AN EXAMINATION OF LESSON STUDY
AS A TEACHING TOOL IN
U.S. PUBLIC SCHOOLS

DISSERTATION
SUBMITTED TO
College of Education
ASHLAND UNIVERSITY

In Partial Fulfillment of the Requirement for the Degree
Doctor of Education in Educational Leadership
Ruth E. Friedman

ASHLAND UNIVERSITY
ASHLAND, OH
2005
A Dissertation

entitled

An Examination of Lesson Study

As a Teaching Tool in

U.S. Public Schools

by

Ruth E. Friedman

In Partial Fulfillment of the Requirements for

The Degree

Doctor of Education in Educational Leadership

_____________________________________________________

Susan C. Bon, Committee Chair    Date

_____________________________________________________

Herbert W. Broda, Committee Member    Date

_____________________________________________________

W. Gregory Gerrick, Committee Member    Date

_____________________________________________________

W. Gregory Gerrick, Director of Doctoral Studies    Date

_____________________________________________________

Frank Pettigrew, Dean, College of Education    Date

_____________________________________________________

John P. Sikula, Associate Provost for Graduate StudiesDate

February 2005
Abstract

AN EXAMINATION OF LESSON STUDY
AS A TEACHING TOOL IN
U.S. PUBLIC SCHOOLS

The purpose of this qualitative research study was to determine whether a Japanese professional development tool called lesson study could fit into teachers’ existing work culture. In addition, data was collected concerning teachers’ attitudes and beliefs about the lesson study process. After the release of the Third International Mathematics and Science Studies (TIMSS) in 1995 and the TIMSS-R in 1999 the Japanese model of lesson study gained attention as a professional development tool that built teachers’ instructional skills. As a professional development tool, lesson study also put teachers in a leadership role for improving their classroom practices. Lesson study was specifically designed to standardize math and science lessons to focus the curricula in order to improve test scores of U.S. students compared to peak performing countries. However, educational researchers like Stigler and Lewis started professional development initiatives around the country that took lesson study to the next level in the teaching process. Instead of focusing on test scores, lesson study developed as a professional development tool to increase teachers’ content knowledge and their research skills. In this research study nine teachers, three administrators, a professor and two focus groups, engaged at various stages in the lesson study process, were interviewed on their attitudes and beliefs. Six common themes and seventeen sub-themes emerged from the data collected. This research study concluded with predictions about the future of lesson study and whether it could be sustained in the U.S. teaching culture in order to change teaching strategies in American classrooms.
DEDICATION

This dissertation is dedicated to my husband, Gene, and my daughter, Alexandra, for their patience and support while I finished this project.
ACKNOWLEDGEMENTS

I would like to acknowledge my dissertation committee for their expertise in guiding me through the writing and organizational processes of my dissertation. I would especially like to express my sincerest gratitude to Dr. Susan Bon. Without her support, encouragement and thorough reading and rereading of my dissertation, I would not have been able to complete this project.
# TABLE OF CONTENTS

## CHAPTER I: INTRODUCTION

- Background of Study ................................................................. 1
- Statement of the Problem .......................................................... 2
- Research Questions ....................................................................... 4
- Professional Significance of Study .............................................. 5
- Methodology ................................................................................ 7
- Limitations of the Study .............................................................. 9
- Summary ..................................................................................... 10

## CHAPTER II: LITERATURE REVIEW

- The Need for Change ................................................................. 12
- Organizational Culture in Schools ................................................. 19
- Lesson Study as a Professional Development Process .................. 24
- Research and the Teaching Culture ............................................. 39
- Research Opportunities through Professional Development ........ 41
  - Teacher as Researcher ............................................................... 42
  - Lesson Study as Research to Inform Practice ............................. 44
  - Building a Knowledge Base ..................................................... 46
  - A New View of Professional Development ................................. 48
  - Integrating Research and Teaching Practice ............................. 50
- Advantages of Lesson Study as a Professional Development Tool .... 57
- Summary ..................................................................................... 62
<table>
<thead>
<tr>
<th>Chapter III: Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Perspective ..............................................</td>
</tr>
<tr>
<td>Qualitative Definition and Rational ................................</td>
</tr>
<tr>
<td>Phenomenology and Ethnography .....................................</td>
</tr>
<tr>
<td>Case Study Reference ................................................</td>
</tr>
<tr>
<td>Context of Study and Participants ..................................</td>
</tr>
<tr>
<td>School System A .........................................................</td>
</tr>
<tr>
<td>School System B ..........................................................</td>
</tr>
<tr>
<td>School System C ..........................................................</td>
</tr>
<tr>
<td>The Researcher .............................................................</td>
</tr>
<tr>
<td>Collection of Data ........................................................</td>
</tr>
<tr>
<td>Focus Groups ...............................................................</td>
</tr>
<tr>
<td>Data Analysis ..............................................................</td>
</tr>
<tr>
<td>Summary .................................................................</td>
</tr>
</tbody>
</table>

| Chapter IV: Analysis and Presentation of Results ................. | 95 |
| Research Participants .................................................. | 96 |
| Research Themes .......................................................... | 99 |
| Theme 1 – Time ............................................................ | 101 |
| Planning ............................................................... | 102 |
| Classroom Time .......................................................... | 104 |
| Debriefing and Reteaching ............................................ | 106 |
| Isolation ............................................................... | 108 |
Theme 2 – Consistency of Teaching Assignment…………………………………111

Size of School and Politics……………………………………………………112

Theme 3 – Sustainability………………………………………………………115

District Focus/Goal Changing………………………………………………117

Professional Development “Flavor of the Month”…………………………118

Structure of School/Changing Schedules……………………………………118

Culture in Schools /Quick fix………………………………………………119

Theme 4 – Risk Factors ................................................................……121

Emphasis on evaluation……………………………………………………123

Accountability on standardized tests………………………………………124

Theme 5 – Cost Issues ................................................................……128

Professional Development Discretionary Funds…………………………128

Decreasing General Budget and Personnel……………………………..130

Theme 6 – Self-Reflection Skills………………………………………………132

Lack of Content Knowledge………………………………………………134

Lack of Research Skills……………………………………………………136

Age and Career Stages Related to Reflection……………………………..137

Summary……………………………………………………………………140

CHAPTER FIVE: CONCLUSIONS…………………………………………………141

Lesson Study: The Research Questions………………………………………141

Lesson Study Advantage: Collaboration……………………………………142

Self-Reflection and Research Conclusions…………………………………143
Lesson Study and Content Knowledge........................................144

The “Silver Bullet”: Not Lesson Study........................................146

Lesson Study and Sustainability .............................................148

Lesson Study and the Risk Factor ...........................................151

Conclusions: Summary ..........................................................152

REFERENCES ........................................................................154
CHAPTER I: INTRODUCTION

The rational for the importance of lesson study, as a professional development tool is that to be successful in teaching, students must achieve to high standards. Professional development must find teachers engaged in sustained, intellectual study of what they teach and how they teach it. Teachers learn better when they learn together and support one another in planning better lessons. This is the premise of the Japanese professional development model called lesson study.

Background of Study

Lesson study is a professional development process that builds teachers’ instructional skills. It also builds connections across grade levels and content areas (Boss, 2002). In addition, lesson study is an initiative that puts teachers in a leadership role for improving their own classroom practices. Lesson study, also called research lessons, is a simple process with overreaching potential to change our whole system of “telling” curriculum (Lewis, 2000). Research lessons share five special characteristics: (a) research lessons are observed by other teachers, (b) research lessons are planned collaboratively over time, (c) research lessons are designed to bring to life in a lesson an overarching goal or vision of education, (d) research lessons are recorded, and (e) research lessons are discussed (p. 4 – 6).

The Japanese technique of lesson study is a collaborative process and according to Stigler and Hiebert (1999) is the most powerful means to change the culture in the classroom. The lesson study initiative is a well-established Japanese tradition that can be traced back to the early 1900’s (Fernandez, 2002).
Stigler talked about the advantages of lesson study as a professional development initiative to improve the teaching and learning process in American schools. A professor of psychology at UCLA, Stigler directed the video component of the Third International Mathematics and Science Study (TIMSS). With coauthor Hiebert, Stigler wrote about the Japanese approach to teaching called “kenkyuu jugyou” or research lesson (as cited in Lewis, 2000). Stigler claimed the “why” of lesson study is because the standards movement created a real need for teacher learning (as cited in Willis, 2002). He believed that teachers needed to learn to analyze their own practices and other teachers’ practices as well. Attempts are now being made in the United States to adapt lesson study to fit the needs and culture of U.S. educators across all disciplines and secondary grade levels (Boss, 2002).

Statement of the Problem

In *The Teaching Gap* (1999) Stigler said, “that unless we can change the way instruction is delivered in the classroom, we cannot significantly affect the learning process” (p. 15). Stigler and Hiebert (1999) said lesson study had the potential to change what actually happened in the classroom. Further Stigler and Hiebert thought that teachers operate from a “script for teaching” that is culturally determined and that is based on a small number of inferred beliefs about subject matter, how students learn and the role of teachers in the classroom. This statement, that U.S. teachers operate from a “script for teaching” represents the problem of implementing lesson study in U.S. classrooms. With the culture that currently exists in the U.S. classroom, can a professional
development tool like lesson study be practiced to make a difference in student achievement? Lesson study requires the restructuring and reculturing of schools to be places in which teachers learn. If we expect teachers to play a major role in improving instruction, as they must, we need to provide an environment in which they can do this work. Watanabe said lesson study is as much a culture as a professional development activity (as cited in Richardson, 2004).

Lesson study is a valuable aid to teachers as they develop lesson plans and different strategies to teach. Although lesson study resembles an action research approach to lesson planning, there is a difference between the two processes. The heritage of lesson study can be found in Dewey’s appeal to use the scientific method as a system for developing curriculum. However, lesson study is the matured process where collaboration over independent practice is the key difference. With lesson study teachers need to collaborate at every step of the process. They also need to identify alternative ways to teach and they need judgment to know when to employ which method.

Teachers gain that judgment by observing each other teaching the same lessons with the same objectives (Willis, 2002). Ultimately, student responses become predictable and instruction can be altered to increase learning. Stigler and Hiebert (1999) said this is the core of the lesson study initiative. They believed that we rely too much on the academic research to diagnose problems concerning teaching and learning. Through collaboration teachers can discover for themselves what needs to happen in the classroom. Stigler stated in an interview conducted by Willis (2002), “We need to find ways of learning from
our most successful teachers. That to me is the most promising approach” (p. 8). In addition, Vale, principal of Brookpark Memorial Elementary School, believed that it is imperative that principals become directly involved in this process (Binder, 2004). Leadership and teacher expertise working together can make a positive change in the culture of U.S. schools.

Research Questions

Merriam (2001) stated that research in education is important “for extending the knowledge base of the field as well as for understanding and improving practice” (p. 245). However, she stated that research could contribute to theory and practice only if it progresses beyond the research stage. The research questions relevant to this study are, “How does the lesson study process fit into the teachers’ existing work culture?” And, “What are teachers’ attitudes and beliefs about the use of lesson study as a professional development tool?” Unless school districts buy into the lesson study process to transform the teaching and learning process, all the research that suggests it is a viable professional development tool to change the culture of what happens in the classroom is insignificant.

Merriman (2001) further stated, “There is no substitute for actually engaging in the process of shaping a research problem, collecting and analyzing data, and writing up findings” (p. 245). If U.S. teachers will begin to observe themselves and their colleagues by asking questions like, “How can lesson study increase your knowledge of subject matter and instructional practices?” “As a teacher, how willing are you to see lesson study as research equal in importance
to your teaching practice?” “What amount of time is necessary for lesson study to be a viable professional development tool?” the process of what actually happens in the classroom may begin to change.

Lewis (2001) said the following questions need to be part of the teacher change process: (a) is there a specific format for an observation, (b) does each teacher observe for a different question, and (c) are questions specific to the lesson or general, such as ‘Are the students on task?’ These questions speak directly to the culture of schools in the United States compared to peak performing countries as measured by the TIMSS study. What and how teachers teach is the key to improving the teaching and learning process across the country. If lesson study can become a part of the U.S. teaching strategy for delivering subject material to students, the culture in those classrooms may significantly change.

Professional Significance of Study

Stigler (as cited in Willis, 2002) talked about building a professional body of knowledge to help teachers learn to analyze their own and their colleague’s classroom practices. He described the professional significance of lesson study as a way to impact the quality of teaching inside the classroom. Stigler and Hiebert (1999) stated that most professional development efforts fail to improve education because they are not classroom based. They are initiatives that happen “to the teacher.” Teaching, Stigler and Hiebert argued, is cultural. This study has professional significance because it, too, argues that the U.S. teaching culture may be flawed in its ability to integrate a tool such as lesson study.
The following e-mail copied from a participant on the lesson study listserv (S. Roberts personal communication, April 12, 2004) illustrates just one of the many cultural conditions that inhibits U.S. teachers from fully embracing the lesson study model.

I am a sixth-grade social studies teacher who is just starting a lesson study group at my middle school. We are going to observe our lesson being taught... this week. The teacher giving the lesson is uncomfortable about having the lesson observed by anyone outside of our team. I do understand the importance of having a “knowledgeable other” work with us but have not been able to persuade my team members. They see anyone other than a fellow teacher as an evaluator who will be judging them.

This example also highlights the need for changing the methods American teachers and administrators use to improve the profession. Our American teachers have no system in place for getting better. The traditional evaluation system has done more harm than good for improving the teaching and learning process. As illustrated above, some teachers are afraid to take risks. They are afraid to have people in their classrooms, observing for signs of student learning. This has been the culture in United States classrooms and represents just one of the barriers to implementing the lesson study process within our schools.

Another way this study will have professional significance for the teaching profession is the research-based strategy associated with lesson study.
Teachers are rarely portrayed as sources of knowledge about teaching. Lesson study can counteract this tendency because it enables teachers to become researchers in the classroom. Through work with lesson study, teachers have a way of communicating and organizing their knowledge base. In addition, they have a way of sharing that knowledge base with their colleagues in a collaborative, reflective manner (Saul, 2001). Hiebert, Gallimore and Stigler (2002) also see lesson study as a research process. They point to the “replication and observation across multiple trials” as evidence that lesson study transforms informal knowledge into professional knowledge.

There is, however, a tension among serious researchers toward accepting a professional development strategy such as lesson study as a research strategy. Can lesson study generate knowledge that can be applied broadly enough to call it a researched-based strategy? This question will be addressed in the literature review chapter. Regardless of the answer, if lesson study can be integrated into the culture of teachers’ existing work place, it will have a significant impact on the teaching profession.

Methodology

The primary methodology of this study was qualitative. Data were collected through a phenomenological interview process. In addition, I observed and recorded group planning and debriefing sessions with teachers in various stages of the lesson study process. A purposive sampling for maximum variation was used to select the subjects for this study. The primary objective of this research was to study how the lesson study process fits into teachers’
existing work culture. Participants were recruited informally using personal and professional contacts. My research questions directed me to use teachers familiar with the lesson study process.

My primary research questions used for this study were “How does the lesson study process fit into the teachers’ existing work culture?” and “What are teachers’ attitudes and beliefs about the use of lesson study as a professional development tool?” For the interview and observation process I developed a series of ten sub-questions. Research sub-questions were derived from a thorough study and investigation of the literature on lesson study. In addition, my personal experience and involvement with the lesson study process and my attendance at national conferences on lesson study helped guide the formation of these questions.

1. How many years have you been teaching? Age. What are your subject areas and grade levels? How many different school systems have you been in? Any prior job experience before teaching? Highest educational level.
2. How can lesson study increase knowledge of subject matter and instructional practices?
3. As a teacher, how willing are you to see lesson study as research equal in importance to your teaching practice?
4. How can lesson study be used as a continuous professional development tool and not be a “fad of the month”?
5. What amount of time is necessary for lesson study to be a viable professional development tool?

6. What are teacher beliefs and dispositions about teacher research and how it affects teaching practice?

7. How can lesson study be used as a reflective teaching process for continuous improvement?

8. What elements of lesson study can lead to stronger collegial and personal learning structures?

9. As the research lessons take shape, how does a lesson study team know if the lesson is successful?

10. Do you think lesson study fits into the existing school culture in the U.S.? Why? Why not?

In addition to individual interviews, focus interviews, classroom observations, and fieldnotes, responses from the lesson study on-line listserv were used with author’s permission as those responses pertained to my research questions.

Limitations of the Study

Liptak (as cited in Boss, 2002), principal of Paterson New Jersey School 2, talked about the most serious limitation of the lesson study initiative to date. She stated that she had no hard data yet to show that lesson study had improved results for students. Liptak further explained that she had plenty of reasons to think that it was a positive experience for her teachers, although, it has not been around long enough to produce statistically significant results in a quantitative measure. This limitation is echoed again and again in the literature review.
Because there are only 21 school districts across the country engaged in lesson study, data that suggests that lesson study is the cause for increased student achievement does not exist.

In addition to the lack of the quantitative piece of evidence, there are other potential limitations in the whole process such as additional time for teachers and money for substitutes. Experts on lesson study know that there is a concrete step-by-step process that should be followed to implement lesson study. However, as Liptak as cited in Boss, 2002 stated, “The surface features of lesson study are not difficult to implement. The soul of lesson study is much more difficult, and we are still working on that. Ultimately, it is up to us to put the pieces together and make it work for our students” (p. 15). To implement lesson study effectively to gain positive results, there are factions that must be in place. The literature speaks to a need for additional time granted to teachers. Further, a school system must be willing to allocate money for substitutes while teachers observe each other’s classes. The allocation of time and dollars to further the implementation of lesson study may be serious barriers.

Summary

After all the data have been collected and the last lesson has been observed, the question will remain, “Can it work?” Experts like Lewis (2000) say, yes, lesson study will continue to develop among U. S. teachers. According to the teachers who initiated lesson study in Patterson, New Jersey eight years ago and the hundreds of participants who collaborate through the lesson study listserv, they believe lesson study can work to improve their teaching practice.
The unique characteristic of lesson study that is missing in many other professional development initiatives is the role of the teachers themselves. As researchers stated in the literature (Lewis, 2000; Stigler & Hiebert, 1999; Wang-Iverson, 2002; Yoshida, 2002) research lessons are meaningful for teachers because when they study and conduct demonstration lessons, they think about the fundamental objectives and goals of what they are teaching. To improve teaching, the most effective place to begin is in the classroom.

Lesson study is not a quick fix. This, too, was echoed in the research. It is a long, progressive, planned process of teaching, discussing, revising and reteaching. Sharing knowledge and teaching strategies are part of the teaching and learning process. Lesson study is a natural vehicle for teachers to share what they have learned from each other; from their students’ responses and from the knowledge base they have formed for their profession. Stigler stated, when asked about professional development and what our emphasis should be, “We should attach the most importance (of professional development initiatives) to improving our teaching methods” (as cited in Willis, 2002, p. 9). Lesson study is a way to study the practice of teaching and to improve the process of teaching and learning in all classrooms.
CHAPTER II: LITERATURE REVIEW

Lesson study is a Japanese professional development process that puts teachers in a leadership role for improving their own classroom practices. Lesson study or jugyou (lesson) and kenkyuu (research or study) literally means lesson research in Japanese and refer to the process of instructional improvement of which the research lesson is the core piece (Lewis, 2000). The lesson study initiative is a long-standing tradition among Japanese teachers. The process is somewhat easier to practice in Japan, however, due to the Japanese national curriculum. Attempts are now being made in the U.S. to adapt lesson study to fit the needs and culture of U.S. educators across all disciplines at the elementary and secondary grade levels (Boss, 2002). Lesson study is also a process that builds teachers’ instructional skills. It is for this reason that Stigler and Heibert (1999) believe lesson study has the potential to change what actually happens in the classroom. In The Teaching Gap (1999) Stigler and Heibert contend, “that unless we can change the way instruction is delivered in the classroom, we cannot significantly affect the learning process” (p.15).

The Need for Change

In 1995, findings from the Third International Mathematics and Science Study (TIMSS) described the U.S. curriculum in math and science as a mile wide and an inch deep. The Third International Mathematics and Science Study is an extensive comparative study of student achievement at three grade levels in the areas of math and science. It encompassed 42 countries and tested three student populations, what would be equivalent to U.S. grades four, eight and twelve.
The primary purpose of TIMSS was not to “rank” countries or students. Instead, its purpose was partly to show that the longer U.S. students stayed in school, the lower their achievement level was in math and science. At the fourth grade level U.S. students scored very much at the top of the international scale on the TIMSS exam. By the eighth grade U.S. students dropped to slightly below the international level on the TIMSS exam. Finally, at the twelfth grade level U.S. students performed near the bottom of the international distribution. Some people argue, however, after hearing the TIMSS results that it doesn’t really matter because the U.S. “top” students are doing okay. That is not true. U.S. students who scored in the 75th percentile were below the 25th percentile in Singapore and far below the 75th percentile in 19 other countries (U.S. Department of Education’s TIMSS Web site, [http://nces.ed.gov/timss](http://nces.ed.gov/timss)).

What can be inferred from the TIMSS is that U.S. students’ achievement in math and science was low in comparison to other countries. One reason cited for the low scoring is that the curriculum is not focused nor does it have a manageable set of content standards that can be mastered within a limited amount of time (Schmidt, Houang & Cogan, 2002). When talking about student achievement, the content of instruction plays a primary role. There is no degree of alignment between states or among content standards, assessments or textbooks. What and how subjects are taught makes a huge difference. Further, a new analysis of data from the TIMSS provides evidence that U.S. students and teachers are greatly disadvantaged by the lack of a common, coherent curriculum (Schmidt, Houang & Cogan, 2002). Although teachers in the highest achieving
countries have coherent guidelines in the form of a national curriculum, researchers do not imply that the United States should adopt such a model. However, what the TIMSS does imply is that what is taught matters. Porter (2002) hypothesized that a “coherent message of desired content will influence teachers’ decisions about what to teach…and in turn will translate into their instructional practice…and ultimately into student learning” (p. 5). As Porter measured alignment between content and instruction and defined the research tools possible for measurement, he validated at least one important finding from the TIMSS report. According to his findings the first thing his mapping indicated was that the mathematics standards “excluded very little mathematical content. This finding is consistent with the TIMSS ‘mile wide and inch deep’ conclusion” (p. 7). He also analyzed content of math textbooks to assess breadth and depth of curriculum. Again his findings were consistent with the most extensive textbook analysis done in TIMSS (Schmidt, W.H., McKnight, C.C., and Raizen, S., 1997), that the United States textbooks covered far more topics, many in less depth, than those in higher achieving countries.

