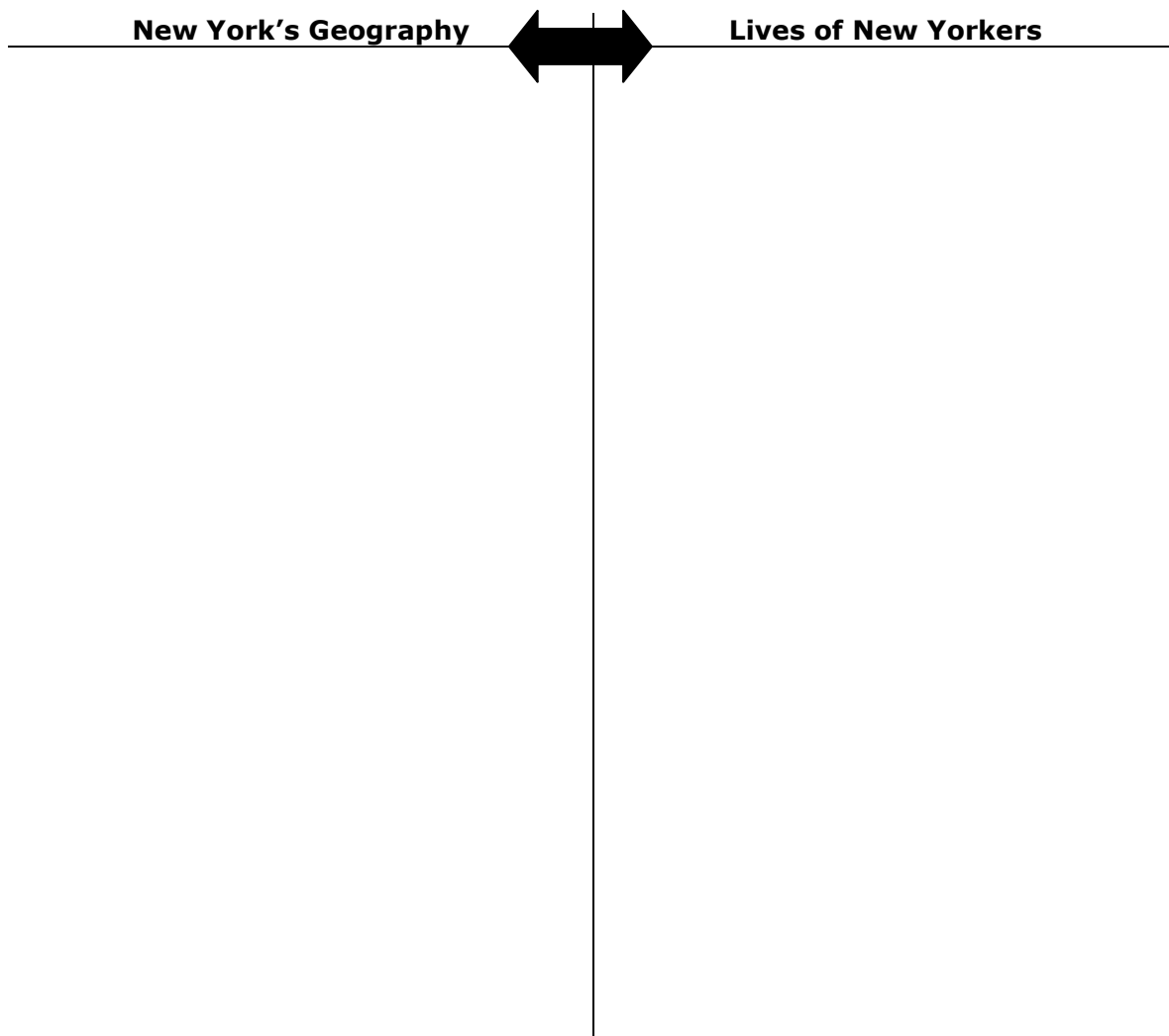
a. how the geography of New York influences the lives of New Yorkers.