Porter’s research on content analysis tools for measuring and aligning content standards and instructional material implied a correlation with the TIMSS findings in the areas of both instruction and materials. He also stated that there is a need for determining what type of professional development will help teachers accurately describe the content of their instruction. He contended that his research tools might be useful in developing new and powerful professional development programs. This professional development piece is similar to the
message that Stigler delivered when he talked about creating a knowledge base for teaching (as cited in Willis, 2002). Stigler stated that individual teachers learn from their experiences all the time, but there is no mechanism in U.S. schools for them to share their knowledge. It is often said that when a good teacher dies, his/her knowledge dies with them. As a teaching profession we are not accumulating a professional body of knowledge. Stigler (as cited in Willis, 2002) claimed that the educational community must find ways of learning from the most successful teachers. He contended that a “profession is defined by a knowledge base, which allows the profession to improve its practice over time” (p. 11). Stigler compared the way teachers invent and experiment with new techniques in the classrooms to “malpractice” in the field of medicine.

Funded by the U.S. Department of Education and using research from the Third International Math and Science Study, Stigler and Hiebert conducted research comparing eighth grade mathematics instruction in the United States, Germany and Japan. They wrote about their findings in the book The Teaching Gap: Best Ideas from the World’s Teachers for Improving Education in the Classroom (1999). In this book, Stigler and Hiebert acknowledged the fact that most educational improvement efforts have little or no impact on the quality of teaching inside the classroom. They videotaped dozens of random classrooms in high achieving countries according to the TIMSS in order to compare teaching practices. Through the use of these videotapes they documented the importance of how teachers teach as the main reason for student achievement.
Unfortunately, the U.S. classroom videotapes validated a long suspected notion about American educational reform efforts. Stigler and Hiebert (1997) stated,

> When we examined the places in the video that teachers referred to as examples of reform, we saw a disturbing confirmation of the suspicion we voiced in Chapter 6 – that reform teaching, as interpreted by some teachers, might actually be worse than what they were doing previously in their classrooms. (p. 106)

It is in *The Teaching Gap* that Stigler and Hiebert outlined how improving teaching must happen at school, in the classroom, and collaboratively among teachers. They recounted example after example of math lessons where National Council of Teachers of Mathematics (NCTM) recommendations were misinterpreted by U.S. teachers. Thus, many U.S. teachers accomplished little on behalf of students’ mathematics understanding.

When asked what would be an alternative to the current way U.S. teachers attempt to reform educational practice through professional development initiatives, Stigler and Hiebert (1999) discussed the Japanese model *kounaikenshuu* as the continuous process of school-based professional development.

*Kounaikenshuu* is a set of activities run by teachers as part of their teaching job. These activities serve dual purposes. They help mentor and train the new teachers and they provide research opportunities for experienced teachers to hone their profession. One of the most common components of *kounaikenshuu* is lesson study (*jugyou kenkyuu*) (Stigler & Heibert, 1997). The premise behind
lesson study is simple. The best place to improve teaching is in the classroom. In his interview with Willis (2002), Stigler describes three essential components of professional development that directly target teachers’ practices. First, professional development should be site-based and long-term. Second, it should be ongoing, not a one-shot sit and get approach. And third, professional development should be curriculum-based. In addition, he stated that teachers need to know how to analyze their practices as well as their colleagues’ practices. Stigler told Willis (2002) that a good example of a “high-quality professional development program” is lesson study.

Curriculum as defined by Kauffman, Johnson, Kardos, Liu and Peske (2002) is what and how teachers are expected to teach. According to these authors if curriculum is well developed it gives teachers insight into how students think; it reveals potential misunderstandings by students; and it identifies instructional strategies that are particularly effective. Unfortunately, after 50 interviews with first and second year teachers, Kauffman et al., said despite Massachusetts’ detailed system of standards and accountability measures, most teachers felt little or no guidance about what to teach and how to teach it. Specifically, they quoted one suburban math teacher as saying, “No one really knows what the curriculum is for seventh-grade math, which leaves it pretty much up to the teacher” (paragraph 7).

Kauffman et al. continued to reinforce the need for change in U.S. curriculum and instruction when they cited how some teachers were not even sure how to organize material or create a lesson plan. During the interview
process other teachers discussed how they struggled day-to-day to prepare content and materials instead of developing a coherent plan to address long-term objectives. Teachers worried that their unstructured approach to instruction shortchanged their students. While identifying characteristics of the Hyperactive Superficial Principal Syndrome (HSPS), Marshall (2003) described how American teachers “are mostly on their own and get used to working in isolation” (p. 3). He further stated the American curriculum when compared to most other countries is vague and allows teachers a “great deal of latitude to create their own curriculum behind closed classroom doors” (p. 3). New teachers in the Kauffman et al. study admitted to what they termed eavesdropping in more experienced teachers’ rooms to discover ways to teach a particular lesson. Although Kauffman et al. did not specifically identify lesson study as a way to solve teaching dilemmas in the U.S. educational culture, many of their conclusions reinforce the lesson study model of instruction. However, Marshall (2003) talked about lesson study as a way to change instructional methods in the classroom:

High on any principal’s list of staff development challenges is training teams of teachers to implement lesson study and providing time and stipends to make it a regular feature of professional meeting time. In schools where teachers craft effective lessons and evaluate their effectiveness, the quality of instruction will improve by leaps and bounds. (p. 10)
Marshall described the ideal scenario for teachers to create a good lesson. He said groups of teachers decide on a common goal, write common assessments, and decide on a proficiency level for achievement. They then teach the lesson, sit together to debrief about how the lesson went and ask each other questions. This process is exactly the lesson study model. Marshall’s emphasis on teachers having honest dialogue and analyzing data is not typical of American schools. As he studied how principals could improve student learning through classroom observations and teachers evaluations, he saw lesson study as a way to open classroom doors and end teachers’ isolation from one another.

Organizational Culture in Schools

What does research show about the current culture in U.S. schools? Mitchell and Willower (1992) conducted a study designed to contribute to theory on organizational culture in schools. They selected a school based on its reputation for excellence and student achievement scores in a small city in the Northeastern United States. Their goal was to refute the body of empirical work that suggests “that, in schools, the adults and students….form opposing subcultures rather than joining together in a unified organizational culture” (p. 6). They found that the culture of a good school for teachers revolved around orderly classrooms, control of student groups and mandated attendance. Teachers valued autonomy in their jobs, but wanted administrative support. Teachers also felt that they could do their best work individually rather than collaboratively. Students at the selected high school voiced their strongest identification with friends and their connections with athletic teams. In addition,
Mitchell and Willower found that teachers and students identified a shared culture that centered on the importance of academics.

What other combination of elements play an important role in making up the culture of schools? Mitchell and Willower (1992) further found that the district and high school administrators played a major role in the development of the school’s culture, but that the superintendent of the district played the key role. The school’s culture was traceable to the work done cooperatively between administration, particularly the superintendent, the teachers, and the student’s recognition of the importance of academics. Community support was also found to be a crucial factor to develop the school’s organizational culture. And finally, the spirit and symbols found in the school contribute to the organizational culture.

Owens (2001) stated that like all other workplaces, schools have a distinctive organizational culture. Owens defined a school’s organizational culture as

…the dominant values that the organization cherishes above others, the basic assumptions and beliefs that are shared by members of the organization, the rules of the game that must be observed if one is to get along and be accepted as a member, the philosophy that guides the organization in dealing with its employees and its clients. (p. 122)

In his definition, Owens italicized key phrases like basic assumptions and beliefs, rules, and philosophy to mean “the way we do things around here” and “what we think is true” (p. 144). Every school has its own set of rituals and beliefs
unique to that particular school. Those rituals and beliefs make up the culture of the school.

However, when talking about organizational culture it is important to distinguish between organizational climate and organizational culture. It is important for educational leaders to know that they can make a difference in climate through their function as the educational leader. Climate is defined as the characteristics of the total environment in a school building (Owens, 2001). Tagiuri (1968) described the organizational climate as Ecology – Physical and Material Factors; Milieu of the School – Human Social System Factors; Organization of the School – Organizational Structure Factors; and Culture of the School – Psycho-Social Characteristics. It is generally understood that administrators can directly affect the climate but not the culture of an organization through the decisions they make. The culture of the organization is defined by the character and quality of the climate in the organization. Leaders, therefore, cannot directly change the culture of an organization, but through their decision-making power, they influence the culture.

Further, Owens (2001) talked about the central concept in organizational culture as the interaction-influence system of an organization. The interaction-influence system in education deals simultaneously with typical formal structures such as departments, teams, and schools and typical informal structures such as friendship groups and people who work closely together. The interaction processes are part of communication, motivation, leadership, goal-setting, decision making, coordination, control and evaluation. “Efforts to
describe the organizational culture of educative organizations are, therefore, efforts to describe the characteristics of the organization’s interaction-influence system” (p. 158).

Owens (2001) emphasized that it is the organizational culture that creates a positive or negative environment to promote greater effectiveness. “It is widely accepted today that the single most critical factor in improving the performance of an organization is to change its culture” (p. 122). This is the same premise that Stigler and Hiebert (1999) talked about when describing the powers of lesson study as a professional development tool and how it could change the culture in the classroom.

Like Owens, Deal and Kennedy (1982) contended that it is strong organizational culture that distinguishes successful companies from unsuccessful ones. Although administrators in any organization have little ability to directly motivate organizational participants i.e. teachers, they have considerable ability to do so through indirect means. Schein (1985) also emphasized the relationship between organizational culture and the ability of administrators to exercise leadership to motivate others. Kanter (1983) argued that “open culture” organizations are more innovative and more successful than those that do not have such a culture. A lesson study initiative would more likely take place in an open culture-type organization. Lesson study used as a professional development tool to help change the beliefs and norms within an organization may be one way to help change the culture of that organization.
Gunn and King (2003) found that collaboration and leadership are also key characteristics that help make up the culture of a school. They stress the idea that the search for school reform is found in the reculturing of schools. And further, that the culture of a school is built upon relations among teachers “that foster a shared understanding of pedagogy and collective responsibility for student achievement” (p. 174). In 1989, Gunn and King conducted a ten-year study of the decision-making process at a school within the Division 2 Humanities Team. Informally, Gunn observed, interviewed, collected feedback and shared data with members of the high school Humanities Team involved in the study. Gunn’s study is very much a prelude to the lesson study model that entered the professional development arena ten years later. Gunn and King worked with their colleagues in an attempt to create a culture where the teachers were responsible for their own professional lives and where leadership supported their actions and decisions. One can see the similarity of purpose to Stigler and Heibert’s (1999) study concerning building a professional body of knowledge that can be shared among teachers.

What Gunn and King (2003) found, however, was that more often than not the Division 2 Humanities Team failed to “achieve consensus regarding substantive issues of pedagogy and student achievement” (p. 176). They reported that the traditional authority system embedded in the school culture mitigated the input of faculty. The top-down decision-making structure negatively affected the teachers’ ability to explore issues and reach consensus on initiatives that might impact change. “By failing to redefine the authority
structure of the school, teachers participated in having a limited voice in the school, creating cynicism about their work and about leadership” (p. 183). Instead of collaboration, Gunn and King found that individualism was the norm within the traditional structure of the school. Furthermore, teachers were less likely to deviate from the cultural norm when the activity initiated by the team demanded more time than the traditional teaching and learning process.

The lessons learned from the Division 2 Humanities Team exemplify the need for change in our traditional U.S. school culture. The first lesson is the difficulty that occurs when separating personal issues from team or school issues. Secondly, leadership must play a key role in discussions on teaching and learning issues. Third, time is a necessary component to reculture our schools. Fourth, pedagogic issues must take place at the teaching level by creating new relationships between teachers, administrators, students and parents (Gunn & King, 2003). These four issues are addressed in the professional development process of lesson study.

Lesson Study as a Professional Development Process

Boss (2001) stated that a professional development initiative called lesson study builds teachers’ instructional skills at the same time that it moves administrators in a new direction of leadership. She further contended that the goal of improving instruction is what drives support for the lesson study initiative in the United States both at the teacher and administrative levels. Boss spoke to several professionals including principals and teachers engaged in
lesson study in their buildings as she studied the long-term goal of improving instruction and the possible role lesson study could play in achieving this goal.

In Patterson, New Jersey, Liptak, principal of School Number 2, a K-8 school that was one of the first schools to engage in lesson study, stated that a supportive principal is essential to the success of the lesson study initiative. She further stated that the lesson study initiative “will go nowhere without the interest, commitment and hard work of teachers” (as cited in Boss, 2001, p. 13). Hill, principal of Medina Elementary School in Bellevue, Washington, stated, “My school was ripe for lesson study” (p. 13). However, the culture of professional development in U.S schools in traditionally not teacher led. Itzel (2002), a teacher-in-residence for lesson study at the Delaware Department of Education, told Boss that administrators must be willing to let teachers take the lead and must trust teachers to be the leaders of their own instructional improvement for lesson study to take hold in U.S. schools. Liptak reiterated that thought when she stated that the traditional role of principals does not work well in the context of lesson study. Principals, as instructional leaders, must let go and allow teachers to lead from within. Although there is no hard data yet to show that lesson study will improve test scores, Liptak contended that lesson study as an on-going professional development process challenges the current system to think more deeply and look more closely at the teaching and learning process in the U.S.

Evidence of collaboration and reflection is common in the lesson study model. Peixotto of the Northwest Eisenhower Regional Consortium (2001)
became excited about the lesson study model as he explored the findings and implications from the TIMSS data. His staff began to research the connections between the Japanese instructional strategies and student performance. Further, connections between effective teaching and effective professional development were reinforced by professionals such as Sparks (1999), executive director of the National Staff Development Council. Sparks stated, “Quality teaching fed by powerful professional learning can make a difference in all schools. It is our belief that lesson study represents this type of professional development” (p. 21).

Lesson study is a professional development process that builds teachers’ instructional skills and connections across grade levels and content areas. According to Boss (2002) it is also much more than teachers working together to plan and perfect a lesson or unit. Lesson study is a long-term process focused on student learning that starts with the teacher and how they can improve teaching in the classroom. The lesson study model requires teacher directed initiatives that cannot be mandated by an administrator or district personnel. To tell teachers that they must “do lesson study” as a professional development project for the year would be counter productive to the goal. The results of lesson study are to change the culture of teaching in the classroom.

In addition, researchers know that adults learn in different ways and that different methods facilitate learning for different people. Brookfield (1986) stated that adults learn best when: (a) They are motivated. Motivation comes from context, relevance and involvement in level of the work; (b) Learning is conducted as a partnership; (c) Learning involves the learner’s primary learning
mode and is interactive and experiential; and (d) There is an understandable structure and reinforcement. Steffy, Wolfe, Pasch and Enz (2000) advocated that teachers must develop through progressive stages to sustain a career-long standard of excellence. Further they stated that the progressive stages underlie a reflection-renewal and growth process. Reflection is a major component of the lesson study process and fits with the progressive stages of career development.

Likewise, Burke, Fessler and Christensen (1984) talked about teacher career stages and the implication those stages have on professional development in a teacher’s career. Their model consists of three stages (a) Personal Environment, (b) Organizational Environment, and (c) Career Cycle. They contend that positive reinforcement from stages 1 and 2 will have a positive effect and influence a teacher’s career cycle. They further break down the career cycle into eight stages beginning with preservice and ending with career exit. There are different stages in the career cycle where the introduction of lesson study as a professional development tool would be more acceptable than others. For example, the career frustration stage where disillusionment in setting in and a teacher is wondering why they are doing this work would not be an optimum time for an administrator to introduce lesson study. However, the stages of competency building, enthusiastic and growing, even stable but stagnant would all be good stages for the introduction of lesson study as a professional development opportunity.

In the research on lesson study Hiebert (1999) stated that lesson study could be sustained in U.S. schools through pre-service training. As a professor at
the University of Delaware, Hiebert applied some of the principles of lesson study to educating pre-service teachers. What Hiebert implied was that in the pre-service stage of a person’s teaching career, the beliefs and attitudes to use lesson study as a teaching tool would more likely be accepted than during a later stage in a teacher’s career.

Administrators must lay the groundwork, prepare their teachers and their school before lesson study can take hold. “My school was ripe for lesson study,” said Hill, principal at the Bellevue district. “We were in the habit of talking collaboratively about teaching and learning objectives...It helps to have that teamwork in place” (p. 13). However, in Metropolitan Nashville (TN) Public Schools superintendent Shearon rolled out lesson study in September 2000 for the entire district of 4,000 teachers. “Some things you can’t ease into,” (p.14) he stated. After reading *The Teaching Gap* by Stigler and Hiebert (1999), Shearon, like other administrators across the country, realized the profound effect that changing the way teachers teach in the classroom could have on student learning. He stated that the most radical change necessary in U.S. schools is that administrators trust teachers to be leaders of their own instructional improvement. Shearon said, “The biggest challenge of lesson study is the deep distrust of teachers by administrators. Even the ones who are positive (about lesson study) have asked, “How do you keep teachers from screwing this up?” (p. 14). The lessons for leaders concerning lesson study as a professional development initiative are clear. Educational leaders need to set the tone. Lesson study is about cultural change; thus it is a slow process. Leaders need to
provide funding for released time including the liberal use of substitutes. And above all, superintendents, principals and the community must trust teachers to take the lead.

According to Wang-Iverson (2002) lesson study addresses specific needs within our educational system. Specifically, teacher collaboration is a major component of lesson study. Shared expectations for students and student equity occur when teachers plan lessons together.

Lesson study is also a professional development approach to systemic reform of our educational system. Despite its name, lesson study is not just studying or revising a lesson in order to make it a perfect lesson. Rather it is a professional development process in which teachers systematically examine their own practice in order to become more effective teachers (Chokshi, 2002).

Although collaborative teaching activities are not new to professional development in the United States, lesson study offers teachers the opportunity to develop a consensus on the curriculum they wish to teach and the methods by which the subject matter is taught. By reaching this consensus teachers can systemically create the types of students they want to produce.

The TIMSS report quantifies the amount of time teachers in this country work in isolation. Over 60 percent of American math and science teachers who participated in the TIMSS reported that they had never had the opportunity to observe another teacher’s classroom (U.S. Department of Education’s TIMSS Web site, [http://nces.ed.gov/timss](http://nces.ed.gov/timss)). Observing other teachers, discussing and
debriefing about the observations, and reteaching are all basic components of lesson study.

Other professional development activities do not address the access and equity issues that are embedded in the lesson study process (Wang-Iverson, 2002). Because teachers share expectations for all students during the planning of a unit or lesson; and because lesson study contains an overarching goal for all students which teachers work toward by focusing on concrete techniques, students are more likely to be exposed to the same teaching and learning regardless of school system or socio-economic status. Wang-Iverson stated that when talking to a principal about why we “sort” students in mathematics, he suggested that it was because in the U.S. teachers do not know how to teach students who are heterogeneously grouped and who exhibit a range of performance abilities. Wang-Iverson (2002) stated, “Lesson study, which builds upon teachers’ shared knowledge and insight, supported by research, can help us overcome our own cognitive barriers concerning students’ ability to learn” (p. 4). Wang-Iverson concluded with the idea that lesson study can help teachers and administrators learn how to leave no child behind. Although lesson study cannot work alone to make systemic changes, as the Japanese teachers believe, “students improve when teachers improve” (p. 6).

Yoshida, an expert in lesson study and Japanese teaching practices, stated that lesson study helped to significantly improve teaching and learning in the Japanese classroom as well as develop curriculum in Japan (Yoshida, 2002). Lesson study or Jugyokenkyu in Japanese is the core professional development
process to improve the learning experiences of students in Japan. Lesson study is conducted as part of Konaikenshu, which is school-based professional development and organized in school wide groups according to content areas. According to Yoshida (2002) there are three main activities that make up lesson study: (a) identifying a research theme, (b) conducting research lessons that explore this theme, and (c) reflecting on the process. These three activities are meant to be general and are often individualized according to teacher groups and/or schools.

A research theme can be established by looking at gaps between where the students are in their learning experience and what the teachers’ expectations are for his or her students. Teachers then discuss how they can close these achievement gaps by setting up collaboration time to plan, teach, debrief, review and possibly reteach lessons that revolve around the theme. An example of a research theme from one elementary school in Japan is “Promoting students’ ability to think autonomously, invent, and learn from each other while focusing on problem-solving in mathematics” (p. 2). Unlike our pattern of short-term, quick fixes in the U.S. with our professional development models, in Japan a research theme is generally worked on for three to four years.

The second step in the lesson study process is the research lesson itself. A group of teachers work together to plan a detailed research lesson. A team of teachers discusses what will be taught and how the objective is presented in a textbook. Next they may talk about what students already know about the subject. They identify the important (math) concepts in the unit and how those
concepts fit into the goal of the research lesson. Once the research lesson has
been taught, more discussion follows in the debriefing sessions. For example,
how were individual differences or ability levels handled or what types of
learning experiences helped to engage students in this lesson, might be topics
covered in the debriefing session. Often times, the group evaluates the lesson
(not the teacher) and another teacher from the group reteaches the same lesson to
another group of students. Everything that takes place in a research lesson is
written down. This becomes a written record of the team’s work. Lastly, this
written documentation can be shared with other teaching professionals. This is
what Stigler and Hiebert (1999) refer to in *The Teaching Gap* as a professional
body of knowledge that can be used as teachers’ resources to improve the
teaching and learning process.

Third, the reflection process in lesson study is the unique characteristic
that keeps the process fluid. Lesson study keeps student learning at the heart of
the process. It is teacher-led. Teachers are actively involved in the process of
instructional change and curriculum development. Lesson study makes the
classroom a laboratory and the teacher a researcher. There is no better way to
produce systemic change, as Deming (1998) believed, than to allow the people
closest to the work to be the decision-makers or the change agents in the system.

Lewis (2003) has been researching lesson study in Japan for the past ten
years. Similar to Yoshida (2002), Lewis describes the essential elements of lesson
study in terms of five pathways rather than steps. She feels that the power of the
process resides in five key learning pathways through which teachers learn,
grow and improve their practice. These five pathways are (a) increase knowledge of subject matter, (b) keener vision to see students, (c) stronger collegial and personal learning, (d) stronger connection of daily practice to long-term goals, and (e) stronger motivation to improve (p. 6).

Lewis feels that lesson study is the professional development tool that shifts “teaching as telling to teaching as understanding” (p.6). As Schmidt, Houang and Cogan (2002), and Kauffman, Johnson, Kardos, Liu and Peske (2002) contend quality teaching begins with the curriculum. Lewis stated that lesson study enables teachers to discuss, compare and study existing curricula. In step one teachers are able to draw on the knowledge of their group members and a knowledgeable other (a step in the lesson study process that will be discussed later in this review), to increase their own knowledge of subject matter.

In the second pathway the teacher gains the ability to discern what the student knows and understands in the lesson study process. Lewis (2003) found through her interviews that in the view of many Japanese educators “developing the eyes to see children is the most important benefit of lesson study” (p. 7). Although most educators in the U.S. agree that teaching strategies should commence with what the students know and can do, very often this is not the case. Further, the educational reform movement debates the need to change the core of the educational practices in ways that will result in more students being engaged in their own learning process (Elmore, 1996). Elmore argued that most educational reforms never reach long-standing patterns of teaching and become exercises in futility if they hope to improve student learning. Often educational
reform practices, unlike the practice of lesson study, have little to do with the students. Elmore (1996) would agree with Lewis (2003) when he stated “change the core of schooling from a teacher-centered, fact-centered, recitation-based pedagogy to a pedagogy based on an understanding of children’s thought processes…” (p. 7).

Lewis’ (2003) final three pathways are ways to strengthen the teaching professional itself. How often do American educators complain about not having time to collaborate with their colleagues? With the third pathway Lewis contended that lesson study is a way to build community and develop a professional body of knowledge necessary to improve teaching and learning. Teachers have the opportunity to develop strong collegial ties and also develop their own personal structure for learning using the lesson study process. The habits of personal reflections about ones’ teaching that occur during the lesson study process are habits that stay with teachers long after the research lesson is over. Likewise, the fourth pathway is also about connections. The long-term goal is a major component of the lesson study cycle. “To many U.S. educators, the consideration of long-term goals feels like the essential missing piece of instructional improvement” (Lewis, p. 7). It has become fashionable for American schools to develop mission statement, but most schools don’t do anything to connect their mission statements to anything real in the classroom concerning teaching and learning. By developing focus goals necessary with the lesson study process, U.S. schools can develop an educational connection between a mission statement and student learning.
The idea of continuous collaboration among teachers leads to a stronger motivation to improve – the fifth pathway to strengthen learning. Through lesson study, teachers working together see problems of practice as “challenges to be shared, researched and solved. Successful lesson study efforts strengthen teachers’ sense of efficacy and their desire to improve” (Lewis, p. 8).

When studying any professional development initiative a key question is how can this particular initiative continue to improve teaching and learning beyond the “fad” phase? Lewis and Tsuchida (1998) said research lessons made a substantial shift in Japanese teachers’ approach to teaching. They have gone from “teaching for telling” to “teaching for understanding” (p. 12) within the normal confines of their other professional duties. Japanese elementary teachers said research lessons are their actual lessons, but they contain five important elements not found in ordinary lessons.

One element is that research lessons are observed by other teachers. Sometimes the lesson is taught before other teachers who have been involved in the planning process, but sometimes teachers from other districts are invited. Second, research lessons are carefully planned in collaboration with one or more colleagues. It is not unusual at this stage of lesson study to incorporate what is called a “knowledgeable other” or “outside examiner” (Watanabe & Wang-Iverson, 2002). Especially for beginning lesson study practitioners, a knowledgeable other provides a different perspective when reacting to the lesson; he or she serves as an expert about the subject matter. A knowledgeable
other can be the vehicle for helping researchers integrate educational research more effectively with education practice; and lastly, he or she can share the work of other lesson study groups.

The third element of a research lesson is focus. Research lessons are different from a traditional American lesson in that they have an overarching goal that may be part of a current national debate in education or something specific to a school’s culture. For example, a focus goal in Japan might be “helping students be active problem-solvers or develop scientific ways of thinking” (Lewis & Tsuchida, p. 14). Finally, the last two elements of a typical research lesson are that the lesson is discussed and recorded. The knowledgeable other plays an important part in making sure the last two phases are completed and the lesson study cycle can continue. Usually, teachers record lessons using videotapes, audiotapes and a variety of checklists and student-produced work. Discussions that occur during the debriefing session are candid, yet follow a semi-formal protocol with the person who taught the lesson being allowed to speak first to identify what went well and what could be improved.

This five-element process is the basis cycle that takes place during a research lesson. Lewis and Tsuchida (1998) use the analogy of a swift flowing river with the lessons being like rings of water in a pond. The rings spread out over the pond until they are no longer discernable and blend naturally in the body of water. Lessons, like rings of water in a pond, can be assimilated without any recognition as to their effectiveness - good or bad. If it weren’t for others watching and listening to what happens during a lesson, meaning could be lost.
and little improvement made. After seeing a Japanese research lesson on videotape an American teacher commented, “How different American mathematics education might be if we saw each other’s lessons and found out what other teachers actually meant by terms like ‘constructivism’” (p. 17).

A phrase so often heard in educational professional development arenas is that Americans talk the talk, but don’t walk the walk. Elmore (1996) commented that the U.S. doesn’t suffer from a low supply of good educational programs, but from a low demand for good educational programs. He stated that “Demand occurs when teachers want to improve their practice – and when they see the possibility of doing so” (p.17). Teachers engaged in the lesson study process have seen the change it makes in student learning. Given the time and funding for lesson study to occur, researchers feel that a demand for lesson study as a professional development tool would occur in U.S. schools.

Many educators recognize a need for change in the existing teachers’ working culture, but not the kind of change that typically happens in the professional development world in the U.S. Some refer to our idea of professional development as the “flavor of the month”. In sharp contrast to the U.S. method is the Japanese National Course of Study. A Japanese Ministry of Education official commented, “We change the Course of Study about every ten years. But the truth is that ten years is too short….So we make major changes in the Course of Study every twenty years or so, and in between it’s just fine-tuning” (Lewis & Tsuchida, p. 51). That fine-tuning in Japan is lesson study. As one Japanese elementary teacher stated, “Why do we do research lessons? I
don’t think there are any laws (requiring it). But if we didn’t do research lessons, we wouldn’t be teachers” (Lewis, p.6). Japanese teachers take part in approximately ten research lessons per year. The Japanese approach to professional development is different than the U.S. approach. Research lessons take place during the school day. Classes that are not participating in the lesson study cycle are often dismissed early or are allowed to work independently while the teacher is out of the classroom.

Lewis (2000) suggested nine ways that research lessons contribute to improvement of Japanese instruction from individual professional development to more generalized dissemination of new content and approaches. But she stated that the most significant improvement of instruction was that the teacher was able to develop the vision to see children. Often in American classrooms teachers will say, “I taught it. They just didn’t get it.” This approach is less likely to occur in a Japanese classroom participating in research lesson where a key element of teaching is learning to see what students bring to the instruction. In addition, having observers in the classroom watch children engaged in specific activities helps the teacher know what is going on while he or she is teaching. Teachers have the benefit of their colleagues watching for signs of misunderstanding or a total lack of understanding. And during a debriefing session, they can discuss solutions to what was observed.

Lewis (2000) stated the last contribution of lesson study to improve Japanese instruction was that research lessons honor the central role of teachers. Elmore (1996) stated that a deep cultural norm in education is the fact that
“successful teaching is an individual trait in the U.S. rather than a set of learned professional competencies” (p. 16). Ambitious and challenging practices like lesson study are embraced by teachers who are intrinsically motivated to improve their practice. Owens (2001) suggested that the best teachers are intrinsically motivated. However, if most teachers are extrinsically motivated, the core of schooling in the U.S. will remain relatively unchanged regardless of the latest professional development initiative thrust upon them.

Fullan and Miles (1992) would argue that American educators attempt to make changes or reforms for which they do not have the competencies. Because most teachers work in isolation, a body of professional knowledge is never formed to help develop those competencies necessary for reform. Consequently, reform movements tend to be trivialized and ultimately disappear with little or no actual change. In Japan, research lessons provide a way for teachers to rise to national stature while remaining in the classroom (Lewis, 2000). Teachers are responsible for their own professional growth. They do not consider professional development as an add-on to their job, but as a necessary part of the job for which they were hired.

Research and the Teaching Culture

The U. S. teaching culture where teacher as scientific researcher is the norm for professional development is a source of debate among educators. Eisenhart and Towne (2003) examine the definition of “scientifically-based research” and the implications for research in education. They state much of the debate centers on two questions: What constitutes “scientifically-based” research
in education? And is scientifically-based research the only or the best approach
to meaningful studies of educational phenomena? This examination is pertinent
in the review of lesson study for several reasons. Some researchers worry that
important ways of knowing what may have a significant impact on education
may be overlooked if the ways are practice-oriented rather than scientifically-
based. Other researchers believe that research methods such as non-scientific
experiments or randomized trials can be used to good advantage in educational
research.

In 2000 a National Research Council (NRC) studied the question of
scientific vs. non-scientific research, and in 2002 published its report the *Scientific
Research in Education (SRE)*. The report argued for a “postpositivist approach to
scientifically-based research in education, including a range of research designs
(experimental, case study, ethnographic, survey) and mixed methods (qualitative
and quantitative) depending on the research question under investigation”
(p.31). The report further stated that scientifically-based research is defined by a
set of principles, for example, pose significant questions that can be investigated,
use methods that permit direct investigation or disclose research to encourage
professional scrutiny and critique, not by research methods either qualitative or
quantitative. This finding fits well with the lesson study model as a method of
scientifically-based research.

Two other important findings of the *SRE (2002)* that support lesson study
as a scientifically-based educational research method are that researchers must
have the flexibility to choose methods based on their research questions; and that
there are not different standards for quantitative and qualitative work nor
should it be implied that qualitative research has no standards. Often
educational research in the qualitative form is thought to be so individualistic as
to have no generalized application to a body of professional development.
Eisenhart and Towne (2003) thought that some changes are being made in the
educational research community and that the definition of scientifically-based
research is being broadened. A qualitative approach such as lesson study might
be included in this definition of scientifically-based research.

Research Opportunities through Professional Development

An age-old statement among U.S. teachers that reflects the traditional
working culture in our schools is “Just leave me alone and let me teach. All that
research has nothing to do with my teaching.” Cannon and Fernandez (2003)
examined, through a case analysis of teachers engaged in lesson study, whether
teachers could produce sound research while performing their duties in the
classroom. It was their contention that lesson study is a valid form of teacher
research that helps teachers merge their practice and research. They further
identified lesson study as a form of professional development that is highly
beneficial to teachers as researchers of their own practice.

From a compilation of studies regarding teacher research, Cannon and
Fernandez (2003) cited the problems associated with merging research and
teaching. One problem was that researchers worried that poor research
produced poor practice. In addition, because there is so little empirical data on
teachers engaged as researchers, it is not known whether teachers experience
difficulties playing the dual role of teacher and researcher. Other problems identified were whether teachers had the time to conduct research and whether they had a substantial knowledge base of content to conduct research in their classrooms.

Teacher as Researcher

To help answer some of these questions on teacher as researcher, Cannon and Fernandez (2003) used teachers engaged in lesson study to collect data. They described lesson study as “teacher-directed, collaborative, grounded in everyday practice, and encourages sustained reflection” (p. 5). Their study included five middle school teachers from an urban school district. The teachers were conducting a lesson study unit in 7th grade mathematics. They were part of a larger group of lesson study participants who provided the middle school teachers with tools and support systems for the project. Cannon and Fernandez felt that their study could be generalized to other teachers engaged in lesson study practice.

Cannon and Fernandez (2003) concluded that the teachers they observed did in fact struggle to merge their research and teaching. They felt that a primary cause was the teachers’ beliefs in how to conduct research. Further, because of their beliefs it was impossible for teachers to engage in strong research and effectively meet their responsibilities as teachers e.g. simultaneously designing and teaching a lesson. Experts on lesson study would conclude that the U.S. teaching culture does not allow for the time or the collaboration necessary for teachers to be researchers of their own practice.
Although Cannon and Fernandez (2003) found that teachers ultimately struggled to merge research and practice while conducting a lesson study initiative, they proposed six principles for conducting teacher research that were grounded in an alternative view of research similar to the changes in research that Eisenhart and Towne (2003) discussed in their study. They believed their six principles “successfully merge teaching and research because they are based on a vision of research that is highly interpretive and action-based” (p. 16). Following this line of reasoning, it could be determined with continued practice, teachers engaged in lesson study could become better at understanding what “best” practices are and what actually works in the classroom. Further, Cannon and Fernandez argue that “teacher researcher’s blurring of the boundaries between research and practice is its greatest strengths” (p. 21).

Bolman and Deal (1997) talked about managers and leaders reframing or looking through the lenses of structural, human resource, political and symbolic frames. “Frames are both windows on the world and lenses that bring the world into focus. Frames filter out some things while allowing others to pass through easily” (p. 12). “Changing old frames takes time and effort. It is also risky – it might lead to further erosion of our confidence and effectiveness” (p. 30). Stepanek (2003) used this same theory related to lesson study. She said, “Lesson study can help teachers to see their classrooms through a research lens. The process has the potential to transform schools into places where teachers can investigate and verify what works for their students” (p. 2). It also has the negative potential that all change processes have – the potential to shake
teachers’ confidences in their art – the riskiness that Bolman and Deal reference. Stepanek approached lesson study as a professional development research tool that helped meet demands of federal legislation, specifically the No Child Left Behind Act.

Title II designated $2.8 billion for “preparing, training, and recruiting high quality teachers” (U.S. Department of Education, 2002). Stepanek (2003) defined professional development activities as “high quality, sustained, intensive, and classroom focused” (p. 2) as designated by the U.S. Department of Education. She further stated that lesson study is a tool that clearly meets the criteria.

Lesson Study as Research to Inform Practice

The process of lesson study stands apart from many professional development practices because it focuses on students in the classroom. Lesson study is as much a culture as a professional development activity because it requires an atmosphere of teacher collaboration that is not typical of the culture in U.S. schools. Developing a lesson as a team signals that the lesson is “owned” (authors quotation) by all participants rather than the property of any single teacher (Richardson, 2004). Teachers working in isolation has been the norm in U.S. classrooms. Lesson study incorporates qualities of effective professional development like collaboration, teacher-led, focused on specific tasks of teaching, and sustained over time (Stepanek, 2003). It focuses on the “how” to teach rather than on the “what” to teach. Again, this is culturally different than the traditional professional development procedure where teachers listen to the “professionals” talk about what they should be doing to
improve their practice. “Teachers need opportunities to investigate the connection between their practices and student performance – a perfect fit for lesson study” (Stepanek, 2003, p. 4).

However, there is a shortage of evidence that directly links lesson study to improved student achievement. The process of lesson study in the U.S. is too new for researches to make a significant claim that lesson study will improve student achievement. But because there may never be a professional development initiative that will tell teachers what to do day-by-day that will guarantee improved student achievement, the proverbial silver bullet, it is imperative that teachers know how to learn from their practice. This, lesson study can do. It focuses teachers on the results of their actions. It provides a process that teachers can learn from their practice (Stepanek, 2003).

Hiebert, Gallimore, and Stigler (2002) proposed lesson study as a means of transforming teachers’ informal knowledge into professional knowledge. Stigler and Hiebert (1999) also talked about building a professional body of knowledge for sharing what works among teachers. By seeing lesson study as this type of professional development, it becomes a research process capable of blurring the lines between the two (Cannon, & Fernandez, 2003; Hiebert, Gallimore, & Stigler, 2002; Stepanek, 2003). Lesson study allows teachers to replicate a study conducted by their peers. Although the role of teacher as researcher is not a familiar one in the culture of our U.S. teacher work place, lesson study can be seen as “a systematic inquiry into teaching practice” (Stepanek, p. 4). Stepanek also stated that rather than relying on researchers to tell teachers what works in
the classroom, lesson study is a medium for teachers to analyze and hone skills on their own. “Lesson study is a means for teachers to take an active role in generating new knowledge about teaching and learning” (p. 5).

Building a Knowledge Base

Can teachers in the U.S. build a knowledge base in education that improves the teaching profession? According to Hiebert, Gallimore and Stigler (2002) “there is a persistent concern that educational research has too little influence on improving classroom teaching and learning” (p. 3). What they contend is that the knowledge teachers use in their classrooms is a very different kind of knowledge that what is produced by researchers. “Called ‘craft’ knowledge by some, it is characterized more by its concreteness and contextual richness than its generalizability and context independence” (p. 3). Lesson study is the kind of professional development initiative that builds this kind of “craft” knowledge that is generalizable for other teachers. Traditionally, teachers rarely draw from a shared knowledge base to improve practice. With lesson study the collaborative process of lesson plan development, observations while teaching the shared lesson and finally, debriefing the whole process is exactly the process that researchers refer to as building a shared body of knowledge.

Hiebert, Gallimore and Stigler (2002) contend that it is possible in the U.S. to move from practitioner knowledge in teaching to professional knowledge base. First they identified three features of practitioner knowledge that were valuable for teachers; (a) practitioner knowledge is useful because it is developed in response to specific problems of practice, (b) practitioner knowledge is
detailed, concrete and specific, and (c) practitioner knowledge is organized and integrated around problems teachers find in their teaching practice.

Second, they describe characteristics of professional knowledge:

1. Professional knowledge must be public. In order for it to be public there must be a way for the knowledge to be communicated and shared with colleagues. Collaboration is essential.

2. Professional knowledge must be storable and shareable. It must exist long after the creator of the knowledge ceases to exist. Note: the authors stated that teaching, unfortunately, had not yet developed a professional knowledge system.

3. Professional knowledge requires a mechanism for verification and improvement. Further it must be accurate, verifiable and continually improving. The authors thought that repeated observation over multiple trials could over time yield trustworthy results.

What would it take to make the transition from practitioner knowledge base to professional knowledge base? Hiebert, Gallimore and Stigler (2002) outlined a system that would support such a transformation. The system is the Japanese model of lesson study. They argue that lesson study is collaborative. Group members work on a problem that is directly linked to their practice. Typically, the lesson study groups focus on how the knowledge can be made most comprehensible by the students. The process creates the time and opportunity to generate knowledge that integrates traditionally separate components. Finally, lesson study develops knowledge that is intended for
public discussion and examination. “In summary, this countrywide lesson study process generates practitioner knowledge but within a system containing features identified earlier as essential for transforming such knowledge into a professional knowledge base” (p. 10).

A New View of Professional Development

According to Proust, “The true voyage of discovery consists not in seeking new lands, but in seeing with new eyes” (p. 260, 1934). Stepanek (2001) explained that teaching is a cultural activity. Thus, she stated, teaching is resistant to change. By focusing on teaching rather than the teacher, Stepanek felt that teachers could be viewed as researchers and honor their own profession. She stated that even though the term lesson study was not familiar to most U.S. teachers, the process converged with current thinking about what is the most effective type of professional development. Typically, professional development for U.S. teachers happens outside the classroom. The unique characteristic about lesson study according to Lewis (2000) is that teachers develop the vision to see children. The process of watching students as they think and learn is the part of lesson study that is most appealing and exciting. According to Wang-Iverson (2002) lesson study provides two important pieces often missing in U.S. professional development: the direct observation of students and teachers in the classroom and teachers coming together to discuss what they have observed.

Educational researchers contend that school improvement initiatives fail to engage teachers as the knowledgeable practitioner. Lesson study as a professional development tool approaches teaching as intellectually demanding
work, as a collaborative, schoolwide process that views the teacher as a true professional. In the TIMSS video study (Stigler & Hiebert, 1999) U.S. teachers were observed to be more concerned with procedural knowledge than with professional knowledge or content knowledge. Lewis (2000) stated that lesson study provides a meaningful, motivating context in which teachers can build their content knowledge. In addition it gives teachers access to other teachers’ points of view. Lesson study forces teachers to take a new view of professional development that will improve their understanding of content and their teaching practice.

Lesson study can also be a new professional development process for whole-school research, a process not as commonly found in U.S. schools when compared to our Japanese counterpart. Teachers are learning to be researchers right in his/her own school buildings stated Kikuchi and Nagai (2002). The process of whole-school research using lesson study is similar to a single cycle of lesson study. Kikuchi and Nagai contend that lesson study as a whole-school research model can serve as a framework for U.S. schools that wish to use research-driven reform. The steps for whole-school research are: (a) develop a whole-school research theme or goal, (b) conduct subject area research and professional development around the theme or goal, (c) visit other schools focused on research theme, (d) lecture on the research theme, and (e) develop a research summary book.

It is important to understand that lesson study is the main vehicle that drives the whole-school research process when conducting subject area research.
The observation and debriefing steps in the lesson study cycle encourage teachers to step out of their role as teachers and into the role of researcher. Conclusions drawn from lesson study are often the stepping-stones for instructional improvement.

In addition to what teachers glean from each other in the whole-school research process, Japanese schools bring in guest lectures to enrich the research study. According to Kikuchi and Nagai (2002) guest lecturers broaden teachers’ thinking on a research theme. This is very much in line with the “knowledgeable other” in the lesson study cycle. The Japanese are not afraid to bring in outside experts to observe and “critique” the teaching and learning process in their classrooms and throughout the school.

The final step of the whole-school research process is to publish what has been done. In order to build a professional body of knowledge based on teaching strategies that can be validated, teachers need to share what is working in the classroom (Hiebert & Stigler, 1999; Hiebert, Gallimore, & Stigler, 2002; Kikuchi & Nagai, 2002). In the whole-school research model a written report from each group is included in a research summary book. In Japan, research summary books are provided to school’s important guests and educational-related government offices to showcase what schools have achieved (Kikuchi & Nagai, 2002).

**Integrating Research and Teaching Practice**

Many researchers see a great divide between external research organizations and the K-12 school systems. Sabelli and Dede (2001) proposed a
reconceptualization of current education research program to alter the focus of “scholarship on practice” to “scholarship of practice” (p. 1). Wang-Iverson (2002) stated that lesson study with its teacher-led, student-focused approach could be a research tool to integrate educational research more effectively with educational practice.

One place to start according to Sabelli and Dede (2001) is for researchers to help transform school culture that is centered on sustainable, scaleable, high quality educational practices of value to all students. There is general agreement that effective practice is based on thoughtful application of research. Practice that includes experimentation can raise critical questions to be answered by research. They further contend that a reprioritization of research policy and funding initiatives that highlight crucial types of education studies be supported by exemplary funding programs such as the National Science Foundation (NSF). One barrier of the lesson study initiative for school systems in the U.S. is the lack of adequate funding to support the teacher time and resources necessary for implementation.