OR

b. how the lives of New Yorkers are influenced by the geography of New York.

Hint: Think about how the lives of New Yorkers are different from the lives of people who live in other places.

2. Sign your initials next to your ideas.



Name: _____

Strategies to Make Connections

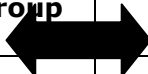
<u>Strategy</u>	<u>Description of Strategy</u>
Personalize	What experiences have you had that may relate to this new idea?
Think about what you already think or know (prior knowledge)	When have you learned or heard about this idea before? What do you already know about this topic? <i>Hint: It may be helpful to write this down as a list.</i>
Listen first	What are other people saying about this idea? <i>Hint: Something they say may help you make your own connections.</i>
Put it into your own words (paraphrase)	How would you describe the idea to someone else? <i>Hint: Put the new idea into simpler language.</i>
Visualize	Imagine the situation or concept. You can use mental pictures to help you.
Use visual tools	Go to or find resources like maps and photographs.
Comparisons	Make comparisons
Ask questions	What questions can you ask about this topic? <i>Hint: Turn the new idea or what you know into a question to go deeper.</i>

Names: _____

Connections: Sparta’s Geography AND Sparta’s Social Groups

Directions:

1. List examples of:
 - a. how the geography of Sparta influences a Spartan social group.
 - OR**
 - b. how the lives of a Spartan social group are influenced by the geography of Sparta.
2. Name the strategy and how you used it to make the connection between Sparta’s geography and a social group in Sparta.
3. Sign your initials next to your ideas.

Name and description of a Spartan social group	Explain the connection between the social group and Sparta’s geography	Name of the strategy and how we used the strategy to make the connection
		

MMS LESSON 2

Unit Plan

In this unit students learn about how Sparta's and Athens' geographic circumstances contributed to their development as city-states and eventual rivalry. To begin, students learn about the geography of Athens and Sparta. As the unit progresses, students investigate different aspects of Athens' and Sparta's societies and continually make connections to the impact of geography. In this lesson the students will begin to investigate social structure.

Overarching Goal

This lesson moves students towards achieving a deeper understanding of how geography influences history and culture.

Overarching Question

How does geography impact the social structure of Sparta?

Major Understandings

Content

- Social structure is groups of people, the way those groups are organized, and the way those groups interact with each other.
- Geography impacts the social structure.
- Making connections makes learning new ideas easier.
- There are many strategies to make connections.

Process

- Students will make connections.

Previous Lesson

- Sparta did not possess enough fertile land for growing crops.
- Sparta was landlocked. They did not have easy access to waterways.
- Social, political, economic, geography are categories that impact each other.

Rationale

Learners make multiple connections from concepts to reality. Making connections helps you make sense of a new idea. This lesson teaches students strategies to make connections in an effort to help students become better learners and more cognizant of their own learning. This lesson uses multiple teaching and assessment strategies to meet the needs of a diverse group of learners.

Assessment

- **Introduction group work (NY connections)** – In this lesson step, through students' questions, comments, and answers on their worksheet, we will see how well students are able to notice how they make connections. This will allow us to assess how much progress they make as a result of the lesson.
- **Debriefing the process of making connections** – In this lesson step, through students' contributions in the group discussion, we will see how well students understand the strategies to make connections and to what degree they are able to articulate how they make connections.
- **Application: Sparta Connections** – In this lesson step, through students' questions, comments, and answers on worksheet, we will see how well students

are able to apply what they learned about making connections to a new learning situation. The quality of students' descriptions of Sparta's social groups and how they connect to Sparta's geography should be improved as a result of a stronger awareness and ability to make connections. Students should be able to use strategies effectively and be able to articulate how they used them.

Lesson Steps:

II. Introduction (20 minutes)

- 4. Teacher says, "Today our aim is to make connections between Sparta and geography. Making connections is noticing the relationship between two or more things. When making connections you can use what you already know and what you have experienced to make sense of a new idea. Making connections will make learning new ideas easier. There are lots of strategies you can use to make connections to new information; we are going to talk about those today. Whenever you are learning something new you can use these strategies to help you become a better learner."**

Anticipated student reactions: "What is the difference between making connections and inferencing?"