The theory proposed by Sabelli and Dede (2001) to increase the impact of research on practice goes beyond transfer and action research. They argued for a relationship of scholarship and practice rather than scholarship of practice. The outcomes of research include people not just knowledge. The transfer between research and practice is implemented through both scholarly products and human-capacity building. Owens (2001) talked about building human capital in education. He stated that in educational organizations “powerful control is
exercised through the use of far more subtle and indirect means (than supervision down the line of authority): the development of organizational culture” (p. 118). Sabelli and Dede (2001) stated, “In developing better methods of applying research in schooling, education scholars should consider how and why existing models for implementing research in practice outside of education succeed (or fail)” (p. 3). Owens would conclude that human capacity holds a key to the model’s success or failure. Using the Bolman and Deal (1997) model, where leaders see a situation through a specific lens, Owens further talked about how business leaders in the United States need to view reform in U.S. school. He stated that business leaders should view the school reform movement through the lens of human capital, often referring to the “reform of education as an investment in human capital” (p. 119).

What Sabelli and Dede (2001) saw as a means to promote scholarship and practice is what Stigler and Hiebert (1999) called a common knowledge approach. Sabelli and Dede talked about “nurturing a community of researchers that share language, methodologies and goals across disciplinary boundaries” (p. 3). This is exactly what Stigler implied was necessary to improve the practice of teaching and learning – a common knowledge base that all teachers could share. Lesson study lends itself to the development of a shared language i.e. practice through experimentation, collaboration and evaluation, many of the characteristics shared by external researchers.

Further, Sabelli and Dede (2001) contend that what is required from research-minded practitioners should not be “action research” i.e. academic
research carried out in the classroom. Rather it should be experimental practice and revisions of classroom practice by teachers with the collaboration of researchers. Again, one can see the similarity of process with the lesson study cycle. In the view of Sabelli and Dede, the conventional intent of large-scale research to achieve change shifts to sustained planning for continual, reflective improvement. “Focusing on the process as well as on outcomes enables practitioners to start with objectives consistent with their own current problems” (p. 8). This is also the focus of developing lesson study goals in whole-school research – to start first with current problems and develop whole-school goals from those problems.

Cochran-Smith and Lytle (1990) also discussed the idea of a body of knowledge and its relationship to teaching and teacher as researcher. They stated that considerable emphasis in educational research has been given to developing a systematic body of knowledge but little attention has been given to the role teachers might play in generating this body of knowledge. They further stated that given our current system, classroom practices have no formal way to be documented as part of the literature on teaching. “As a consequence, those most directly responsible for the education of children have been disenfranchised” (p. 2).

Cochran-Smith and Lytle (1990) define teacher research as systematic, intentional inquiry by teachers. By systemic they refer to ways of gathering and recording information, documenting experiences inside and outside the classroom and making a written record of the findings. By intentional they mean
that teacher activity is planned rather than spontaneous. And by inquiry they suggest that teacher research stems from questions about teaching and reflects the teacher’s desire to make sense of those questions. All of these terms fit with the idea that lesson study could be a form of teacher research.

The term teacher research has been an umbrella term to define a wide range of school improvement initiatives or professional development opportunities in U.S. schools. In the 50’s and 60’s it was referred to as “action research” or “comparative research on the conditions and effects of various forms of social action, and research leading to social action” (Lewin, 1948, p. 202-203). But Cochran-Smith and Lytle (1990) contend that research on teaching constrains, and even at times makes invisible, the teacher’s role in generating knowledge about teaching and learning in the classroom. They believe as many current educational researchers that teachers could strengthen their judgment and improve their classroom practices through direct involvement in their own research (Lewis, 2000; Stigler & Hiebert, 1999; Wang-Iverson, 2002).

In 1904 Dewey emphasized the importance of teachers reflecting on their own practice. Lesson study is a way for teachers to identify their own questions about their teaching, observe and document their findings, analyze and interpret their results and share their results with other teachers. Cochran-Smith and Lytle (1990) stated

There is little disagreement that teachers who engage in self-directed inquiry about their own work in classrooms find the process intellectually
satisfying. They testify to the power of their own research to help them understand and transform their teaching practices. (p. 6)

Rhine (1998) suggested that the value of educational research to the teaching community is not the acquiring of research-based knowledge of student understanding, but it is the process of teachers engaged and using that knowledge and its implications for their instruction. He claimed that “teachers can be transformed into facilitators of students’ learning who see the education power of inquiry into students’ understanding” (p. 27).

Considering the role that educational researchers might play in furthering teacher change toward educational reform, Rhine (1998) examined two research-informed professional development projects that focus on changing teacher beliefs and practices. These two projects were the Cognitively Guided Instruction (CGI) from the University of Wisconsin, Madison and the Integrating Mathematics Assessment (IMA) from the University of California, Los Angeles. A theme running through both the CGI and IMA projects was that teachers needed to increase their knowledge base in order to be more effective.

Further identified was that teacher’s lack organization about their students’ informal knowledge of mathematics. The CGI projects discovered this through its focus on their professional development initiatives. Both projects recorded that professional development should shift teacher’s focus away from the teacher and focus instead on teaching and student learning. “Instead of teachers reflecting on what students are doing, they appear to begin to consider what students are thinking and understanding” (p. 28).
Rhine (1998) continued to explain the success of the CGI and IMA projects when he stated that perhaps the major impact of the projects on advancing educational reform is due to teachers’ engagement with research that serves as a catalyst for changing the way they view teaching and learning. He further concluded that professional development should include training for teachers so that they can employ research-based resources. Ideally, teachers in the U.S. should have more time to reflect on these professional development resources for their planning. True educational reform requires new models of professional development that address teacher change effectively.

Lesson study is a professional development tool that is aligned with projects such as the CGI and IMA. Castori (2002) suggested that rather than situate lesson study within science education, math education, or even professional development domains, that lesson study “be aligned alongside the strong, well-established, respected traditions of action research and teacher research” (p. 2). Lesson study experts (Lewis, 2000; Stigler & Hiebert, 1999) also contend that educational reform should be coupled with researched-based knowledge, with new models of professional development, and with more time for teacher planning and collaboration. They would agree with Rhine when he stated that “professional development for educators that has the most far-reaching potential combines the expertise of researchers and teacher leaders” (p. 31). Nesting lesson study within the context of educational-based research might nurture the lesson study movement and help to maintain the integrity of the process, and be a key to enabling it to fit into the U.S. educational culture.
Advantages of Lesson Study as a Professional Development Tool

Although lesson study can not be linked to improved student achievement when comparing scores on standardized test, according to Lewis (2000) there are three significant advantages to lesson study as a professional development tool. First, by using the lesson study process teachers increase their knowledge of subject matter and improve their teaching skills. Second, lesson study facilitates a stronger collaboration and personal learning structure among teachers. Third, lesson study enables teachers to see students and student learning through keener eyes. This ability, according to Lewis, is perhaps the most significant advantage of all when using the lesson study process.

In lesson study the focus is on the concrete examination of practice and the testing of new ideas in actual classrooms. Through this examination teachers acquire new content knowledge, develop pedagogical skills and learn more about their students (Fernandez, Chokshi, Cannon, Yoshida, 2003). Lesson study is also teacher-directed and inherently collaborative. Teachers work together with a shared sense of purpose. Lesson study provides teachers with the opportunity to learn from each other’s experiences, thus building a shared body of knowledge. Stigler and Hiebert (1999) talked about the necessity of the educational profession building a shared body of knowledge in their book *The Teaching Gap*.

The first advantage, using lesson study to increase teacher’s content knowledge, was the subject of a study conducted by Fernandez (2003). Fernandez’ study involved thirty mathematics teachers engaged in the lesson
study process from 1999 to 2001. Her study explored how lesson study might unfold in a U.S. setting when teachers understood the basic components of the lesson study practice, but carried it out on an individual basis. She asked “Does lesson study set the stage for teachers to develop the knowledge of math that they need for particular teaching in a reform-minded manner?” (p. 9).

Fernandez talked about the broad label of reform-minded teaching using lesson study as a means for U.S. teachers to develop content knowledge in mathematics. She contended that adopting a method of teaching such a lesson study is difficult in U.S. schools because “teachers may not have the requisite knowledge of math that is needed to be able to teach this way” (p. 3). However, using the lesson study process, teachers engage in learning experiences that center on the concrete examination of practice and content. “Teachers engaged in lesson study examine their practices by first planning lessons together and then evaluating those lessons through teaching and observing them in real classrooms” (p. 5).

Fernandez (2003, p. 9) documented conversations organized around three separate issues that produced opportunities for teachers to develop pedagogical content knowledge. The three issues of conversation were: (a) What sharing problems will get students thinking about fractions, (b) What exactly will students think about with respect to fractions, and (c) How can a teacher make students appreciate the mathematics entailed in their thinking?

Lesson study also produced the opportunity for the teachers in the study to discuss how to react to the unexpected events that arose during their
classroom teaching. Being able to think on their feet is an area that researchers of
lesson study (Lewis, 2000; Stigler, 1999; Watanabe, 2003) site as being a
weakness among U.S. teachers. Fernandez (2003, p. 16) quoted a teacher who
expressed strong feelings about this concept. “I feel like I flopped because I
didn’t know how to react to them (students) when I got nothing.” Sustained
engagement in lesson study can provide teachers repeated opportunities to think
through how to handle such situations. By thinking about how to teach their
students about fractions these teachers found themselves deepening their own
understanding of the content area.

Stepnanek (2003) stated that by using lesson study in an eighth grade
math class in Tillicum Middle School, Bellevue, Washington, sixteen year veteran
teacher found that her math content knowledge increased. By anticipating
students’ approaches she built a stronger foundation for learning both for herself
and her students. “You learn the math along the way,” she said. “You also see
how all the pieces fit together, step by step by step. I teach everything a little
more solid, I feel” (p. 6).

The second advantage of using lesson study, according to Lewis (2000) is
to help teachers develop stronger collaborative and personal learning structures
with their colleagues. In another study conducted by Fernandez, Cannon and
Chokshi (2003) sixteen teachers were recruited from an urban public school in
New Jersey to work collaboratively with each other and with a dozen Japanese
teachers from the Greenwich Japanese School in Connecticut. The Japanese
teachers served as coaches to the American teachers, something that is
uncommon among American teachers. The risk factor of U.S. teachers coaching colleagues is too great to occur on an everyday basis due to the American emphasis on evaluation.

Fernandez, Cannon and Chokshi (2003) and their research team documented the work of the teachers through videotaping, field notes and informal meetings. Although the American teachers had difficulty staying focused on the research aspect of constructing a lesson, keeping the students’ anticipated responses and their background knowledge in mind, they did find that the lesson study experience increased their collaboration with their colleagues. One 5th grade teachers stated, “I have learned so much from the lesson study experience and working cooperatively. This experience has helped me more than just having developed one lesson. It’s really more the lesson study process that’s helped me learn” (p.4).

Gilmore and Hawkins (2003) discussed another example of teacher collaboration during a study of the Teachers as Leaders Summer Academy in Arkansas, July 2002. In the Academy 15 teachers from four elementary and middle schools in Benton, Little Rock and North Little Rock gathered to learn about the lesson study process. In the Academy they learned that the main goal of the process is not the lesson. The key is improving instruction, and the lesson study approach addresses so many instructional issues in an economical way.

Most importantly stated Gilmore and Hawkins (2003) the lesson study approach addresses the problem of how teachers work in isolation. In the Summer Academy, the teachers felt, even with the differences in student
population that made teaching the same lesson difficult, they were more comfortable with collaboration because they had the opportunity to learn from each other. “It’s helped me realize that working with another colleague makes lesson development much easier,” said a sixth-grade mathematics teacher. “If we can have some time to work together, students will benefit from it” (p.14).

The third and perhaps the most significant advantage to using the lesson study process is the ability it creates for teachers to see students and student learning through keener eyes (Lewis, 2003). Blakenship (2003) quoted teachers involved in lesson study initiatives:

Lesson study reminded me that I can write the most impressive lesson plan on paper, but if it doesn’t connect with students it does nothing.

and

This study made me focus on how the students might react to the lesson. I found myself in the role of the learner as much as the instructor. (p. 16)

According to Vale (as cited in Binder, 2004), principal of Brookpark Memorial Elementary School, developing the lesson is just the first step in the lesson study process. In order for teachers to really see their students through a non-traditional teaching lens, a knowledgeable observer is part of the lesson study process. “When you are teaching you just don’t see what an observer does from the outside looking in,” explained a teacher from Brookpark Elementary. The observer is watching how the students are responding to the lesson. After
the lesson has been taught the observer and teacher debrief about how the students responded to the lesson. “Of course the teacher is important,” explained a second grade teacher. “But it is important to focus on the students and how they react to the lesson” (p.13).

A key element in planning a lesson using the lesson study process is anticipating students’ responses. According to Fernandez, Chokshi and Cannon (2003) a central aspect of the planning format is to ask teachers to think about the lesson they are planning from the perspective of the students who will take part in it. This is what is meant by the third advantage of seeing the student with keener eyes. “This anticipation is meant to help teachers think about how students’ contributions to the lesson can be maximized and expanded” (p. 8)

Summary

In Chapter Two I explained the term lesson study and its Japanese origin, and I discussed the seven basic steps that outline the process. A summary of the Third International Mathematics and Science Study (TIMSS) explained the need for change in the U.S. math and science classrooms. The TIMSS indicated that the longer U.S. students stayed in school, the lower they scored on standardized math and science tests. Stigler and Hiebert (1999) wrote *The Teaching Gap* after studying videos of Japanese and other peak performing countries’ classrooms. In *The Teaching Gap* they outline how to improve teaching and learning using the lesson study model.

I further reviewed literature that talked about the organizational culture in U.S. schools. A major finding was that U.S. schools base their organizational
culture around orderly classrooms and student control; and that culture could be defined as “the way we do things around here.” Little attention was paid to collaboration among teachers or leadership in the schools. The literature spoke to a failure among educators to reach consensus regarding pedagogy to improve student achievement.

Lesson study was discussed as a professional development process. Why lesson study? The literature stated that lesson study addressed specific needs within the classroom i.e. the isolation issue, teacher collaboration, and improved content knowledge of teachers. In addition, lesson study fit the model of scientifically-based research. Teacher as researcher was reviewed using lesson study as the research model to improve instruction.

Finally, I reviewed the advantages of lesson study as a professional development tool. The advantages included increased knowledge of subject matter and teaching skills; developing a stronger collaboration and personal learning structure for teachers; and developing a keener vision to see students’ learning through the lesson study approach. The next chapter will discuss the methodology used in my research to determine whether given the existing teachers’ culture in U.S. schools, lesson study could be a viable professional development tool.
CHAPTER III: METHODOLOGY

The purpose of this phenomenological case study was to determine whether given the existing teachers’ culture in U.S. schools, lesson study could fit into that culture as a viable professional development tool. Using qualitative research methodology, teachers who were engaged in lesson study groups were studied in the beginning, middle and end stages of the process. Three major data collection strategies in qualitative educational research are document collection, observation and interviews plus taking extensive and detailed fieldnotes. The data collection strategies used for my study were individual interviews, focus group interviews, direct observation, videotaped observation, documentation and artifacts of the actual lesson plans constructed by lesson study groups.

Two basic questions were used to guide the research process; and a subset of ten questions was used during the individual interview process. My two research questions focused on lesson study and the culture of U.S. schools and teachers’ attitudes and beliefs about the use of lesson study as a professional development tool. In addition, the list of ten sub-questions used during individual and group interviews were constructed from the literature reviewed on lesson study and were used consistently to add credibility and uniformity to the data gathered and the interview process.

Research Perspective

Eisner (1998) talked about perceptual differentiation as “having opportunities to compare and contrast qualities and configurations; watching videotapes or observing classrooms in which two teachers teach the same
subject...to comparable groups of children to provide a rich resource for
developing similarities or differences” (p. 234). Without realizing it eighteen
years ago, Eisner described a qualitative research study on the subject of lesson
study. Eisner continued his argument regarding how to generate theory in
qualitative educational research, stating, “What are needed, in my view, are
videotapes and visits to real settings in which theories can be applied for
purposes of explanation” (p. 238). In response to Eisner’s advice about data
collection, I conducted individual and group interviews; videotaped research
lessons and observed debriefing sessions; and applied the characteristics of
lesson study gleaned from the research literature to build theory on the process
and the viability of using lesson study as a professional development tool in U.S.
classrooms.

**Qualitative Definition and Rational**

Gay (1996) stated that some qualitative researchers try to contribute
directly to the development of theory, but it is grounded theory, i.e. theory based
on data collected in real-world settings, which reflects what occurred naturally
over an extended period of time. She further stated that qualitative research
involves making sense out of an enormous amount of narrative data in order to
gain insights into a situation of interest not possible using other types of
research. For example, a quantitative research methodology would be
inappropriate for this study because the process of lesson study is too new. We
cannot prove that lesson study significantly improves students’ test scores.
There are five characteristics of qualitative research, all of which are not exhibited in every case study with equal importance. Thus, the following five characteristics served as guidelines for this research study. Bogkan and Biklen, 1992, p. 27 – 30) stated (a) qualitative research has the natural setting as the direct source of data and the researcher is the key instrument, (b) qualitative research is descriptive; uses words rather than numbers, (c) qualitative research is concerned with process rather than outcome or product, (d) qualitative researchers analyze their data inductively rather than setting out to prove or disprove hypotheses, and (e) the essential concern of the qualitative researcher is the “meaning” derived from her study e.g. the participant perspectives.

Lesson study researchers (Boss, 2002; Chokshi, 2000; Lewis, 2000; Stigler, 1999; Wang-Iverson, 2002) have primarily used qualitative methodology in order to build theory. Questions formulated for a qualitative study are much more general than for a quantitative study. In a qualitative study, the sampling is usually purposive, meaning that the sample is selected purposefully because it is believed to be a rich source of the data needed for the study.

In this study a purposive sample of teachers and administrators was selected from three different school systems: an urban district in Northeastern Ohio (System A), an educational resource center in Stark County, Ohio (System B), and an educational resource center in Hamilton County, Ohio (System C). Each system was at a different stage of the lesson study process. System A had just begun their first cycle in the lesson study process. System B had completed at least one cycle of lesson study. System C was the most advanced system in the
process with several teams of teaching having completed four cycles of lesson study.

Because qualitative researchers are highly aware of the potential for inaccurate data collection, a strategy called triangulation is often employed. Triangulation is the term used for multiple methods of data collection strategies and data sources. Eisner (1998) used the term structural corroboration to describe multiple sources of evidence or the recurrence of instances that support a conclusion. For this study triangulation is the process of interviews, observations and fieldnotes collected to record data. This qualitative analysis defined triangulation as the multiple methods to collect data to study the same phenomena, lesson study. The multiple methods used were interviews, observations and fieldnotes.

Triangulation provides a wide and rich source of information, which researchers can examine for consistency across observations and consistency in interview information collected, often referred to as themes. In this study data was read and reread to classify common ideas that emerged from interviews and observations. These common ideas are referred to as themes and sub-themes. In Chapter IV, I will identify the themes and sub-themes that emerged during my data collection through observations and interviews with lesson study participants. It is my intention to analyze the data collected using a qualitative approach to answer the research question whether lesson study can fit into the existing work culture of teachers in U.S. schools.
Qualitative studies are full of opportunities for generalization which researchers see as a potential limitation. According to Merriam (2001) the question of generalizability has plagued qualitative investigators for some time. She equated external validity with generalizability when she stated that “external validity is concerned with the extent to which the findings of one study can be applied to other situations” (p. 207). When considering the generalizability of a qualitative study, observations should accurately reflect the situation under study.

Eisner (1998) would concur with the concept that in a qualitative study, generalizability could be a concern. When dealing with a qualitative study in education he stated, studies “need to be treated as tentative guides, not as prescriptions to follow” (p. 209). In a quantitative study, conclusions and generalizations are formulated at the end of the study, but in a qualitative study conclusions are drawn and reviewed on an ongoing basis. The issue of generalization is left up to the readers of the research.

I believe the concept of generalizability can be applied in a positive manner to lesson study for two reasons. One, the lesson study process will help to build a body of knowledge from which educators can work. Second, the lesson study process itself will be a professional development tool that can be used in all subject areas and grade levels. Lesson study, as Stigler (1999) contends, is not a prescriptive professional development tool. Rather, as my research will indicate, it is a collaborative professional development teaching tool that can be used to improve student and teacher learning.
Although lesson study is too new of a professional development tool to quantitatively prove its significance in the form of increased test scores, the lesson study process itself can be replicated and applied to the teaching of any lesson to possibly improve student learning. Thus, the idea of generalizability can be applied to the lesson study process in terms of external validation as Merriam (2001) implied in her research.

In collecting data on lesson study, my participants represented the general educational culture currently engaged in lesson study across the country. I took steps to include school systems in various stages of the process. In addition, participants were from different subject areas and grade levels. My findings can be generalized concerning the future of lesson study in U.S. classrooms and as a professional development tool. According to Eisner (1998), “The most important test of qualitative research is it usefulness” (p. 58). Qualitative research can function as a guide. A good guide deepens and broadens our understanding of something. It is my intention to produce research on lesson study that will serve as a guide to educators to help promote a deeper understanding of the teaching and learning process.

Phenomenology and Ethnography

This research study, examines the lesson study process, using a combination of phenomenologic and ethnographic research methodologies. In a phenomenological study, events are examined in particular situations. The results of the examinations are studied to find meaning in the interactions that occurred during the situation. Lesson study as a professional development tool
is the particular event being examined. From the examination an attempt can be made to determine whether lesson study can be a viable tool given the culture in U.S. public schools. An ethnographic study involves the examination of culture or aspects of culture. Because my research question specifically addresses the study of culture in U.S. public schools, an ethnographic methodology was also used.

Phenomenological research attempts to understand the meaning of events and interactions to ordinary people in particular situations. Phenomenologists believe that for human beings multiple ways of interpreting experiences are available to each of us through interacting with others (Bogdan & Biklen, 1992). In addition, qualitative research stresses a phenomenological model in which reality is rooted in the perception of the subjects. It also emphasizes natural settings, understanding, verbal narratives and a flexible design (McMillan & Schumacher, 1989).

Bogdan and Biklen (1992) also stated that qualitative design research is flexible. Although I had pre-constructed questions to help guide my interviews, I allowed the participants to talk freely about their experiences with the lesson study process. A skilled interviewer can enhance motivation of the participants and thus obtain information that might not otherwise have been offered. There are three types of interview questions that will be discussed in the Collection of Data section of this chapter.

The attempt to describe culture or aspects of culture is called ethnography. Researchers often disagree on a definition of culture. Bogdan and
Biklen (1992) define culture as “the acquired knowledge people use to interpret experience and generate behavior” (p. 35). Educational researchers use the term ethnography to refer to any qualitative study. Other qualitative researchers describe phenomenology as utilizing sensory impressions to render lived experiences. Meaning, derived from interviewing or observation, is never predetermined, but comes from individual interpretation of cultural experiences in everyday life (Holstein & Gubrium, 1998). Thus, it is important to recognize that “Judgment and interpretation enter into all renderings and research, even positivistic quantitative research” (Piirto, 2002, p.183).