Teacher response: "A connection is a relationship between two or more things, and an inference is not."

- 5. Teacher goes over agenda for the day. Show students aim and agenda on the board. (3 minutes - steps 1-2)**
- 6. Hand out pre-made chart of strategies and explanations. Teacher explains each strategy and how they can help when making connections. (5 minutes)**
- 7. Tell students that they will be working in groups to answer the following question: "How does the geography of New York influence the lives of New Yorkers?" Explain to students that first you will model what they will do in their groups.**
- 8. Tell students that when you are talking about the geography of New York that you mean Manhattan and that when you are talking about the lives of New Yorkers you mean both historically and personally. Tell students that when they are answering the question they should focus on one geographical feature and make two connections: one historic and one personal. Tell students that you will model the task so they can see what you are asking them to do.**
- 9. Model one example of how the fact that Manhattan is an island influenced the lives of New Yorkers historically. Use one strategy to make the connection and explain how you used that strategy. Then, model one example of how the fact that Manhattan is an island influences the lives of New Yorkers personally. Use one strategy to make the connection and explain how you used that strategy. *Maybe use two strategies for this one – personalizing and something else.* Uncover pre-made chart paper of examples. (5 minutes – steps 4-6)**
- 10. Students work in groups to make two connections. Students write the names of students who contributed to each idea. (5 minutes)**

Teaching Strategies and Questions:

The purpose of this lesson step is to provide students with the purpose of making connections so that they can begin to become more cognizant of how they learn. In addition, students have the opportunity to make connections using information that is easily accessible, so that we can use this experience to develop their skills

so they can make more difficult connections later. The teacher will explain strategies and model how to use them to help students understand the process of making connections. As the students are working the teacher will circulate to ask questions and encourage students to elaborate and think about how they are making connections. The teacher will also note which strategies students are using on a clipboard.

Teacher questions to facilitate group work:

1. How did you think of that connection?
2. How did that help you?
3. Tell students that to answer this question they should think about how the lives of New Yorkers are different from the lives of people who live other places.

III. Debriefing: Process of Making Connections (15 minutes)

1. Ask students to share answers. For each response teacher prompts student to explain how they thought of it. Teacher labels strategies.

Geography of Manhattan	Connections between Manhattan's Geography and lives of New Yorkers	Notice what strategy you used

Teaching Strategies and Questions:

The purpose of this lesson step is for students to see examples of how geography influences people's lives and to begin to notice how they make connections to better understand that influence. Students will build on this skill to make more difficult connections in the next lesson step. The teacher will prompt students to explain how they used the strategies to make connections, so that students are able to move towards doing this on their own in the next lesson step.

Teacher questions to facilitate debrief:

1. How did you think of that connection?
2. How did that help you?

IV. Application: Sparta Connections (20 minutes)

2. Teacher says, "Now that you've made connections using some of these strategies, it is time to learn something new about Sparta. Just like we just made connections about New York's geography and the lives of New Yorkers we are going to make connections between Sparta's geography and the lives of Spartans. Now we are going to learn a new concept, social structure. Social structure is groups of people, the way those groups are organized, and the way those groups interact with each other." (3 minutes)
4. Teacher models how Sparta's military is influenced by geography using the following three strategies: (1) thinking about what you already know, (2) using visual tools (looking at map) (3) comparing - Sparta to NY (3 - 5 minutes) Uncover chart paper with examples.
5. Ask students to describe one social group in Sparta and how their lives were influenced by the geography of Sparta. Students work in groups to complete worksheet, students will record the connections they make as well as the strategies they use to make those connections. (10 - 12 minutes)
6. As students are working teacher prompts students: Have you selected a social group? Are you thinking about how the geography

influences the lives of your social group? Are you thinking about how you are making connections?