Case Study Reference

Bogdan and Biklen (1992) believed that a person’s own biography is an influence in defining the study. Meaning that events or situations about which a person has interest and concern, would be suitable criteria for a case study. Whatever the study, it should be important to the researcher because “Without a touch of passion you may not have enough to sustain the effort to follow the work to the end” (p. 57). I have that passion for lesson study and thus, I chose to do an ethnographic case study of the lesson study process using data gathered through observations, interviews and documentation in three school districts at different stages of the process.

In a qualitative case study the researcher is, in most cases, the only instrument to collect data. Thus, the concepts of validity and reliability must be looked at quite differently than in a quantitative study. Validity and reliability cannot be expressed numerically; yet they are still very relevant. In a qualitative
study validity is the degree to which observations accurately reflect what was observed. Valid interviews must accurately reflect the feeling and opinions of the people being interviewed. Validity and reliability are highly correlated with the competence and experience of the person conducting the study. Guba and Lincoln (1981) caution that “An unethical case writer could so select from among available data that virtually any thing he wished could be illustrated” (p. 378).

According to Bogdan and Biklen (1992) “a case study is a detailed examination of one setting, or one single subject, or one single deposit of documents, or one particular event” (p. 58). There are many different types of qualitative case studies. There are the historical organizational case study, the observational case study and the life history case study. For my research I did an observational case study. In an observational case study, the major data-gathering technique is participant observation. This can take the form of actual classroom observations, participant interviews and document collection or fieldnotes. I utilized all three data-gathering techniques in my study.

There are, however, limitations to qualitative research and case study design. Many researchers believe that because the primary instrument of data collection is the researcher in qualitative research, a limitation is the competency of the researcher herself. The researcher must be trained in observation and interview techniques and in analyzing and constructing meaning from the data collected. Interviewing is more than just asking questions. The interviewer must be aware of voice inflection, facial expressions or body language. An interviewer needs to know when to bring a participant back on track without stifling possible
research data that goes beyond the question. According to Bogdan and Biklen (1992) interviewing captures the participant’s own words and allows the interviewer to analyze those words. During analysis of the data collected, a researcher’s skills must be sharp in order to draw meaningful conclusions using qualitative methods.

Context of Study and Participants

The context of this study was a nonrandom, purposive sampling of teachers, administrators and classroom lessons. Gay (1999) stated that observation, interviews, and documentation are common forms of data collection. She defined qualitative research as “the collection and analysis of extensive narrative data to gain insights into a situation of interest not possible using other types of data” (p. 208). The above stated forms of data collection were used in my research. In this section a description of the three school systems engaged in lesson study at various stages of the process will be presented. Lesson study is a fluid professional development process not designed to be a cookie-cutter method for all types of systems, teachers or classrooms to apply in the same way. For that reason, I selected three systems at different stages of the process. I collected data within the natural setting of the classroom through direct and videotaped observation. In addition, I collected data during planning sessions where teachers collaborated on a particular lesson and during teacher debriefing sessions after the lesson was taught. I also collected fieldnotes and documents from collaborative workshop sessions and lesson planning. Teachers selected for individual interviews were at various
stages of expertise in the lesson study process. All observations, interviews and
debriefing sessions were audio taped and then transcribed verbatim for coding
and analysis purposes.

School System A

School System A is an urban district in a large metropolitan city in Ohio. The system is a K – 12 school system with approximately 36,000 students. It consists of nine high schools, 10 middle schools, and 65 elementary schools. System A, as is the case in many urban school systems in Ohio, is in a state of “Academic Emergency” a condition determined by the state that reflects the district’s well-being based upon the number of students who pass the state proficiency tests, attendance rate, and graduation rate. In addition, most of the school buildings fall under the sub-standard score for safe, thorough and efficient facilities and are slated over a period of ten years to be renovated or replaced using the Ohio School Facilities formula for financing. Over one hundred teachers were laid-off this spring with more cuts possible. However, curriculum coordinators for core subjects have not been eliminated and professional development money for continuous curriculum alignment workshops was not eliminated.

In School System A, I observed a combination of middle and high school science teachers engaged in curriculum alignment. The group of teachers that I observed during their professional development Saturday workshop sessions were involved in the process of aligning science curriculum indicators to the Ohio Graduation Test (OGT). During their process of alignment the Curriculum
Director became involved in the professional development methodology of lesson study.

The District Science Curriculum Director engaged eight groups of teachers divided by grade level, but not by building, in collaboratively designing a lesson based on at least one science indicator needed for mastery on the OGT. During this design procedure, I observed each group on at least two separate occasions and took fieldnotes to document the teachers’ reactions and interactions. Once the lesson plan was finalized, the groups were instructed to teach the lesson with at least one other member of their collaborative group observing while the lesson was being taught. The third and final step in their first cycle for System A was to come back together on a Saturday and debrief about how the lesson went; what could be changed; how well students performed when they were tested on the indicators being taught. During the debriefing session, I observed and took notes from all eight groups engaged in the lesson study process.

In addition to the group observations and data collection, I selected three science teachers, one from a middle school and two from a high school to interview about the lesson study process. All three teachers were at the Saturday sessions that I observed and had a good understanding of the lesson study process and how it could impact student learning in the future. Following the individual interviews, I conducted one focus group interview with teachers from the Saturday session. I also elected to interview the Science Curriculum Director of System A because of her dedication to the continuous learning process for the
science teachers in her district and her knowledge of lesson study, as well as other professional development initiatives.

School System B

School System B is an Educational Resource Center (ESC) consisting of urban, rural and suburban school districts in Ohio. There are twelve local school systems, five city school systems and one joint vocational school system in System B. The make-up according to number of buildings is seventeen high schools, twenty-five middle schools and sixty-four elementary schools. The total student population is 63,000 students. The size range of the high schools according to number of students who graduate is from eighty students to five hundred students in the twelfth grade. Most school districts in School System B fall under the “Continuous Improvement” category, a condition determined by the state. School systems labeled as “Continuous Improvement” need a CIP, an action plan designed by each district that indicates what steps will be taken to improve the district.

For the purpose of researching lesson study System B organized eight to ten teams comprised of science and social studies teachers from grades six to twelve who were interested in participating in the study. Their goal was: “To improve student learning and comprehension of specific science or social studies concepts; to foster the enjoyment of subject matter for learners and facilitators.” Teachers were paid a stipend to take part in the research study. A team consisted of three to five teachers who were teaching the same subject at the same grade level. The requirements were that each teacher made a one-year
commitment to the study by attending collaborative planning sessions and
debriefing sessions after regular school hours. In addition, teachers had to be
willing to teach a collaboratively planned lesson while other members of the
team observed the lesson. The goal was to go through one complete lesson study
cycle during the school year.

The curriculum coordinator of the ESC organized a pilot group of teachers
to take part in after school workshop sessions. During these sessions, teachers
were instructed to select a topic from their respective disciplines and
collaboratively design a lesson that each of them would ultimately teach back in
their own buildings. I observed each group on at least two separate occasions
and took fieldnotes to document the teachers’ reactions and interactions. One
observation took place before the lesson was taught and the other observation
took place at a debriefing session after the lesson was taught. It was during the
last group session observation that I asked the coordinator to help me select three
teachers for individual interviews.

In addition to the fieldnotes and debriefing notes that I collected during
the group sessions, I interviewed three teachers from School System B. All three
teachers had taken part in an individual lesson study cycle a year prior to the
group collaborative sessions. Although the focus of the professional
development initiative in this school system was on Ohio Graduation Test prep,
the participants had valuable and rich data to contribute to my research
questions due to their experience with the lesson study process. Finally, I
conducted a focus group interview using teachers who had taken part in the
pilot program of collaborative lesson designing workshops to further the lesson study process.

*School System C*

System C is the third and final school system I used to gather data for my research study. System C is the most advanced school system in the lesson study process and has been participating in lesson study for two years. According to their website description, System C is an Educational Resource Center recognized as a role model service provider at local, regional, state and national levels. This Educational Resource Center serves public school districts, non-public schools, and other educational organizations in Northwestern Ohio. It is the second largest of sixty-one educational service centers in Ohio serving more than 100,000 students in both public and non-public schools. Their vision is to be a leader in advancing education and learning. There are currently six teams of teachers who are engaged in their fourth cycle of lesson study.

I have a particular interest in School System C’s initiative for several reasons. One is the fact that they have sustained the lesson study process the longest in Ohio making them a good source for data collection for my research question - whether lesson study can fit into the culture in U.S. schools. Secondly, on a more personal note, I had a direct connection to the lesson study initiative being started in System C. The following is a quote from an e-mail sent to me from the School Improvement Consultant in School System C (personal communication C. West, March, 2002)
Good to hear from you. Our team’s visit to your school really kicked off our interest in Lesson Study here at System C. Ever since our visit to your school 2 years ago we’ve been working on getting lesson study cycles established ....

In System C, I observed a research math lesson being taught to fifth graders, a debriefing session with all teachers who collaborated on the research lesson and a formal Lesson Study Open House with Dr. Catherine Lewis as the keynote speaker. I was fortunate enough to have been able to pick up Lewis at the airport and to conduct a personal two-hour interview with her during the drive to the Lesson Study Open House. She also consented to our interview being tape-recorded. During the two-day Open House I interviewed two teachers. One teacher was a team leader for the Grade 5 team; and one teacher was a team leader for the Grade 7 team. Each interview took place at the Educational Service Center and lasted for one hour. In addition, I interviewed a third teacher via telephone the week after the Open House.

The make-up of the schools where lesson study is taking place in System C is very diverse. One district is, what used to be called, a “bedroom” community – a small suburb built up in the ’60s, but has added low income housing in the past five years. The elementary school has 38% African American students and 56% White students. In addition, 18% of the students in this school are economically disadvantaged and 13% of the students have disabilities. The second school where lesson study is taking place is a high-growth upper income
area, just outside the perimeter ring of the city. It is the “new place to live” with little diversity. The last school involved in System C’s lesson study project is a school with a large portion of African American students. This elementary school is the newest in System C to begin the lesson study cycle and the school with the highest poverty rate. It is located in the Appalachian area of the inner city. Analysis of the data collected from this school could potentially have significance related to standardized test scores and the achievement gap as addressed in the No Child Left Behind Act concerning minority students.

The Researcher

As stated earlier, being passionate about a subject is a key element for any researcher and I am passionate about lesson study. I first learned about lesson study during a conference in Washington D.C. where Stigler was the keynote speaker. It was after that conference that I brought lesson study to my own district in Northeastern Ohio in the year 2000. We formed three teams, two teams in mathematics and one team in science, that each completed one cycle of lesson study during the 2000 – 2001 school year. We were in our second year of lesson study when we brought Stigler to the district as a resource to further the professional development initiative. It was through our initiative that other school systems, particularly School Systems A and C used in this study, first became interested in the lesson study process.

I started my educational career as a secondary school teacher of English/Language Arts. After teaching in every grade from seventh through twelfth, I decided that I wanted to take my career in another direction and
earned my Master’s Degree in Secondary School Administration. My first job in administration was as an Assistant Principal in a partially rural and partially suburban district. In that position I had the opportunity to spearhead curricular initiatives at a district level. Studying curriculum and different teaching strategies in an effort to improve student learning became a passion for me. Because it was a small district with no central office director for curriculum and instruction, administrators were responsible for one curriculum development study per year. I gained valuable experience during my tenure in that district.

I stayed in my first administrative position for five years and then moved to my current district again as an Assistant Principal. In addition to my responsibilities as the Assistant Principal, my superintendent assigned the position of Technology Director for the district to me. This position gave me the opportunity to discover a variety of professional development strategies from a technological side as well traditional methodologies. It was during my investigation of various professional development initiatives at our district level, as well as at a state and national level, that I decided to explore the possibility of lesson study as more than just another “flavor of the month” teaching tool. I began researching lesson study for a directed action research course at the doctoral level. The research conducted for that course further led me to expand my study into a dissertation. It is my hope that this research will make a significant impact on current teaching strategies not only in the school systems used for research in this study, but in classrooms across the country.
Merriman (2001) stated, “One or two methods of data collection predominate; the others play a supporting role in gaining an in-depth understanding of the case” (p. 137). The mainstay of qualitative data collection is participant observation. Participant observation is defined as “research that involves social interaction between the researcher and informants in the milieu of the latter, during which data are systematically and unobtrusively collected” (Bogdan & Taylor, p. 15). Most researchers have general questions in mind when they prepare to begin data collection.

Bogdan and Taylor (1984) stated that questions fall into two broad categories: substantive and theoretical. These two categories are interrelated. A good qualitative study combines both – an in-depth understanding of a particular setting and general theoretical insights into the subject being researched. They advised that it is better not to hold too tightly to the theoretical but to explore phenomena that emerged during observations. Furthermore, Bogdan and Taylor (1984) explained that:

The phenomenologist seeks understanding through qualitative methods such as participant observation, in-depth interviewing and others that yield descriptive data. The phenomenologist strives for what Max Weber (1968) called verstehen, understanding on a personal level the motives and beliefs behind people’s actions. (p. 2)
Experts in qualitative research recommend that researchers stay away from settings in which they have a direct personal or professional stake. According to Richardson (1999) “There has been considerable discussion of the distribution of power in qualitative research, and this is likely to be especially problematic when the researcher has a position of status within the participants’ own academic institution” (p. 69). For this reason, I did not conduct interviews or collect data from participants in my own school system. Although my school system was the starting point of my research on lesson study and whether or not lesson study could fit into the existing culture of our U.S. schools, I chose to collect data in three separate locations where teachers were engaged at different levels in the lesson study process.

The interview is another important source of data collection for a qualitative research study. Bogdan and Biklen (1992) defined an interview as “a purposeful conversation, usually between two people, but can sometimes involve more, that is directed by one person in order to get information” (p.60). According to McMillan and Schumacher (1989) there are three types of interview questions: structured, semistructured and unstructured. The structured question often has three or four predetermined answers from which the participant can choose. This type of question is most often used in telephone interviews and surveys. The semistructured question is open-ended yet specific in intent. It allows for the interviewee to answer the question with individual personal responses. This is the type of interview question most used in educational research. The last type of interview question is the unstructured. These types of
questions are open-ended and broad. With these types of questions, the interviewer has a general goal in mind and asks questions relevant to that goal. This type of interview is hard to conduct due to the latitude of the questions and interviewees’ answers.

The semi-structured interview question is the type of question that I used in my data collection on lesson study. I constructed ten interview questions prior to my interviews with participants. My questions were constructed as a direct result of information gathered from my literature review on the lesson study process. I conducted twelve individual interviews ranging in length from sixty minutes to two hours. Three of the twelve interviews were with one director and two curriculum coordinators of the school systems.

In addition, I conducted two focus group interviews, one each in Systems A and B. Further, I collected data from two classroom observations one in science and one in math where the lesson was taught from a collaborative lesson plan designed using the lesson study process methodology. In conjunction with classroom observations, I observed several debriefing sessions, an important step in the lesson study process. Finally, I collected fieldnotes as teachers collaboratively designed lessons using the lesson study process. In these informal fieldnotes, I gleaned some of the most valuable data concerning my research question. I attended two Saturday workshop sessions and observed and took notes as I moved from group to group listening to teachers discuss teaching strategies, assessments and standards while designing the prescribed lesson.
I either mailed, faxed or hand delivered a consent form to each of the participants following a letter of introduction explaining my research topic and my need to collect data regarding lesson study. The consent form stated that they voluntarily were willing to take part in my study and that they could withdraw without any negative consequences at any time. In addition, the consent form stated that the information gathered would be used for educational purposes only and that their school systems and their personal identities would be kept confidential.

In a qualitative research study, interviews may be used in conjunction with participant observation and document analysis. I followed this normal procedure for qualitative research. I conducted individual and focus group interviews. I observed actual classroom teaching using the lesson study process and collected documentation in the form of fieldnotes on collaborative lesson planning and debriefing sessions. Collaborative planning and debriefing are two of the primary steps in the lesson study process.

One important part of qualitative research resides in the researcher being able to follow leads she did not know would emerge when the study began. This was the case in the context of my study. I began this study by gathering data through individual teacher interviews. As I continued collecting data on teachers who were using lesson study, my research led me to groups of teachers in educational resource centers who were also using the lesson study process as they aligned curriculum to state standards. Following these teacher interviews, I decided to interview administrators and supervisors who actively supported the
lesson study process. My interview with a curriculum coordinator in science provided me with another perspective on how lesson study might fit into the culture of our existing U.S. classrooms by relating it to state science indicators on the Ohio Graduation Test. Her experience with lesson study added rich data to my research.

Focus Groups

The use of focus group interviews was also an important source of data collection for my research. Morgan (1997) explained that focus groups may “serve as the primary means of collecting qualitative data, just as participant observation or individual interviewing can serve as a primary means of gathering data” (p. 3).

*Focus Group A.* This focus group interview took place in School System A, a large urban system. The group consisted of five science teachers from grades seven through twelve. The level of teaching experience ranged from three to thirty-five years. Their age range was twenty-five to fifty-five years old. I interviewed this group during their Saturday workshop session. The objective of their workshop was to align a lesson using the lesson study process to the state indicators. At the time of my interview, the group had already designed the lesson, taught the lesson and was in the process of debriefing and revising the lesson.

*Focus Group B.* This focus group interview took place in School System B, a large suburban educational resource center. The group consisted of five social studies teachers from grades six through twelve. The level of teaching experience
ranged from five to thirty years. Their age range was from twenty-five to fifty years old. I interviewed this group during an after school workshop session. The objective of their workshop was to produce a social studies lesson using the lesson study process. At the time of my focus group interview, the five teachers involved were approximately half way through the seven lesson study steps. They had not yet taught the lesson that was being designed.

The main advantage of focus groups is the opportunity to observe a large amount of interaction on a topic in a limited period of time. According to Cashwell (1995) it is important to observe and document what occurs in the natural setting without manipulating variables or imposing structure. To observe teachers in their own classrooms, teaching their own students lends validity to a researcher’s data collection. For that reason I traveled to Cincinnati to spend two days with a group of teachers engaged in their fourth cycle of lesson study. I attended an afternoon collaborative session observing teachers planning a math lesson. The next day, I observed one teacher from the collaborative group teaching the lesson to her own students.

In addition to the opportunity to observe teachers in their natural setting, I had the opportunity to travel with and interview Dr. Catherine Lewis, professor at Mills College, San Francisco, CA, and one of the leading experts in the United States on lesson study. She was the keynote speaker at the Lesson Study Open House being conducted by School System C. Being able to hear from a primary source how lesson study initiatives have developed and grown across the United States added valuable data to further my research collection.
Morgan (1997) and Cashwell (1995) disagree on the advantages and disadvantages of a natural setting when discussing focus group interviews. Morgan stated that one disadvantage of focus groups is that they are in some sense unnatural social settings and the data collected may be biased to the researchers’ questions or desired findings. This disadvantage will be considered as I analyze the data collected from my focus group interviews.

Collecting data on the process of lesson study lent itself to the focus group technique. When comparing the advantages of individual interviews versus focus groups, Morgan (1997) stated that most research does not involve topics that can be neatly divided into purely individual or purely group behavior. This was the case in my research study. I fortunately had the opportunity to conduct individual interviews as well as focus group interviews with participants involved at various stages of lesson study in all three school systems used for my research.

Additionally, the advantage of focus groups as an interview technique lies in the ability of the researcher to observe interaction by various participants on a topic. This interaction i.e. collaboration, is a key element of the lesson study process. Although focus groups may provide less depth and detail about the opinions and experiences of any one participant, group discussions provide direct evidence about similarities and differences in the participants’ opinions. This was the case during my taping of group discussion in System C’s Lesson Study Open House. I found rich discussion and debate surrounding the
experiences of different participants. The common themes and similarities of experience will be discussed and analyzed in Chapter IV.

As with most techniques for data collection in qualitative research, there are strengths and weaknesses. According to Morgan (1997) “the strengths and weaknesses of focus groups flow directly from their two defining features: the reliance on the researcher’s focus and the group’s interaction” (p. 13). The strength of using focus groups for my research was that I had the ability to gather large amounts of concentrated data on lesson study from a variety of teachers’ perspectives, some not as involved as others, at one time. This vantage point gave me valuable data to see how, or if, lesson study would fit into the culture of a variety of teachers’ classrooms or school environments. By using teachers who were engaged in lesson study as participants in my focus groups, I was assured that the information was directly related to my research questions.

Using a focus group was also a very efficient way to collect large amounts of data as compared to individual interviews in a small amount of time. Another strength of using focus group interviews was the interaction of participants that occurred. Rich data was gleaned from conversations that occurred spontaneously in addition to the researcher’s questions.

Data Analysis

Data analysis for qualitative research centers on inductive reasoning. It is ongoing and it stresses models, themes and concepts (McMillan & Schumacher, 1989). A way to convey credibility of the qualitative study is to use a codified procedure for analyzing data that allows readers to understand how the
researcher obtained her theory from the data collected (Glaser & Strauss, 1967). Richardson (1999) stated that the phenomenographic interview should facilitate the thematization of aspects of the interviewee’s experience and that the analysis of research interviews should be based on verbatim transcripts. He further stated that these transcripts should then be subjected to an “iterative and interactive process to identify fundamental categories of description in the data, each illustrated by relevant quotations” (p.70).

According to Glaser and Strauss (1967, p. 101-102) general approaches to the analysis of qualitative data are:

1. To convert qualitative data into crudely quantifiable form so that it can provisionally test a hypothesis
2. To generate theoretical ideas the researcher cannot be confined to the practice of coding first and then analyzing the data. Rather she is constantly redesigning and reintegrating theoretical notions as she reviews material
3. To combine the explicit coding procedure of first method with the style of theory development of the second method.

Glaser and Strauss further talked about the purpose of using the comparative method of coding and analyzing data simultaneously. The result they stated should generate a theory more systematically than just coding alone.

The data that I collected was transcribed verbatim from individual interviews, focus group interviews and debriefing sessions. In my data analysis I used the process of systematically searching and arranging the interview
transcripts, fieldnotes and other classroom observation materials and lesson plans that I accumulated by reading the transcripts as well as listening to the taped sessions. Through repeated readings, I was able to find themes and patterns. Specifically, I searched for certain words, phases or patterns that repeated themselves as I studied the transcripts. I then began to develop my own coding system to put the data into categories to help me analyze and sort the data. According to Bogdan and Biklen (1982) “analysis involves working with data, organizing it, breaking it into manageable units and searching for patterns or themes to discover what is important to tell others” (p. 145).