Teaching Strategies and Questions:

The purpose of this lesson step is to have students apply what they have learned about making connections to make sense of a new idea. The focus of the task is not to make connections, rather to understand how to make connections to complete the task. The teacher will model how to use the strategies to make connections to make the task clearer for students. The purpose of the task is for students to use multiple strategies and explain their connections. Students should feel that they know the concept better by talking about it in this way.

Names: _____

Connections: New York's Geography AND the Lives of New Yorkers

Directions:

1. List examples of how the geography of New York influences the lives of New Yorkers.

Hint: Think about how the lives of New Yorkers are different from the lives of people who live in other places.

2. Write the strategy that you notice that you are using.

3. Sign your initials next to your ideas.

Manhattan's Geography	Connection between Manhattan's Geography and Lives of New Yorkers	Notice what strategy you used

Name: _____

Strategies to Make Connections

<u>Strategy</u>	<u>Description of Strategy</u>
Personalize	What experiences have you had that may relate to this new idea?
Think about what you already think or know (prior knowledge)	When have you learned or heard about this idea before? What do you already know about this topic? <i>Hint: It may be helpful to write this down as a list.</i>
Listen first	What are other people saying about this idea? <i>Hint: Something they say may help you make your own connections.</i>
Put it into your own words (paraphrase)	How would you describe the idea to someone else? <i>Hint: Put the new idea into simpler language.</i>
Visualize	Imagine the situation or concept. You can use mental pictures to help you.
Use visual tools	Go to or find resources like maps and photographs.
Comparisons	Make comparisons
Ask questions	What questions can you ask about this topic? <i>Hint: Turn the new idea or what you know into a question to go deeper.</i>

Names: _____

Connections: Sparta's Geography AND Sparta's Social Groups

Directions:

1. List examples of how the geography of Sparta influences a Spartan social group.
2. Name the strategy and how you used it to make the connection between Sparta's geography and a social group in Sparta.
3. Sign your initials next to your ideas.

Name and description of a Spartan social group	Explain the connection between the social group and Sparta's geography	Name of the strategy and how we used the strategy to make the connection

MMS OBSERVATION PROTOCOL – LESSON 1**ESMS Cycle 2 Lesson Study Observation Protocol**

Please use the space below to record your observations of the lesson. As much as possible record exactly what you see or hear, i.e. student quotes, excerpts from their writing etc. We will be using this data to address the following questions in the debrief:

- 1. How do students currently make connections? How well are students able to articulate how they currently make connections?***
- 2. What evidence is there that students are able to use strategies to make connections and articulate how they used them?***
- 3. What evidence is there that students' explanations of Sparta's social groups and how they are influenced by Sparta's geography are deeper as a result of their understanding of making connections?***
- 4. What evidence is there that students understand that making connections makes you a better learner and makes learning easier?***

Introduction/NY Group Work:**Teacher instruction/questions:****What did the students say/write/do?**

Debriefing: Process of Making Connections:**Teacher instruction/questions:****What did the students say/write/do?**

MMS OBSERVATION PROTOCOL – LESSON 2**ESMS Cycle 2 Lesson Study Observation Protocol**

Please use the space below to record your observations of the lesson. As much as possible record exactly what you see or hear, i.e. student quotes, excerpts from their writing etc. We will be using this data to address the following questions in the debrief:

- 1. What evidence is there that students are able to use strategies to make connections and articulate how they used them?***
- 2. What evidence is there that students' explanations of Sparta's social groups and how they are influenced by Sparta's geography are deeper as a result of their understanding of making connections?***
- 3. What evidence is there that students understand that making connections makes you a better learner and makes learning easier?***

Introduction/NY Group Work:**Teacher instruction/questions:****What did the students say/write/do?**

Debriefing: Process of Making Connections:**Teacher instruction/questions:****What did the students say/write/do?**

Application: Sparta Connections:**Teacher instruction/questions:****What did the students say/write/do?**

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