A qualitative researcher must learn to analyze data by combining insight and intuition with an intense familiarity with the data. Most researchers inexperienced in qualitative research have difficulty recognizing patterns or themes in data. Bogdan and Taylor (1984) suggested that researchers keep track of their themes, hunches and interpretations as data is collected and not wait until the end of collection. I used this technique as I conducted interviews and listened to the tapes even before they were transcribed. I jotted down familiar words or phases that were repeated by teachers during lesson study classroom observations or debriefing sessions.

In qualitative research coding is a systematic way of developing and refining interpretation of data. Whereas the “raw” data for quantitative studies is numbers, the “raw” data for qualitative studies is words. These data include primarily fieldnotes, documents, and interview transcripts. According to Gay (1996) in a nutshell, “Qualitative analysis involves making sense out of an
enormous amount of narrative data in order to gain insights into a situation of interest not possible using other types of research” (p. 240).

By coding and sorting data, a researcher is able to compare different pieces of data relating to each theme, concept or proposition. Themes are defined as units derived from patterns in conversations, vocabulary, meanings and recurring activities (Taylor & Bogdan, 1989). I found such patterns in conversations and certain teaching strategies that I observed during lesson study classroom presentations. In addition, through coding, a researcher can sift out the concepts that do not fit into the theories that she is building. This was the case in my data collection as well. Often during an interview, the interviewee would go off on a “tangent.” In such cases I did not stop them from voicing opinions or making comments, but that data was later sifted out during the analysis process. My analysis of the data, my findings, themes and patterns will be discussed in Chapter Four.

Summary

In education, qualitative research design and methodology are undergoing constant refinement. The trend is for qualitative research to adapt in the direction of a more structured approach than has been the pattern in the past (Eisner, 1998). Richardson (1999) stated that it is now common in educational research to use qualitative data to generate local descriptions from conversationally constructed narrative. Eisner talked about the five dimensions of educational connoisseurship that I related to my research question on lesson study and the culture of U.S. schools. Eisner stated:
Indeed, one could argue that the culture of evaluation is so pervasive in schools that manifestations of this culture are collectively more powerful in shaping the day-to-day priorities of schools than those special moments devoted to formal testing. (p. 81)

Evaluation occurs everywhere and is getting more prevalent in the culture of our U.S. schools, not less. Because of the increasing importance given to evaluation, standards and testing in our schools, lesson study may not easily be accepted as a “doable” teaching strategy.

This chapter discussed the qualitative methodologies used to research how lesson study as a professional development tool may or may not fit into the existing culture in U.S. schools. Merriam (1998) stated, “Interviewing and observing are two data collection strategies designed to gather data that specifically address the research questions” (p. 112). Data collection consisted of observations, interviews, documents and fieldnotes.

Participants for this study came from three different school systems or resource centers engaged in lesson study at various stages of the process. Nine teachers were interviewed individually and two focus group interviews were conducted. Additionally, three administrators, one from each school system, were interviewed. Lewis consented to an individual taped interview before her presentation at the Lesson Study Open House in System C. Data was tape recorded during two debriefing sessions on lesson study in Systems A and B. Finally, data was gathered through fieldnotes and a tape-recorded classroom
observation during the Lesson Study Open House. The data collected will be described, analyzed and sorted into themes in Chapter IV.
CHAPTER IV: ANALYSIS AND PRESENTATION OF RESULTS

Chapter IV focuses on analyzing the data collected and presenting the results. As is the case in many qualitative research studies, data for my study consisted of individual interviews as primary sources. In addition, observations, fieldnotes and focus group interviews were used as sources to answer the research questions: “How does the lesson study process fit into the teachers’ existing work culture?”, and “What are teachers’ attitudes and beliefs about the use of lesson study as a teaching tool?”

For my study I interviewed nine teachers and three administrators in three school systems. In addition, I had a personal interview with Dr. Catherine Lewis, the foremost national researcher on lesson study in the United States. Her experiences with teachers engaged in lesson study both in the U.S. and Japan is quoted with permission throughout this analysis chapter. I also conducted two focus group interviews with teachers in School System A and B.

In addition to individual and focus group interviews, I attended two Saturday workshop sessions in System A where lead teachers were engaged in designing research lessons for science classes, grades 7 – 12. During the first Saturday session with System A, I observed and took notes during the planning process before the lessons were taught. During the second Saturday session, I observed and took fieldnotes on the debriefing process after the research lesson had been taught. In System B, I attended one after-school workshop and one Saturday session where social studies teachers from grades 6 – 12 were collaboratively planning lessons using the seven-step lesson study process.
Although I informally interviewed and took notes on their teaching experiences, I did not get a chance to observe the group for a debriefing session or the revision process after the collaboratively planned lessons were taught.

In System C, I attended a Lesson Study Open House and observed a research lesson and the debriefing session for a fifth grade math class. Fieldnotes from all observations were used in the data analysis. Finally, I have been a part of a national lesson study listserv for several years. Quotations from listserv participants were used as they pertain to common themes and sub-themes. Listserv participant quotes were used with permission from the listserv monitor at Columbia University.

Research Participants

This study was a phenomenological case study using purposive sampling to determine whether given the existing teachers’ culture in U.S. schools, lesson study could fit into that culture as a viable professional development tool. Using qualitative research methodology, nine teachers, three administrators and one professor engaged in lesson study in three school systems and one university were studied in the beginning, middle and end stages of the process (See Table 4.1). In addition, two focus group interviews in System A and System B were conducted (See Table 4.2).

School System A is an urban district with approximately 36,000 students. The system is a K – 12 school system with nine high schools, 10 middle schools, and 65 elementary schools. I interviewed three teachers and the district director
of science curriculum from System A. In addition, I conducted one focus group interview in System A.

Table 4.1
Participant Demographic Information

<table>
<thead>
<tr>
<th>Participant</th>
<th>Position</th>
<th>Degree</th>
<th>Age</th>
<th>Years</th>
<th>Subject</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>teacher</td>
<td>Masters</td>
<td>48</td>
<td>26</td>
<td>Science</td>
<td>1 – 8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reading</td>
<td></td>
<td></td>
<td>Lang Arts</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>teacher</td>
<td>BS</td>
<td>42</td>
<td>5</td>
<td>Med Tech</td>
<td>7 – 12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tch’g Cert</td>
<td></td>
<td></td>
<td>Science</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>teacher</td>
<td>Masters</td>
<td>38</td>
<td>10</td>
<td>Science</td>
<td>7 – 12</td>
</tr>
<tr>
<td>D</td>
<td>teacher</td>
<td>Masters</td>
<td>55</td>
<td>36</td>
<td>Science</td>
<td>7 – 12</td>
</tr>
<tr>
<td>E</td>
<td>teacher</td>
<td>Masters</td>
<td>42</td>
<td>20</td>
<td>Elem Ed</td>
<td>1 – 8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supervisor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>teacher</td>
<td>Masters</td>
<td>47</td>
<td>25</td>
<td>LD</td>
<td>K – 12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>History/Gov</td>
<td></td>
<td></td>
<td>History/Gov</td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>teacher</td>
<td>Masters</td>
<td>40</td>
<td>4</td>
<td>Elem Ed</td>
<td>K – 8</td>
</tr>
<tr>
<td>H</td>
<td>teacher</td>
<td>Masters</td>
<td>38</td>
<td>13</td>
<td>Biology</td>
<td>7 – 12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sec Ed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>teacher</td>
<td>Masters</td>
<td>55</td>
<td>20</td>
<td>Science</td>
<td>7 – 12</td>
</tr>
<tr>
<td>J</td>
<td>Director</td>
<td>PhD</td>
<td>57</td>
<td>35</td>
<td>Science</td>
<td>7 – 12</td>
</tr>
<tr>
<td>K</td>
<td>Coordinator</td>
<td>Masters</td>
<td>53</td>
<td>30</td>
<td>Soc Studies</td>
<td>7 – 12</td>
</tr>
<tr>
<td>L</td>
<td>Coordinator</td>
<td>Masters</td>
<td>50</td>
<td>28</td>
<td>Elem Ed</td>
<td>K – 8</td>
</tr>
<tr>
<td>M</td>
<td>Professor</td>
<td>PhD</td>
<td>54</td>
<td>32</td>
<td>Science</td>
<td>Post Sec</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
School System B is an Educational Resource Center (ESC) consisting of urban, rural and suburban school districts in Ohio. There are twelve local school systems, five city school systems and one joint vocational school system in System B. For my study I interviewed three teachers, one middle school math teacher and two high school teachers, one science and one special education. I conducted one focus group interview with five secondary social studies teachers during an after school session. In addition, I interviewed the ESC Social Studies Coordinator because she initiated the lesson study process in System B.

System C was the most advanced school system engaged in the lesson study process. System C serves public school districts, non-public schools, and other educational organizations. They have participated in lesson study for two years. Currently, six teams of teachers are engaged in their fourth cycle of lesson study. I interviewed two middle school teachers who were engaged in their second cycle of lesson study. In addition, I observed a fifth grade math lesson and interviewed the teacher via telephone who planned and taught the lesson using the lesson study process. I attended System C’s Lesson Study Open House

### Table 4.2

<table>
<thead>
<tr>
<th>Focus Group</th>
<th>No# of Participants</th>
<th>Urban/Suburb</th>
<th>Age Range</th>
<th>Grade Range</th>
<th>Subject Area</th>
<th>Years Experience Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>7</td>
<td>U</td>
<td>25 – 55</td>
<td>7 – 12</td>
<td>Science</td>
<td>3 – 35</td>
</tr>
<tr>
<td>B</td>
<td>5</td>
<td>S</td>
<td>22 – 50</td>
<td>6 – 12</td>
<td>Social Studies</td>
<td>5 - 30</td>
</tr>
</tbody>
</table>
and took notes and tape-recorded the debriefing session that took place after the
math lesson. It was at this Open House that I was able to personally interview
and have an informal dinner discussion with Lewis and the Coordinator of the
Lesson Study Open House for System C.

Research Themes

The data collected using qualitative methodologies i.e. interviews,
observations, documentation, the lesson study listserv and fieldnotes are the
sources of the analysis in this chapter. All individual interviews, telephone
interviews, focus group interviews and tape-recorded observations were
transcribed verbatim and coded to identify common themes and sub-themes (See
Table 4.3). This chapter presents teachers’ feelings surrounding the identified
research questions: “Does the lesson study process fits into the teachers’ existing
work culture?” and “What are teachers’ attitudes and beliefs about the use of
lesson study as a teaching tool?”

According to Bogdan and Biklen (1992) “data analysis is the process of
systematically searching and arranging the interview transcripts, observation
notes and other fieldnotes that the research accumulated” (p. 145). My analysis
involved working with this data, organizing it, and breaking it into manageable
units to search for patterns or themes to discover what was important to report. I
searched for certain words, phrases or patterns that repeated themselves. Then I
began to develop a coding system or coding categories to help analyze and sort
the data. The following themes represent my findings.
<table>
<thead>
<tr>
<th>Theme</th>
<th>Sub-Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Time</td>
<td>1.1 Planning</td>
</tr>
<tr>
<td></td>
<td>1.2 Classroom Time</td>
</tr>
<tr>
<td></td>
<td>1.3 Debriefing Time</td>
</tr>
<tr>
<td></td>
<td>1.4 Reteaching or Pacing</td>
</tr>
<tr>
<td></td>
<td>1.5 Isolation</td>
</tr>
<tr>
<td>2. Consistency of Teaching</td>
<td>2.1 School Size</td>
</tr>
<tr>
<td>Assignment</td>
<td>2.2 Politics</td>
</tr>
<tr>
<td>3. Sustainability</td>
<td>3.1 District Focus or Goals Changing</td>
</tr>
<tr>
<td></td>
<td>3.2 “Flavor of the Month”</td>
</tr>
<tr>
<td></td>
<td>3.3 School Schedule and Structure</td>
</tr>
<tr>
<td></td>
<td>3.4 School Culture – Quick Fix</td>
</tr>
<tr>
<td>4. Risk Factor</td>
<td>4.1 Emphasis on Evaluation</td>
</tr>
<tr>
<td></td>
<td>4.2 Accountability on Standardized Tests</td>
</tr>
<tr>
<td>5. Cost Issues</td>
<td>5.1 PD Discretionary Funds</td>
</tr>
<tr>
<td></td>
<td>5.2 Decreasing General Budget and Personnel</td>
</tr>
<tr>
<td>6. Self-Reflection Skills</td>
<td>6.1 Lack of Content Knowledge</td>
</tr>
<tr>
<td></td>
<td>6.2 Lack of Research Skills</td>
</tr>
<tr>
<td></td>
<td>6.3 Age and Career Stage Related</td>
</tr>
</tbody>
</table>
Theme 1 – Time

The element of time has many facets when it comes to professional development initiatives in public education in the U.S. Teachers need time to plan a unit/lesson both individually and in collaboration with other teachers who are teaching at the same grade level and subject area. They need to know how to organize classroom time to cover the indicators on which students will be tested in state standardized tests. In addition, they need time to diversify instruction for students with special needs and to enrich the lesson for students who are gifted. Finally, teachers need time for an evaluative or assessment process in order to examine whether the students learned the material that they intended to teach.

Teacher participants in this study commented extensively about the importance of time. As the following comments demonstrate, teachers were keenly aware of the importance of time to the successful implementation of lesson study.

D. I think one of the problems as far as lesson study is concerned is when you find a group of people who are willing to try something new, they are the people who are typically the busiest within the school. How are you going to entice those people to spend the time to try, yet another, new thing?

F. One of the things that we have done here, is built the time into our day. We have X number of hours that we spend in late start where the kids don’t come. We go ahead and have department meetings with whatever
lesson that we are working on. I believe we have been given that time to help meet the goals of lesson study.

E. Lesson study is so time-consuming, I think if you built the time into the regular day, some teachers would rather grade papers than use the time to try something new.

G. I think every administrator should provide some comp time or classroom coverage. I get pretty distracted in my regular day to attempt lesson study. Trying to find pockets of time during the day gets sticky.

The following participants had this to say about the sub-themes of planning time, classroom time, debriefing time, reteaching and pacing and teacher isolation in conjunction with implementation of the lesson study process.

Planning

What we know from the TIMSS study is that U.S. teachers are greatly disadvantaged by a lack of common planning time (U.S. Department of Education’s TIMSS website, http://nces.ed.gov/timss). Our math and science curriculum is disjointed and when teachers can’t plan together their lessons become even more fragmented.

C: I think time to plan is one of the biggest problems in our current system. We don’t have time to really let the kids think and explore, discover on their own what they are capable of doing because we are always pressed for time to “cover” the material. Lesson study may help us pare down the breadth of what we must plan to cover and concentrate on the depth.
D: Now I need to look differently at the lessons as I’m planning daily for my classes. It would be nice to have the time to do a complete lesson study in its entirety once or twice during the year. Then you could build a body of lessons that people could use that have been tried and tested. We don’t have that time. I can short-cut the process a little bit in my planning.

E: I think what has happened is for lesson study to work teachers need to be trained. That was rule number one. Right now, we are being trained on the planning process to integrate it into the curriculum. It will take two years, not an overnight deal, two years, but those people who bought into the program are being promised rewards.

G. We have come up with some new instructional practices this year in seventh grade science. One of these practices came out of our planning time. We instituted a check-point lab which is really guided inquiry. Without the planning time we may not have come up with this. It was new for a couple of teachers on the team.

I. Well, right now within my professional learning community, we don’t have a common planning period. So in most cases if you want to participate in lesson study I think that it’s going to be basically time that you are willing to invest before or after school.

Participants H, I and C had additional comments on the lack of common planning time in U.S. schools compared to their Japanese counterparts. To summarize their comments they felt that teachers had to invest their own time before or after school to take part in a lesson study cycle. Fifteen to twenty
percent of their classroom time needed to be devoted to lesson study steps. And finally, that teachers could be convinced to take the time for lesson study because it was a good lesson planning tool, if nothing else.

*Classroom Time*

With all of the demands placed on teachers in the classroom today, there seems to never be enough time to cover the course of study objectives and to align those objectives with the state standards and still have time to individualize for each student’s needs.

A. Time is always a factor in my class. I had one young man tell me last year ‘I’m a senior. This is the first class I’ve had in this school that, if I put my head down and I bring my head back up, you’re about three chapters later.’ I said, what can I say, I run out of time to teach what I know I’m supposed to teach by a certain time. Lesson study would be nice, but who has the time?

D. We’re so far behind where we’re supposed to be to compete with other nations. We don’t care if they (students) learn it, we just want to cover it. Which is why the whole notion of lesson study is more important now then every before. We need the time to plan, teach and reteach. Not just time to cover the material.

E. We are short-changed with time to talk and bounce ideas off each other with our schedules the way they are today. We need more time planning collaboratively with our colleagues.
H. Teachers, really, they so value their time. It’s like give me what I need and let me see if I can go with it.

Moreover, the classroom time needed for a true lesson study initiative is ongoing throughout the year. This is not the case with other types of professional development projects in public schools today. Public schools are more likely to institute a passive approach to professional development where teachers sit and listen rather than participate, or a one-time motivational speaker, sometimes referred to as the silver bullet approach. Sykes (1996) characterized the inadequacy of conventional professional development as “the most serious unsolved problem for policy and practice in American education today” (p. 465).

Participant G talked about how teachers must make the time to change their traditional teaching styles in the classroom to make a difference in the way students learn.

G: When lesson study was brought to my attention by our educational resource center consultant, I said ‘Hey, this is cutting edge. It’s interesting.’ Some of the teachers said we had enough stuff going on and we didn’t have time for one more thing. I thought I needed to know more about this. When she said typically you collaborate on the lesson and someone teaches it with a video camera running, I remembered how much I learned from my National Boards. It’s painful, but it told me more than I could learn in any other way. So I stepped up to the plate. There is never enough time unless you make it.
Participant I agreed with her lesson study-teaching colleague during her interview.

I: Right, this is where I (we) may be parting company with other teachers not involved with lesson study. Even within my building. I feel like for years teachers have been saying I want to be treated as a professional and yet they are not willing to give the time it takes to be one. One of the ways you can tell is that they are always watching the clock. Are we done yet? Are we going to have to take our time? They want to teach the way they have always taught.

*Debriefing and Reteaching*

Lewis (2001) talked about time in the lesson study process with the focus on the steps of reteaching and debriefing. Her theme as she shared her experience with the Lesson Study Open House in System C was that there will never be enough time to follow all the steps and to learn everything there is to know about lesson study. She stated that not having enough time should not be a barrier to studying and using the process. Specifically, she commented,

Well, you know, my idea is that wherever you start, you’re starting with a partial picture. I mean I’ve been studying lesson study for over ten years in Japan and I still don’t fully understand it, and I never will. But you continue to learn. It’s like teaching, you know, when you start as a teacher it takes time to become proficient. Then you gradually expand your knowledge.
Lewis further defended the time element needed in the lesson study process by addressing the product that results from the process. She talked about the debriefing and reteaching steps of lesson study as being a necessary time commitment in conjunction with lesson study to produce the final product. Lewis stated

I think it’s (lesson study) more like an engineering process and engineers don’t necessarily do randomized controlled trials. What they do is look at features of their design, think about existing theory, use input from others, and then try it out and see if they can make it better. I think classroom lessons should be like an engineer’s design tool, that’s the debriefing and reteaching part. And then if it works long enough then it becomes standard for everyone. As long as you can articulate those steps then other people can draw on them.

Participant G from School System C talked about how valuable the reteaching process was, albeit, time consuming, as she went through the steps of lesson study for a second time.

G: I have a better idea of the process now that I am going through it the second time. The teaching and reteaching is time-consuming, but now we have some momentum going and it’s getting easier. I think now we’ll be able to spread the word.

Participant H and I from the same school system, who had gone through the lesson study process was familiar with the Japanese model and how they use time.
H. In the Japanese model most of the teachers know that, in general, while they are watching their colleagues teach, there will be a reteaching and debriefing time. In that culture they have time built-in to talk about the lesson.

I. Because of the debriefing step, the reflective process is built-in. After we finished the debriefing, one of the eighth grade teachers said, ‘I’d love to be able to do this for every class, if we just had the time’.

Listserve Participants:

Visiting other groups’ research lesson and participating in its debriefing is the most powerful experience for any level of lesson study practitioner, but that takes time and money for subs – something most schools don’t have.

I find that focusing on the student learning helps to structure the process and make the revision process feel safer.

Participant from School System A talked about how effective the debriefing process was for her:

A. We wasted time in the beginning and I don’t mean to interrupt, but you are right. We spun our wheels for a while trying to decipher what everyone was doing.

Isolation

As stated in much of educational literature, teachers at the secondary level often feel as though they teach in isolation. Marshall (2003) described how American teachers “are mostly on their own and get used to working in
isolation” (p. 3). Because of the collaboration piece necessary in the lesson study process teachers talked about the need to break the isolation barrier that now exists. They also said they felt a better sense of collegiality as part of the lesson study process.

A: When are we supposed to have time to collaborate with other teachers on these units of lesson study? We never get to see each other.

B: I think for me, in genetics, time to practice lesson study helps break the isolation in teaching. I was always a little bit afraid to do the DNA extrapolation. I thought that was way beyond my kids. But then I found out from someone who teaches in the middle school that they were able to do the lab that I thought was too hard for my kids. That wouldn’t have happened without the time to collaborate that is built into lesson study.

G: The team I worked with had a new unit to teach which was light and sound. We all felt very weak in this content area. By working together rather than in isolation we learned how much we didn’t know about light and sound and we really had to do a lot of digging, a lot of work.

D: I think something that is happening in my department is that certain individuals always share resources, but now with lesson study others are saying, ‘Hey, I used this and it works really great, go ahead and use it.’ I think those individuals who have been working in isolation are coming on board. I think the process has been formalized with lesson study. Formalization is the only way to change things.

Richardson (2004) stated that teachers working in isolation has been the
norm in U. S. classrooms. Lesson study is as much a practice in breaking up that feeling of isolation as it is a professional development activity. It requires an atmosphere of teacher collaboration that is not typical of the culture in U.S schools.

E. Because we really never get a chance to see each other or really sit down and share ideas, I guess that’s why we’re not giving our new teachers, um, the knowledge from our old teachers. Lesson study can help us do just that.

D. We shouldn’t have to do this alone. We’re here to show we value the teacher’s time and that time has to have some impetus. By saying you have to do this alone, we’re not putting importance on it. By working together and building it into the school day we do two things – give it credibility and improve the collegiality of teachers.

H. Collegiality is built in to lesson study. One of the things that every teacher who participated last year said they really enjoyed and got a lot out of was being in another teacher’s classroom. They might meet at lunch or during their planning period, but when there’s kids in the room, they don’t see themselves or what’s going on. When other teachers are watching, you get so many more ideas. It was sort of refreshing and motivating.

Participant A from School System A who had just begun to collaborate using the lesson study process had this to say about breaking the isolation in teaching:
A. When I write questions and take my time to do them, I think they look pretty good. But I really need somebody in the room to tell me and just in a little network meeting after school to hear me asking those questions. I might say, ‘Wow, I asked all those beautiful questions and I got those monosyllabic responses’. I’m not asking the kind of questions I thought I was. That’s what isolation in the classroom produces.

The theme of Time and the sub-themes of Planning Time, Classroom Time, Debriefing and Reteaching Time and Isolation, that are all needed to make lesson study a viable professional development tool for U.S. teachers, were recurring elements among the participants who were interviewed for this study.

Theme 2 – Consistency of Teaching Assignment

A second theme that emerged during the interview process was the idea of consistency of teaching assignment. In the Japanese school system, consistency of teaching assignment is not an issue as it is in U.S. school systems. Peixotto (2001) researched the connections in Japan between instructional strategies, curriculum and student performance. Consistency of procedures and school structure was a dominant characteristic in Japanese schools. Additionally, Yoshida (2002) explored how lesson study helped to significantly improve teaching and learning in the Japanese classroom as well as develop curriculum in Japan. With a national curriculum, students do not choose the subjects they wish to take at the secondary level. Curriculum is already established for them. Size of school is not an issue. All schools teach the same curriculum. Budget, school size, and pupil subject selection in the U.S. make teacher assignments
interchangeable year after year. Lesson study as a professional development tool is affected by these extraneous factors in American schools.

Comments from Participants in Focus Group A:

I taught in eighth grade last year. We were on the block and I had eighty four minutes to teach but didn’t see my kids everyday.

The next year I was moved to the sixth grade. The standards were different and I didn’t have the same amount of time.

In the same school, your day is different than my day. How can we be expected to teach the same way?

I wish we could do all of our units with the lesson study approach like they do in Japan. I taught in first grade for eight years and now with the budget cuts, I was switched to fifth grade. I’m lacking content knowledge and background knowledge. I can’t even begin to think about doing lesson study this year.

Size of School and Politics

For lesson study to be effective and really take hold in a manner that can change the way teachers teach, there must be consistency of teaching assignments with participating teachers. There must also be a group of teachers willing to work collaboratively on the same lesson or objective in the lesson study process. Size and politics of a school building can affect the success of the lesson study process.
C: After reading Stigler’s book and learning about the lesson study concept, we decided to design a unit around an indicator in Earth Science. Both Participant B and I were teaching Earth Science that year so we thought it would be perfect. But by the time we got around to the reteaching and debriefing, it was the end of the year. When we got our schedules for the next year, I wasn’t teaching Earth Science any more. That sort of thing really stalls the whole process.

F: We are talking about stronger collegiality and personal learning with the lesson study process, the very basic idiom that two heads are better than one. But sometimes there aren’t two people teaching the same thing in my building. I could always go outside of my building to look for a partner, but that’s not always convenient.

E: You have to remember the culture here. The culture here, until just recently, has been an extremely competitive culture. That has to do with resources and that has to do with duties. That has to do with any number of different things.

I asked the participant to expound on what she meant by the above statement in relation to lesson study. She talked more about the political climate of her school.

E: I really felt, and this is getting terribly honest, that when our latest administration came into being, that they should have treated this faculty like abused children because I think for the last 20 years with our former administration we have been abused. We couldn’t try something like
lesson study because if you weren’t a shining star in the classroom and
your students didn’t succeed you were punished – with a duty like
cafeteria or a bad class.

F: The whole notion of collegiality or sharing was wrong. That’s not what
we were supposed to do as faculty members.

G. I should say, too, there seems to be an apprehension toward sharing in our
building. Because if that teacher takes an idea that I give them and they
take it into their classroom, whether they use it successfully or they don’t,
now they look maybe as good as I do and I want to continue to be the star.
I want to be the teacher that looks better than somebody else within my
department.

F. Then you have certain faculty members in this building who do nothing
but teach gifted and talented all day long. Do you think they want to try
something like lesson study with someone else? No, they would be afraid
to lose the good situation that they have.

During a dinner conversation with the administrator from System C, she had this
to say about the political culture and collegiality in her district.

L. As our teachers began working on their lesson study project, one teacher
asked another teacher, ‘Aren’t you upset that you did all the work and he
got all the credit?’ I wouldn’t want to continue working on this if that
happened in my group.

Lewis remarked that this is often the culture in the U.S. version of lesson
study. She continued to say that teachers tend to be really critical of each other
mostly to show what they know. There is a need to break the professional envy culture that is prevalent in the U.S.

Another very political element about which the participants spoke was the Ohio Graduation Test preparation and how that affected what and how they taught.  

D: We had a situation where (name) and I proposed a two-year lesson study cycle for our LD students. It was turned down because all the indicators for the OGT wouldn’t be covered if we followed the lesson study process as it was intended.

F: What leadership was looking at is the potentiality for parents to come in and to say ‘You didn’t cover those indicators prior to my son or daughter taking the OGT and so therefore I’m going to sue you because my child failed’. I don’t know, maybe I’m wrong, maybe I’m totally off base, but I really do believe as educators we (participant emphasis) have to stand up and say what’s right in the way of teaching, not the state or a test or the parents.

The political climate of U.S. schools was a subject discussed often by the participants in this study as they talked about whether lesson study could fit into the culture of U.S. schools.

Theme 3 – Sustainability

Fernandez (2002) gained insights about lesson study and its sustainability from an empirical study that highlighted challenges of the lesson study practice in the U.S.  Specifically, teachers in her study struggled with the lesson study
process as just another professional development initiative. They commented that only a systemic approach to lesson study may allow it to be sustained long enough to provide an enriching learning environment for students. The participants in this study had similar comments when discussing the sustainability of lesson study.

C. The middle school has done teaming for years, which has some of the same characteristics as lesson study. Nothing really changed with the way they taught. I think if the expectations are there to do things like look at student’s work or be more focused on product and implementation on a consistent basis, which is what lesson study proposes, that will help sustain it.

D. Teachers are resistant to change, especially constant change. It’s difficult if they’re out of their comfort zone. If they don’t see the success of it or don’t have a true understanding of it, they’re not going to buy in. Too many things have been done to them in the past. They don’t believe this initiative can be sustained because so many others have failed.

Listserv Participant:

Now that I think about why that group was so successful... I think it was because they demonstrated to other groups that the point of lesson study is not to produce lessons per se, but rather to produce a new understanding about teaching. Most professional development paradigms stress either “seat time” or “production”. It takes a while to
shake that old orientation and you need to sustain lesson study long enough for it to prove itself.

District Focus/Goal Changing

Another reason that participants thought lesson study might not be sustainable in a school district was because district goals and their focus continue to change from year to year.

E. The focus in this building right now is student achievement. Period. And I hope that you can go to any person on this faculty and ask them what the focus is and they’ll be able to tell you that. It was not always that way. Before this administration, our focus changed with the seasons.

D. Last year we had four initiatives. First we had someone guide us on how to team. On Friday’s we had our collaborative group. At the district level we have our professional learning communities – I think that was Peter Senge. We also have our Saturn hours, which is a county initiative. So we have a lot built in already.

E. I hear teachers say, ‘We did this last year, but we’re not doing it this year’. That’s what gets frustrating about things like lesson study. You never know if it’s going to be around more than one year.

D. Well, that is certainly true. I mean you’re dealing with a culture here that the guru of the month changes. The last five years, how many gurus have we been through in this district? There was Guskey, McTighe. There’s Wiggins and DuFore. On and on and on. We learn the jargon and the next year the jargon will change and nothing changes in the classroom.
Professional Development “Flavor of the Month”

Teachers often become suspicious of new professional development initiatives because they feel it may yet be another “flavor of the month.”

Stepanek (2003) talked about the “silver bullet” philosophy, something that guaranteed student improvement. When that particular professional development initiative didn’t work, administration would impose something new on their faculty.

A. To be honest, I think there are some teachers who really do look at, you know, these initiatives as, well, this is just another trend. This is just another thing that we are being expected to do. It’s going to be here today; it’s going to be gone tomorrow.

B. We looked at lesson study as a professional development initiative just because (name) went to Japan and thought it was a great idea. We didn’t really think it would last. Luckily, it did.

Structure of School/Changing Schedules

Another reason why the participants believed that lesson study was inappropriate for the United States was because of the organized structure of our schools.

A. If we collaborate at all, it’s by accident. I never know what schedule I am going to have or who I will be teamed with. The best case scenario would be daily collaboration which we can do this year because our classes are next door to each other. But that’s this year. I can’t say what will happen next year.
B. At the secondary level, we never know what classes we are going to teach from year to year. We can’t be creative because we have to cover the curriculum, which is one of my pet peeves. I mean, that’s absurd. Our leadership needs to step in and say neither the schedule nor the state is going to drive what we do in class.

C. I think it needs to fit into our schedules, but right now, that’s not possible. There are too many schools in a state of changing every year, just like we talked about. The administration doesn’t understand it, but from my experience, it can work and is very valuable. I think it’s possible if the schedules stay the same.

When talking about lesson study with a participant from School System C, she discussed the difficulties involved with school structure and who’s going to teach what, even in the lesson study process itself.

I. Who taught the lesson came down to who had kids during that time. It was just logistics, not really the way the process is supposed to go. If we needed to diversify and have a second lesson taught, it was maybe who hadn’t already taught that particular topic. Because not everybody’s on the same page week by week.

*Culture in Schools /Quick fix*

Teacher as researcher in the U.S. is a source of debate among educational specialists (Eisenhart & Towne, 2003). My participants associated professional development initiatives with the “quick fix” philosophy of which they had been a part in their various school systems.
A. They (teachers) want the make-it take-it philosophy. The quick fix. With lesson study it’s a slow process.

B. They want the immediacy of it. And I don’t think they understand the value of it. They think – I’m gonna go through the process and I’m gonna come out with a product and then I’m done with it.

C. I’ve taught in middle school and high school, so I can talk a little bit from experience, that kind of a culture is not as prevalent. Not that it doesn’t exist, but it is not a prevalent as in elementary school. Some of the elements of lesson study are lofty goals in the sky. Meanwhile we have this problem that our leadership and parents want us to fix. That’s the culture in our school. ‘You guys are doing this, and nobody’s covering that’. I think that’s why everyone is always looking for the quick fix. It’s a survival thing.

A. Some of the elements of lesson study mean the whole culture of our school needs to change. It would promote more collegiality. We would be developing a common concept and lesson together. That doesn’t exist right now.

B. That’s only part of the culture that needs to change. I had an interesting situation. One of my really top students early in the year got a 93, which is my lowest A. Mom came in for a conference and she told me at that time, ‘Well, the word on the golf team is that if your grades are too high, it’s not cool.’ That’s an important part of our culture to consider too when talking about change.
Nesting lesson study within the context of educational-based research might nurture the lesson study movement and help to maintain or sustain the process. This could be a key to enabling it to fit into the U.S. educational culture. In addition, Heibert (1999) stated that lesson study could be sustained in U.S. schools through pre-service training. As a professor at the University of Delaware, Hiebert applied some of the principles of lesson study to educate pre-service teachers.

Culture, district goals and focus, professional development seen as “flavor of the month”, school structure and schedules and the “quick fix”, were all part of the issues discussed by participants that related to Theme 3 - Sustainability. Conclusions related to this theme will be discussed in Chapter V.

Theme 4 – Risk Factors

A characteristic of lesson study that continued to surface during the participant interviews was the idea of trust. Teachers thought that a climate of trust must be established between teachers and administrators, teacher and teacher, and even teacher and student before lesson study could fit into the culture in U.S. schools. The following participants had this to say about the risk factors.

C. The focus of lesson study was on the lesson. It is not an evaluation of that teacher. I don’t care how you did. I don’t care what you said, it was the lesson which is a totally different focus than what we’re used to. We have other teachers in our classroom as an observer.
Consequently, I think that one of the biggest factors that comes into play is trust.

H. Our teachers are very, very collaborative. So if somebody says, um, that they really respect each other as an educator, the others will try the same activity and are willing to be observed doing it. That trust level is already there.

I. We also have people in place who are very giving. So when new people come on board with lesson study the risk factor isn’t as great. They take them under their wing, you know, that culture has just continued to grow as we’ve grown with the process.

G. What helps is that it’s the team’s lesson. It’s not like I bring my lesson to the table and then I teach it and then you tell me how I did on it. It’s nothing like that at all. Because we’re developing this as a team, oh people get a little nervous at first, but when they realize that nobody was watching them, they are fine.

H. I don’t know if it would work as well if, you know, the very first day you say, ‘Ok, Nick’s going to teach this lesson and we’re going to watch him. And then Allison is going to teach the lesson and we’re going to watch her and compare the lessons back in our team’. We would all be judging Nick and Allison. That’s the culture of what we normally do.

Listserv Participant:

I worked in a team that had each new member observe a lesson the group had worked on the year before. This helped orient the new
participant. It dramatically demonstrated the required levels of trust, and it oriented the new member to the team’s prior history and focus.

**Emphasis on evaluation**

Because there is an emphasis in U.S. classrooms today on evaluation and accountability, the collaborative part of lesson study was seen as a risk factor to teachers. Teachers thought that if by trying lesson study and opening their classroom doors to their colleagues and administrators to observe the process, there had to be the assurance that no repercussions would follow if the process failed.

D. I’m not coming into a teacher’s classroom to write an evaluation and run to the principal saying, ‘Did you know that in Miss so-and-so’s class they did this, and this and this?’ You know, there is that hesitancy to trust the co-worker.

E. We’re very fortunate that we have a principal that encourages risk-taking. So when we tried lesson study he was not there saying, ‘You screwed up. You shouldn’t have done that.’ That is absolutely essential if lesson study is going to be integrated into our system.

F. You have to have the buy-in of the administration. You have to have it be a focus of almost all staff development without fear of repercussion if it doesn’t work.

Listserv Participant:

I found that people who are unfamiliar with the process and the principles that surround it seem to be close-minded at times, almost appearing as if
they are ‘worried’ about criticizing others or making a mistake themselves. They go into what I would describe as ‘protective mode’ … protecting themselves from whatever they feel others may be judging them by.

Accountability on standardized tests

One cannot talk about public education today without the word accountability coming into the conversation. In addition, with the No Child Left Behind legislation looming large in the United States, standardized test scores are also a major factor with which public schools must contend. As participants talked about lesson study, the theme of accountability and standardized tests emerged often.

G. One of my biggest fears is being the only teacher using this professional development tool and seeing younger teachers without tenure. Knowing how the system works, one of my fears is that we’re going to have people hanging out to dry as far as teachers are concerned, because their kid’s scores are not as high as somebody else’s scores.

C. If we’re all doing lesson study and we’re all collaborating on pedagogy and content, that’s going to level the playing field, I believe, and that’s going to give us a reason for doing it.

H. It’s really interesting because our state is so data driven right now, and I think one of the things to worry about with lesson study is that people will see lesson study as the opposite of data. If it can’t be quantified it
shouldn’t have a place in our schools today. If you can’t put the results in a chart, it’s no good.

I. I don’t think data is always numbers. I just don’t. So I think if you’re doing something that you’re supporting with evidence then you have data. You have qualitative.

Participants from Focus Group A talked about accountability and standards related to the Ohio Graduation Test (OGT) and lesson study, as well as teacher buy-in and risk-taking. They had the following discussion:

Administrators say to teachers, ‘You need to get through those indicators because if we have a student who does not pass the OGT, the parents question us as to why their son or daughter did not pass’.

Yes, then you as a teacher are asked, ‘Did you cover indicator 3? Or did you cover indicator 10? These are the areas where your students did not excel on the OGT. And if you can’t say “Yes”, now all of a sudden you as a teacher deserve a slap on the hand because you’ve not addressed all those indicators in an adequate fashion.

So one of the driving forces for our accountability is not which professional development tool best fits our needs or makes the most sense, but how many indicators have we covered that will be on the test, and how our students are going to do on the OGT.
As the focus group discussion continued on the viability of lesson study, the theme of risk taking emerged, participants had this to say:

You see, I think that’s why the concept, the professional development tool of lesson study, is going to be even more important because of exactly what you are afraid of. I think our legislators, or whoever is coming up with this, is not saying, ‘We’re going to make an Ohio Graduation Test simply to drive people crazy.’ They’re saying it because they want, bottom line, they want our kids to be held accountable and our faculties too, to compete in our world market.

Exactly.

This is going to sound rather cynical, maybe downright nasty, high school people, but I’ve taught fourth grade, sixth grade and now middle school. I’ve dealt with proficiency tests for a number of years and you don’t throw out good practices because of a test. You use those practices to accomplish what you need to and the students will do well. And that’s where lesson study can help us with the OGT, not hurt us.

Right. All through our teaching in the sixties and the seventies, there wasn’t an emphasis on standards. Our kids weren’t excelling. Our kids weren’t remembering those facts. We were into all the “touchy feely” let’s do all the things that make everyone feel good. Well now, we’re going
back to basics like the Japanese have always been. Lesson study can be a tool to get us there.

I asked the Focus Group A at this point about the teachers who don’t buy-into the process because of the risk-factor, or for any other reason. One member of Focus Group A had this to say:

I don’t think teacher so and so is going to be willing to sit and take a back seat for long because they’re going to quickly realize ‘Hmm, my testing methods, my way of assessing these kids are out dated. My way of teaching is outdated. The kids in Mrs. So and So’s class are much more interested.’ I think, too, something else is going to bring them over to our side and it’s going to be the outcome of the OGT. You know, when we start identifying a particular teacher’s area where, you know, a group of students are not performing as well as another, we’re going to start looking at that teacher’s methodology and what they are doing or not doing in the classroom.

During an individual interview another participant had this to say about teacher buy-in of the lesson study process.

I. As far as buy-in from teachers, our goal has been to like, start all these little fires you know. We started with five teachers from fifth grade out of the fifteen or so fifth grade teachers. This year our third grade teachers wanted to try a lesson study project just from seeing us. They see the value and how much better our kids are doing.
How different is the U.S. concern about data-driven initiatives and standardized test scores than the Japanese model? During my interview with Dr. Lewis she had this to say, “People ask me all the time whether lesson study will improve test scores, or has lesson study improved test scores in Japan. I need to say to them, they just don’t ask that question in Japan.”

Theme 5 – Cost Issues

Budgetary issues are controversial in U.S. public education today. The question of whether lesson study could fit into the existing work culture of U.S. schools cannot be addressed without the cost factor being discussed. During the interview process, participants talked about decreasing budgets for personnel and professional development associated with lesson study.

Professional Development Discretionary Funds

H. Our first meeting with teachers involved in lesson study was just an hour after school. If it involved more time you won’t get people to do it. With the cost of substitutes in the classroom, our system would not support it. It would take a big financial commitment to have teachers participate in lesson study.

I. For our first year, we had a grant that helped finance the lesson study initiative. Now, next year administration has said that they want to keep it going. We want another grade level to pick up the process, but the system does not know where they will find the funds.
G. We’ve structured it so some of the meetings are half day subs and some of them are after school and we’re paying the workshop rate for those hours after school. We feel it’s important. The administration has said ‘They’re professionals and we value their time. They should be paid for this.’

H. We made it work with three one-hour after school sessions and three half days working with subs. For it to continue, it is going to be expensive. We could make it work in the summer by combining it with summer school. The kids are already there. Paid with other funds. It’s a very creative way of answering the question of ‘With decreasing professional development funds, how are you going to pay for another professional development initiative?’

G. In our district with decreasing budgets for personnel and professional development you find ways to use what you already have – like summer school. Why can’t we do lesson study in summer school where we have the kids and the teachers are already being paid?

H. The downfall of lesson study is the cost issue again. You have to take teachers out of the classroom and that costs money. I went to a presentation at ASCD in New Orleans in March. It was about lesson study, and this guy, he was like a curriculum director or something said, ‘I just put it into my budget every year. It is just something that has to be done.’
I. If the money was not an object and the money was there for every district who wanted to do lesson study, I feel that teachers would really look at it and say it’s a good thing for me to do.

Decreasing General Budget and Personnel

The teachers interviewed had some knowledge about the amount of money needed to engage faculty in the lesson study process, but the administrators had a much broader understanding of all that was involved to make lesson study a viable option as a sustainable professional development initiative.

L. We have made our School System C’s Professional Development document for 2006 fit the No Child Left Behind language. Why? Because of money and personnel. NCLB fits the spirit of what lesson study is all about. The myth that lesson study is only for the school systems that are doing well, because all the others need to be working on test scores is just that, a myth.

Lewis stated:

Lesson study should be used with something else. It should be like an intervention if necessary. You should ask yourself, ‘What strategies have I used in the past to solve the problem?’ As an individual teacher what good is it to help the student continue to learn the same way? The culture in our school districts vary. Personnel and time are used differently. Some only want to meet during school, some after school. We shouldn’t act only if the situation is perfect. Lesson study is about learning to
observe children. We need to develop lesson study eyes regardless of money or personnel deficiencies.

The conversation with Lewis and the administrator from School System C was rich with possible conclusions to incorporate lesson study into the culture of U.S. schools. These conclusions will be discussed in Chapter 5.

From School System A the administrator working with teachers on lesson study had this to say about decreasing budgets and personnel:

H. Our system is in the process of aligning curriculum with the state indicators, benchmarks and pacing guides. We don’t have a choice. Our teachers must be on target to teach what the kids will be tested on. Lesson study is a way that all teachers can collaborate to teach the indicators. I put teacher workshop hours into my budget and go from there.

Talking about one teacher in her district she had this to say about loss of personnel and how it affected that teacher:

J. With the pacing guides a teacher must be at a certain place at a certain time. But (name) had eight “restarts” in her classroom – those are new kids that had to be incorporated into her room because we lost a teacher. Those kids weren’t at the same place as the rest of the kids, but she had to go on anyway.

During a Focus Group Interview with System A, one teacher talked about the stress level she experienced on a daily basis with everything that was expected of her with decreasing resources.
Focus Group Participant:

I’ve gone through three bottles of Tums. I have a rash all over me. It is so stressful. I’m not telling anyone where I am. I can’t move on until the majority of the kids get it, but pacing guides say I must. Don’t tell anyone, but I haven’t covered an assessment for the next test yet. I don’t know how we are expected to do so much with so little.

The group laughed and the teacher made gesture like she was shooting herself in the head.

Theme 6 – Self-Reflection Skills

Because one of the characteristics associated with lesson study is an increase in teacher content knowledge, self-reflection skills emerged as a theme during the qualitative interview process. Fernandez (2002) talked about lesson study being a powerful continuous-improvement agent... “an educational landscape to allow for an entire nation of teachers to regularly learn from each other” (p. 395). However, research also states that adults learn in different ways and a different levels depending on career stages. Burke, Fessler and Christensen (1984) talked about teacher career stages and the implication those stages have on professional development. The participants for this study were at various stages in their teaching careers ranging from 3 years to 35 years. They ranged in age from 25 years old to 57 years old. In this section participants discussed the theme of self-reflection, including lack of content knowledge and the lack of research skills as they related to lesson study. Conclusions relating to
how or if age and career stage reflect on the lesson study process will be discussed in Chapter V. 

Participants interviewed in School System B talked about the self-reflection piece that they underwent during a lesson study cycle.

D. We did not view observing each other as an option. That was part of the self-reflection that goes with the territory. We made sure that everyone was available. There were effective discussions and wonderful focus on what we were doing. (Name) teaches in a much different style than I do, and we respected each other in that. The joke was after we reflected on each others’ teaching, we became co-dependent. We couldn’t make a decision on some particular aspect of the lesson without checking with the other one.

E. Reflecting on our own teaching is a brand new thing here that we’re trying to institute. We’re not about criticizing each other’s lesson, we are developing something brand new. Nobody has a vested interest in this. I think that’s really important the first time around. We are all beginners at self-reflection skills.

D. Sometimes, we would be painfully honest with each other. We don’t go into the collaboration thinking, ‘I know the answer to this one’. (Name) did her National Boards two years ago and I did mine last year, so we were in the reflective mode, so to speak. So lesson study was a natural progression and the reflection was just part of what we did.
One participant talked about how lesson study helped him reflect on educational research presented in the TIMSS study. He also compared the reflective practice of lesson study with National Board Certification.

C. For me, lesson study helped me take an in depth look at the TIMSS study and its implications. It got our department talking, really reflecting on what we were doing. We acknowledged, even if only temporarily, that there might be more effective ways to engage students in learning. That’s a BIG (participant emphasis) step for some of us.

He continued:

C. The other part for me was that I was involved in lesson study about the time that I was working on my National Board Certification. The goals and objectives of both were a good fit. They really meshed together. What National Boards really want you to do is reflect on your teaching and how it affected student learning. Both processes showed me how I could improve my instruction in a systematic way and then analyze that impact on my students.

*Lack of Content Knowledge*

Participants interviewed from School System C went through one complete cycle of lesson study. They believed that the lesson study process had a valuable impact upon content knowledge as indicated in their comments.

H. Ok, that’s an easy one to talk about from last year. The team I worked with had a new unit to teach which was light and sound and we all felt very weak in the content area. So in developing this lesson we learned
how much we didn’t know about light and sound and we really had to do a lot of digging, a lot of work. We knew if we didn’t get it, the kids weren’t going to get it. It made us really dig deep and learn more.

I. The seventh grade teachers had chosen a subject matter they needed some help with – where they had to teach much more than they have in the past. So they actually had to learn the material in order to teach it. It (lesson study) was very valuable from that standpoint.

F. I think lesson study impacts content knowledge because we are able to share our areas of expertise. I may not be necessarily of someone else’s particular content area, but I am able to share my knowledge that may strengthen someone else.

Participants in School System A had only been working together for a short while, yet they felt that lesson study helped them with their lack of content knowledge.

A. I feel that no one of us has it all. I’ve seen teachers come together and do it and be able to make powerful lessons. Doing it through research or whatever, but still being able to really learn themselves the content first of all. Because even when you are specialized, you still aren’t an expert.

B. It made me stronger in my area. It made me want to do more. It made me understand myself. I think that’s key to being able to be an effective teacher, understanding what’s going on with yourself.
Another participant had this to say about lesson study and content knowledge:

D. I think in order to really reflect on what you are doing, you have to have a certain baseline knowledge, that I’m not sure our teachers possess as far as pedagogy is concerned as far a best practices.

Lack of Research Skills

During the interview with the same two participants from School System C, the sub-theme of research skills emerged. They had this to say:

F. A lot of teachers are isolated from the research world. The might get some articles in their mailbox every once in a while that they read or don’t read because they are too busy. And if they’ve been out of school for awhile and they don’t get professional journals, they may not have a good attitude about research. They might think that that’s something that goes on at the university level and it doesn’t really affect them.

I. I think a teacher’s job is just so difficult to start with anyways. They have enough on their plate so it’s one of those things (research), they’re out there on the fringes.

G. You know, you always have to activate their background knowledge first and then they would have more of an interest in research. So then they might get more into the research and learning more about it after they’ve done it once.
Other participants also talked about the lack of research skills among teachers.

F. Just a couple of thoughts that come to mind are, I think research in many cases is a dirty work for teachers. They don’t want to research. It’s not going to work for my kids. My kids don’t follow what research says.

D. Teachers in my district say research takes too much time. They have a lack of understanding about what it is. It takes them into new areas where they don’t feel comfortable.

*Age and Career Stages Related to Reflection*

During the interview process the sub-theme of age and years of teaching experience emerged as participants talked about self-reflection and the lesson study process.

B. In my previous life I was a medical technologist for twenty-three years. My first teaching assignment was as a long-term sub. When I got my own classroom assignment I was expected to know a little bit about every science. There were areas where I felt weaker in than others. When you work in a group, obviously, there’s going to be people whose strong points line up with your weaker areas and vice versa. It’s interesting, you can teach a long time and not recognize your weak areas as readily as a new teacher might – even a new teacher who is stronger in science because of their background.

In another part of the interview Participant B brought up the sub-theme of age-related reflection again.
B. I think a big thing about working with other people is you do have to have an open mind. I know sometimes we don’t always have that. And maybe that’s where my twenty-four years in the hospital has helped me a little bit, because you have to be real careful in how you deal with people. I think there are a lot of people in the district who are real good, but they can’t think on their feet. I was trained to do that in another profession.

Participant B continued to talk about her education courses and how they didn’t help her, but that her experience with lesson study did.

B. I will tell you this, coming into this profession second-hand, not having an education degree first, in all honesty, all those education courses I took, there’s only one of them that did me any good and that was the Psychology of Education. All of the rest of them were meaningless. But planning together, teaching together, you know, I can’t tell you how valuable that was to teach me what to do in the classroom. There were days that I walked out of my room and asked myself, ‘What just happened in there?’

A participant in School System C was also a second-career teacher.

H. Before teaching I worked with the Cincinnati Zoo. My degree is in biology. I never dreamed that I would be a teacher. But at the zoo I started teaching to primary children and loved it. It’s the first time something really captivated me…. I’ve always been a reflective person, but once I went through the lesson study cycle, the reflective process became apparent and deliberate.
Participants in School System B talked about teacher resistance to the lesson study process related to age and career stage.

D. I mean, some of our, I mentioned earlier, that it’s not only the old teachers who are resistant to this. We have some young teachers who are just as, if not more, resistant to change. I think that part of the problem is, if this kid’s not getting it, they don’t know what to do. They don’t know another method to present the material. It’s just simply not part of their training.

E. We’ve known each other for 20 years. Sometimes we reflect on our lessons and sometimes we don’t. And I think, the attitude of having older staff members on board is, ‘What are they going to do to me now?’

Steffy, Wolfe, Pasch and Enz (2000) talked about how teachers must develop through progressive stages to sustain a career-long standard of excellence. Clearly, the age and career stages of the participants in this study are influential in the acceptance and/or resistance of the lesson study process and how it can fit into the U.S. school system as a professional development tool.

Theme 6 – Self-Reflection Skills with sub-themes of Lack of Content Knowledge, Lack of Research Skills, Age and Career Stage Relationships emerged as major components of the lesson study process during my interviews. Itzel (2002) summed up the reflective process associated with lesson study when she said, “When teachers through discussion and reflection, can improve on the ‘what’ and ‘how’ of teaching, and when these improvements are based on students’ needs, this is professional development at its best”. Itzel was a teacher-
on-loan to the Delaware Department of Education working with teachers on the lesson study process.

Summary

In Chapter IV, I explained the results found through a qualitative study that consisted of twelve teacher and administrator interviews - individual and focus groups, observations of research lessons and debriefing sessions and a collection of fieldnotes. I analyzed the data collected and organized the findings in six themes and seventeen sub-themes related to the research question of whether lesson study could fit into the teacher’s existing working culture in the U.S. The conclusions drawn from the analysis of themes and sub-themes will be discussed in Chapter V.
CHAPTER FIVE: CONCLUSIONS

Lesson Study: The Research Questions

In *The Teaching Gap* (1999) Stigler said, “that unless we can change the way instruction is delivered in the classroom, we cannot significantly affect the learning process” (p. 15). Lesson study is a professional development tool that builds teachers’ instructional skills through increased content knowledge and research skills. It also provides a built-in time for collaboration on lesson planning, teaching and reteaching individual lessons or units. My research questions revolved around whether the existing teaching culture could support and sustain lesson study as a professional development tool. And, “What are teachers’ attitudes and beliefs about the use of lesson study as a professional development tool?” Unless teachers buy into the lesson study process, all the research that suggests that it can be a viable professional development tool is insignificant.

Will lesson study “catch on” in the U.S. and fit into the existing teaching culture? Based on the literature reviewed for this study and the interviews conducted with participants engaged in research lessons, I concluded that lesson study could be a viable professional development tool that has the potential for sustainability. Experts like Lewis (2000) also say, yes, lesson study will continue to develop among U.S. teachers and school systems. From the first school to initiate lesson study in Patterson, New Jersey, to the 17 school districts in 22
states and over 1200 participants who are currently engaged in the lesson study process, lesson study is one of the top professional development choices among teachers across the country. However, given what U.S. public schools are like today, there may be limitations to implementing lesson study as completely as the Japanese model suggests.

Lesson Study Advantage: Collaboration

The unique characteristic of lesson study that is missing in many other professional development initiatives is the collaborative role that the teachers themselves play. As many participants stated in their interviews, research lessons were meaningful for them because when they planned and taught together, they thought about the fundamental goals and objectives of what they were teaching. The collaboration factor was a major advantage for teachers using lesson study. With other teachers present to observe and listen to students’ comments, teachers felt that a more fundamental evaluation of the lesson was taking place. When talking to teachers about the collaboration piece, it was apparent that the power of lesson study was in bringing teachers together. I believe the quotation below is a perfect example of how the majority of my participants felt about lesson study and the collaboration factor:

In my experience lesson study is the most important thing for me to improve my teaching methods or teaching techniques. Many teachers have observed me during my lessons and I have asked them to give me comments and
to criticize my lessons. Through these experiences, I believe that my teaching methods have improved.

The teachers in this study concluded that collaboration was a necessary step for lesson study to fit into the existing working culture of their classrooms today. Because collaboration time is not built into a traditional U.S. teacher’s schedule, lesson study implementation may be limited in U.S. public schools.

Self-Reflection and Research Conclusions

During many interviews, teachers also told me about their belief statements regarding teaching and professional development. They believed that the premise behind lesson study as a professional development tool was simple: if you want to improve teaching, the most effective place to do so is in the classroom – not at a workshop, or listening to a guru talk about teaching, but the actual happenings that go on in the classroom. Lesson study helped teachers see their teaching from all angles. It helped them self-reflect on the teaching process. However, teachers interviewed for this study do not feel comfortable as researchers, nor do they have clearly defined research skills. In addition, teachers do not know how to create lesson plans from a research perspective.

In Japan, teachers see lesson study as a form of research that centers on conducting classroom experiments (Fernandez, 2002). Some teachers had difficulty moving beyond looking at their teaching i.e. the techniques and/or style of their teaching, to question whether they were adding value to what the students were learning or what the students came into the classroom already knowing. Specifically, teachers did not view themselves as researchers, nor did
they take the time to study their practices. I concluded from this that more training and focus were necessary for the teachers in this study to see themselves as researchers. Fernandez stated, “Development of research skills is the roadblock to powerful lesson study practice about which we should be most concerned” (p. 401).

*Lesson Study and Content Knowledge*

In my interview with Lewis, she also talked about lesson study and how it could deepen a teachers’ content knowledge. She said that watching the Japanese engaged in the lesson study process deepened her knowledge of science. She stated, “I thought it was fascinating to observe, what I termed, the habit of the mind. We often think about our knowledge of content and how we are relating that to kids, but we really don’t think about ‘habit of mind’ to see how they (and we) are really learning.”

Many of the interviewed participants saw themselves as lacking specific content knowledge and research skills. One conclusion that I drew from the study participants on self-reflection skills, including content knowledge, was that lesson study gave them uniform learning goals toward which to strive. By sharing goals teachers said that they developed a much richer knowledge base within their curricula. Stigler and Hiebert (1999) contended that the lack of a knowledge base is why teaching has not changed much over the past 100 years.

Individual teachers learn from experience and from watching others teach. Sharing knowledge bases and teaching strategies are part of the teaching and learning process associated with lesson study. I concluded from what
teachers told me during their interviews, that lesson study was a natural vehicle for teachers to share what they had learned from each other. It also helped them learn from their students’ responses and grow in the knowledge base of their profession as well as in their specific content area.

At the Open House in School System C, Lewis talked about how lesson study gave teachers a deepened commitment to their teaching. She said “I sense that if U.S. teachers don’t go deeper with their content, they’re not going to be able to serve their students as well.” When asked about professional development and what our emphasis should be, Stigler (2002) stated, “We should attach the most importance (of professional development) to improving our teaching methods” (p. 9). Lesson study is a way to study the practice of teaching. I believe that lesson study will help teachers see that examining their practice will enable them to grow in their teaching practice and in their content area.

Further, Hiebert, Gallimore and Stigler (2002) agreed that there are reasons for optimism regarding lesson study and building a professional knowledge base. Countless examples of teachers using the lesson study process offer “proof of concept” evidence that a profession’s knowledge for teaching can be generated in the U.S. This “proof of concept” is what I found in my interviews that helped me conclude that lesson study could fit into the culture of U.S. teacher’s existing work place, and ultimately improve the teaching and learning process. Hiebert, Gallimore and Stigler further stated that “a second reason for optimism is that when local U.S. programs of this kind have been
studied (lesson study as professional development), they seem to produce the outcomes that are, in the end, of most importance – improved student learning” (p. 10).

The “Silver Bullet”: Not Lesson Study

One of the major factors associated with professional development is the silver bullet philosophy. It is common in the U.S. for educators to think that the latest professional development initiative is going to be the one that solves all of the educational problems in our schools. The participants in this study felt that lesson study was not that silver bullet, not that quick fix. I heard this phrase echoed over and over. Lesson study is not an event; it is a process. The end result of lesson study is not the product that is produced, but the process by which the lesson was built and then taught. Lewis (2000) compared a traditional lesson with a research lesson.

The chart below illustrates that the emphasis of lesson study is the process not the product.

* Figure 1: Lewis’ Comparison Lesson Plan Chart

<table>
<thead>
<tr>
<th>TRADITIONAL LESSON</th>
<th>RESEARCH LESSON</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Begins with answers</td>
<td>* Begins with questions</td>
</tr>
<tr>
<td>* Driven by experts</td>
<td>* Driven by participants</td>
</tr>
<tr>
<td>* Communication from trainer -&gt; teacher</td>
<td>* Communication among teachers</td>
</tr>
<tr>
<td>* Relationships hierarchical</td>
<td>* Relationships reciprocal</td>
</tr>
<tr>
<td>* Research informs practice</td>
<td>* Practice is research</td>
</tr>
</tbody>
</table>
One participant summed up lesson study not as a flavor of the month, but as a process that ties professional development to the process of teaching itself. He, like other participants, believed that the lesson study process should change the inner workings of teaching. Participants also felt that superficial innovations get implemented without a real understanding of underlying pathways or what is really supposed to happen from these innovations. Some participants were concerned that lesson study would fall into this same category. Stigler (2002) was confident, however, that it (lesson study) would not be just another fad. He said, “in the long run, (lesson study) is going to have an excellent effect on professional development because it creates a context in which everyone is really motivated to improve” (as cited in Willis, 2002, p. 11).

Because lesson study is not like other professional development initiatives, I believe it will not be viewed as just another fad. I witnessed participants who were committed to the process, and I saw how a thorough understanding of lesson study helped them become reflective practitioners.

Lesson study has helped produce the “teacher as researcher” movement. It has oriented teachers to study their own practice, thereby making them aware of what is actually happening in their classroom. During my interviews I found that long-term teacher collaboration to study the process of teaching, focused on how students learn, was the best evidence to support lesson study as a professional development tool. Long-term teacher collaboration is also the element that separates lesson study from other scientific methods of lesson plan design. Hiebert, Gallimore and Stigler (2002) stated that “Over time the
observations and replication of teachers in the schools would become a common pathway through which promising ideas were tested and refined before they found their way into the nation’s classroom” (p. 12).

Lesson Study and Sustainability

Because professional development initiatives come and go so rapidly in U.S. school systems, sustainability was a major concern among participants in this study. When concluding whether lesson study could fit into the teachers’ existing work culture, participants first wondered whether lesson study could even be sustained long enough to make a difference. Time and money emerged as two major factors that could negatively impact the sustainability of lesson study. Overwhelmingly, the participants in this study agreed that time and money were necessary to sustain the lesson study process in U.S. classrooms.

Fernandez (2002) agreed with the conclusion that time and money were necessary ingredients to sustain lesson study. During her research of lesson study in Japan she stated:

Lesson study is both sanctioned and supported by the ministry of education and its regional offices. It is not uncommon for a regional education office to put out proposals and provide funds to encourage groups to tackle certain lesson study goals that seem to be of regional or national importance. In fact, there are pockets of money that lesson study groups can apply for to support their activities. (p. 395)

In the three school systems that I used to gather data, administrators were aware that time and money were necessary to sustain lesson study. When
administrators accepted the importance of lesson study and recognized how the process could be linked to improved research skills and content knowledge for teachers, they found the time and money to sustain the process. Lewis (2004) illustrates in Figure 2 how teacher’s activities related to lesson study can improve instruction.

*Figure 2: Teachers’ activities to improve instruction*

- **United States**
  - Find or write curriculum. Try to align it with standards (local, state, national).
  - Develop local frameworks and articulation across grades.

- **Japan**
  - Plan lessons individually.
  - Plan lessons collaboratively.
  - Watch and discuss each other’s classroom lessons.
Teacher Age and Career Stage

Another conclusion that I drew from the interviewed participants was that career stage or age of the teachers involved were not factors as to whether lesson study was a viable professional development tool that fit into their existing work culture. The interviewees stated that where they were in their career was not important. It was much more important that the administration and the overall system’s focus and goals would support them in their efforts with lesson study.

Regardless of whether a teacher had taught for three years or thirty years, lesson study as a professional development tool was something that they felt broke the isolation of teachers in the classroom and helped improve their teaching methods. Fessler (1995) stated, “A supportive, nurturing, reinforcing environment can assist a teacher in the pursuit of a rewarding, positive career progression” (p. 179). This environment, using the lesson study process, was other teachers, knowledgeable observers and the students themselves.

Certainly, understanding the various stages of teachers’ careers was an important issue for administrators to consider during the implementation of lesson study. Itzel (2002) studied one of the first school systems to implement lesson study. As she talked with administrators she found that the culture in the school did make a difference. “My school was ripe for lesson study,” said Hill, principal at the Bellevue district. “We were in the habit of talking collaboratively about teaching and learning objectives…It helps to have that teamwork in place” (p. 13). But as my qualitative data suggested, lesson study was adopted by teachers at all stages on the career ladder.
Lesson Study and the Risk Factor

Another conclusion that I gleaned from the data collected was that teachers did not want to be evaluated on the success or failure of their experience with the lesson study process. The focus on evaluation and accountability was an issue that emerged as a theme during analysis of the interviews, observations and fieldnotes. Participants talked about the “risk factor” associated with any new professional development initiative. In the climate of No Child Left Behind, teachers were concerned that if they adopted lesson study wholeheartedly, and as a result, their students did not perform well on the Ohio Graduation Test (OGT) that repercussions would be leveled against them.

Specifically, one teacher talked about the problem of participating in the lesson study process to plan lessons or simply teaching objectives that were covered on the standardized tests. Although teachers in his building liked the idea of collaborating with other teachers to design lessons starting with a goal that addressed the whole child’s needs, the ever-present standardized tests were always lurking in the background. Many felt that if they didn’t “cover” every objective that was on the test, parents would have opportunity to sue the district if their child failed the test. This emphasis on standardized tests does not exist in Japan, according to Lewis.

Specifically, when she is asked whether lesson study has improved test scores in Japan, she responds, “They just don’t ask that question in Japan.”
Conclusions: Summary

I believe that lesson study can fit into the existing teachers’ work culture in United States classrooms today. After hours of interviews and numerous observations, I further believe that teachers’ attitudes and beliefs reveal that they are supportive of the lesson study process and that they recognize how it can improve their teaching.

There is a groundswell of support and interest in new professional development initiatives in the educational community today. Educational researchers believe that there is a need for more applied, teacher-generated professional development. With the convergence of professional development tools like lesson study, the culture in U.S. public schools may become places where teachers learn along with their students. Public schools may be places where universal goals are sustained and maintained, and where opportunities to build lesson study communities will continue to emerge.

However, the possibility exists that there are fundamental challenges that exist in U.S. schools, which may inhibit the implementation of lesson study. Cultural change in U.S. public schools will only occur if there is a systemic approach to organizational change, what Owens (2000) calls “the way we do things here” (p. 280). Currently, only individual pockets of lesson study supporters are scattered across the country. It may be true that only a systemic approach to organizational change will allow lesson study to build a substantial enough resource base to reshape standard operating procedures in the
classroom. If that happens, lesson study may create an environment in U.S.
schools where sustained change can happen in the teaching and learning process.
REFERENCES


Cannon, J., & Fernandez, C. (2003). "This research has nothing to do with our teaching!": An analysis of lesson study practitioners' difficulties conducting teacher research. Unpublished manuscript.


Naperville, IL: North Central Regional Educational Laboratory (NCREL).


Piirto, J. (Summer, 2002). "Motivation is first - then they can do anything": Portrait of an Indian school for the gifted and talented. *Gifted Child Quarterly, 46*(3), 181 -192.


Tagiuri, R., & Litwin, G.H. (1968). *Organizational climate: Exploration of a concept*. Boston, MA: Harvard University, Division of Research, Graduate School of Business Administration.


